

Pre-Analysis Plan

“Estimating Causal Intergenerational Impacts of Parent Human Capital Interventions in Kenya”¹

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Summary: This document outlines the plan for analyzing a dataset consisting of information on the children of individuals who had previously benefited from a randomized health, vocational education, and/or cash grant intervention. The aim of this project is to estimate the causal intergenerational effect of the parents’ treatment in such interventions on their children’s outcomes, including cognitive and non-cognitive skills, health, and other outcomes. We also investigate if parental investments, practices and home environment are channels through which program participation leads to differential child outcomes. This document includes planned regression specifications and outcome variable definitions and descriptions. We note that we anticipate possibly carrying out further analyses beyond those included in this document; hence, this document is not intended to be comprehensive or to preclude additional or exploratory analysis.

Appendix: Kenya Life Panel Survey-Kids (KLPS-Kids) training manual, non-proprietary portions of assessment materials, and primary caregiver survey module.

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1 Introduction

1.1 Summary

This project aims to provide experimental evidence on the intergenerational returns to health, training, and cash grant interventions. The persistence of poor health and poverty across generations in low-income countries is an area of policy concern. It is plausible that particular interventions not only improve the outcomes of program recipients directly, but also benefit their children through indirect effects relating to nutrition, health status, caregiving, and parental investments. Intergenerational benefits would have major implications for the cost-effectiveness of the programs we consider in this project, as well as for the appropriate design of public policies that aim to reduce persistent social inequalities.

In order to study this question, we combine a series of randomized interventions (childhood deworming, vocational training for adolescents and young adults, and cash grants for young adults) and an existing (and continuing) longitudinal dataset containing information on program participants with a new dataset containing information on the children of participants.

In a longitudinal effort known as the Kenya Life Panel Survey (**KLPS**), information has been collected in up to four rounds of data collection on individuals who participated in a randomized primary school deworming intervention (1998-2003) and a randomized merit scholarship program for girls (2000-2001). A subset of these individuals also participated in a later randomized vocational training and cash grant intervention (2009-2014). The current round of data collection, KLPS Round 4 (**KLPS-4**), which we focus on in this analysis, follows the subset of KLPS individuals who previously participated in either the deworming or the vocational training and cash grant programs, and the corresponding control groups.³

Previous results indicate that primary school deworming led to health, schooling, and labor market gains in young adulthood, even 10 years after the launch of the program (Baird *et al.*, 2016). Although existing work does not find much evidence of substantial labor market gains due to vocational training (Hicks *et al.*, 2015c), findings do suggest substantial self-employment profit gains, at least in the short run, due to unconditional cash grants (Hicks *et al.*, 2015b). These sizeable direct impacts on parents provide a potential channel for the intergenerational impacts on their children that we will study in the current project, although it is possible that gains for parents in unmeasured dimensions might also influence child outcomes.

The KLPS-4 data collection round creates a new dataset (which we refer to as **KLPS-Kids**) for a sample of children of the original health, training, and grant program participants, which can be linked with the KLPS longitudinal dataset. Using new survey instruments and locally adapted cognitive and non-cognitive development assessments

³ Individuals who participated in the merit scholarship program but did not participate in the vocational training and cash grants programs were not surveyed during the KLPS-4 survey round.

designed for children aged 3–5 and 6–8, we are currently collecting data on health and developmental outcomes for up to two biological children (one per age group) for each KLPS-4 respondent as well as educational, home environment, and health investments made by the KLPS adults.⁴

Despite the intellectual and policy importance of intergenerational returns to human capital and financial interventions, few studies have been able to rigorously examine this issue, especially in low-income countries due to the lack of longitudinal, multi-generational data availability. In particular, the literature on links between the health, nutrition and education of adults and their children in low-income countries is sparse, due to the paucity of datasets that track both adults and their children in these areas. Furthermore, few studies can exploit experimental variation in health status to overcome well-known methodological concerns regarding an individual's decision to invest in her/his own health.⁵

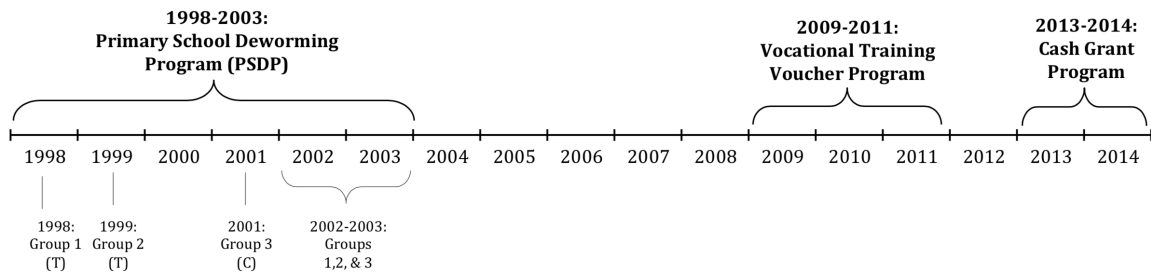
1.2 Experimental design

The randomized interventions we study took place in rural western Kenya between 1998 and 2014. The deworming intervention, known as the Primary School Deworming Program (*PSDP*), took place between 1998 and 2003. During this intervention, each of the 75 schools located in Busia, an agrarian district of western Kenya, was assigned to one of three groups. These groups were phased into deworming treatment in different years of the program, providing a cluster-randomized, stepped-wedge research design. Group 1 schools started receiving deworming treatment in 1998, Group 2 in 1999, and Group 3 in 2001. In 2001, half of the schools in Group 1 and Group 2 required cost-sharing contributions from parents, which substantially reduced take-up, and in 2002–2003, free deworming was provided to all schools. For more details on the PSDP and experimental design, see Miguel and Kremer (2004) and Miguel *et al.* (2014). In the present analysis, early program beneficiaries (Group 1 and Group 2 parents) will constitute the deworming treatment group, while Group 3 will constitute the control group, following the approach in Baird *et al.* (2016). Note that individuals in Group 1 and 2 schools were assigned 2.41 more years of deworming on average than Group 3 individuals. We will consider children of these individuals as being “treated” if at least one parent was attending a Group 1 or Group 2 school at the time of the program launch in early 1998; thus this is an intention to treat (ITT) approach.

⁴ Early versions of the survey instruments and the child assessments were administered to a small subset of respondents in 2015. They were further piloted, tested, and edited in 2018 to comprise the final version to be used in the current data collection. For additional information about the assessments conducted in 2015, please refer to Fernald, Hicks, Kariger and Miguel (2015).

⁵ One study that combines an experimental design with long-run panel data measuring child health and nutrition and intergenerational outcomes is the famous Institute for Nutrition in Central America and Panama (INCAP) project in Guatemala (Martorell *et al.*, 1995). In randomly selected treatment villages, children (and expectant mothers) received a high energy, high protein drink, while children in the control villages received a low energy, no protein drink. In follow-up studies conducted decades after the end of the intervention, researchers found evidence of improved health, education and labor market outcomes among the direct beneficiaries and improved nutrition for their children (Behrman *et al.*, 2009). The INCAP study is based on a sample size of four villages (Haas *et al.*, 1995), and the follow-up surveys experienced considerable sample attrition (Donegan *et al.*, 2010).

The vocational training and cash grant program we study, which took place during 2009–2014, included 2,163 adolescents and young adults ranging from roughly 17 to 28 years of age who applied for vocational education tuition vouchers. Approximately 70% of these individuals were participants of PSDP, and the others were participants in the Girls’ Scholarship Program (*GSP*), a separate randomized education intervention that took place in a neighboring area.⁶ A randomly selected half of all training program applicants were awarded a vocational training voucher worth approximately 35,000 Kenyan shillings (about US \$460), an amount sufficient to fully (or almost fully) cover the tuition costs for most public or private vocational education programs in Kenya. Voucher winners attended courses during 2009–2011. In 2013 and 2014, a random half of voucher winners and voucher non-winners were given an unconditional cash grant worth Ksh 20,000 (about US \$230 at the time). In the present analysis, we consider voucher winners as “treated” with respect to the vocational training program if they were randomly selected to receive a voucher, and the cash grant winners as “treated” with respect to the cash grant program if they were selected to receive a grant.⁷ The timeline below summarizes the relevant interventions.



1.3 Data

The Kenya Life Panel Survey (*KLPS*) is a longitudinal dataset that contains educational, health, nutritional, demographic, labor market, and other information for nearly 10,000 Kenyan adults, spanning from their time in primary school up through early adulthood. The KLPS sample comprises individuals who participated in one of two previous randomized NGO programs: one which provided deworming medication to primary school students during 1998–2003 (known as the Primary School Deworming Program, or *PSDP*; Miguel and Kremer, 2004) and one which provided merit scholarships to upper primary school girls in 2001 and 2002 (known as the Girls’ Scholarship Program, or *GSP*; Kremer, Miguel, and Thornton, 2009). An approximately 20% subset of these individuals also participated in the vocational training and cash grants programs during 2009–2014 (Hicks *et al.*, 2015b).

⁶ We do not provide more details on this program here, as it is not analyzed separately in the proposed study. For more details on this program, see Kremer, Miguel, and Thornton (2009).

⁷ For more details on the vocational training voucher program, see Hicks *et al.* (2015c); for more details on the cash grant program, see Hicks *et al.*, (2015a). As described in these references, there were two variants of the vocational education voucher, but both are considered treatment here for simplicity.

The fourth round of the KLPS (**KLPS-4**), focuses on the subsets of the KLPS sample who participated in the PSDP or the vocational training and cash grants intervention. KLPS-4 data collection consists of two separate activities, both of which are currently ongoing. The E+ Module survey data collection gathers detailed economic information on KLPS (adult) respondents. This activity includes KLPS adults only, and the analysis of that data has been pre-specified separately (Baird et al., 2017). The second data collection activity includes administration of the I Module, PC Module, and a series of child assessments in order to collect information on a wide variety of outcomes for KLPS (adult) respondents as well as a subset of their children. As a result, an unusual feature of the KLPS-4 data collection round is that we will be able to link a rich variety of information collected for KLPS adults across several rounds of the KLPS to cognitive and non-cognitive outcomes of their children. For both the E+ Module and the I Module/PC Module/child assessment activities, data is collected in two representative waves.⁸

The I Module survey collects information on a wide range of outcomes, including KLPS adult respondents' risk and time preferences, marriage, migration, education, fertility histories, mental health outcomes, and time use patterns, among a variety of other measures. The primary purpose of that module is to study the longer term impacts of the PSDP and vocational training and cash grants programs on now-adult beneficiaries, and a separate pre-analysis plan is being written for that purpose. In addition, and more relevant for the current pre-analysis plan, the I Module survey identifies biological children of KLPS adult respondents (whom we refer to as **KLPS parents**), and determines whether or not these children are eligible for inclusion in the KLPS-Kids sample.

Children are considered **eligible** for the KLPS-Kids sample if they are 2.5-8.5 years old as of the date of launch of the survey wave. For example, Wave 1 was launched in September 2018, and children who were 2.5-8.5 years old as of September 2018 are included in the wave 1 eligibility sample. We define two age groups: pre-school aged children (aged 3 years to 5 years 11 months old, or 36-71 months old) and school-aged children (aged 6 years to 8 years 11 months old, or 72-107 months old). Up to one eligible child per age group is selected per KLPS parent for inclusion in the KLPS-Kids sample. Age group distinctions are made in part to align with the transition from pre-school and kindergarten to primary school between ages 5 and 7, and in part to align with the appropriate ages corresponding to our battery of assessments. In cases in which the adult has more than two children within an age group, children to be interviewed are randomly chosen by the survey software (SurveyCTO).

⁸ At the time of registering this pre-analysis plan, data collection for Wave 2 of the E+ Module is ongoing. For the I Module/PC Module/child assessment data collection, Wave 1 launched in September 2018 and is expected to run through the end of 2019; Wave 2 is expected to launch in 2020 and extend into 2021. The two wave design allows us to make minor changes to the survey instruments and assessments half way through surveying, to improve data quality and explore additional questions. In the event that such changes are made for Wave 2 of KLPS-4 data collection, we will update this pre-analysis plan accordingly. Note that this pre-analysis plan focuses on outcomes collected using the PC Module/child assessments – a separate pre-analysis plan is currently in progress for the I Module (Baird et al., 2019), and a separate pre-analysis plan has already been written and registered for the analysis using outcomes from the E+ Module (Baird et al., 2017).

We refer to children who are included in the sample based on the above eligibility criteria and sampling methodology as *sampled* children. These sampled children are later contacted for participation in the KLPS-Kids data collection activity. This data collection activity consists of (1) administering age-appropriate assessments to each child to measure cognitive and non-cognitive abilities and (2) administering a Primary Caregiver Module (PC Module) to the child's primary caregiver.

While eligibility is determined based on the age of the child at the start of the appropriate survey wave, which set of age-appropriate assessments is administered is determined based on the age of the child on the day of the assessment. In cases where the child has not yet "aged in to" or has recently "aged out of" the eligible age range, we administer the age-appropriate assessments for the closest eligible age.⁹

While we make every effort at the time of sampling and during the assessments (using health cards and birth certificate record) to accurately determine each child's exact birth date and age, discrepancies may naturally arise. In cases where it is determined at the time of assessment that a child was earlier mistakenly classified as eligible and sampled, we will aim to replace that child in the sample with a child who is actually eligible. For example, if a KLPS parent has two children in the older age group (6-8 years), one of whom is randomly selected, then later it is determined that the sampled child was in fact 9 years old at the start of the wave (and hence ineligible), we will replace the mistakenly eligible child with the truly eligible child.

As previously mentioned, KLPS-4 data collection is currently ongoing. At the time of finalizing and registering this plan, 1,050 children have been sampled, 586 PC Modules have been completed, and 574 children's assessments have been completed (as of February 11, 2019). We anticipate a full sample of roughly 7,000 children, though the exact number will depend both on our tracking rate and the number of children that fall within the target age range. We note that we plan on using a two-stage tracking methodology to increase our effective tracking rate.¹⁰

⁹ For example, if a child is determined to be eligible and sampled at age 2 years, 8 months, then contacted for assessment when age 2 years, 11 months, we administer the assessments intended for 3 year olds and consider this child a 3 year old in the analysis. Similarly, if a child is determined to be eligible and sampled when age 8 years 6 months, then contacted for assessment when age 9 years, 2 months, we administer the assessments intended for 8 year olds and consider this child as an 8 year old in the analysis. We will follow this procedure in the analysis, provided these cases are relatively infrequent, and provided that this procedure does not lead to large differences compared to dropping these observations or considering as separate age groups (one for children younger than 3 years, one for children older than 8 years 11 months). When children "cross-over" from the younger to the older age group, we will administer the age-appropriate assessment as per the child's age on the date of the assessment. For example, if a child is determined to be eligible and sampled when 5 years, 6 months old and contacted for assessment when 6 years, 3 months old, we will administer the set of assessments intended for 6 year olds instead of those intended for 5 year olds.

¹⁰ For more information on the two-stage tracking procedure we employ in the main KLPS study, see Baird, Hamory, and Miguel (2008) and Baird et al (2016). Our approach is related to that used in the U.S. Moving to Opportunity evaluation project (Kling, Liebman and Katz, 2007; Orr et al., 2003).

1.4 Analysis Sample

In the analysis we pre-specify here, we consider two different samples of KLPS parents/kids to distinguish the intergenerational impacts of the deworming treatment intervention from that of the vocational training and cash grant programs. In particular, once data collection is finalized, we expect that the I Module sample of parents will include over 7,000 individuals, approximately 5,500 of whom participated in the PSDP, and around 2,000 of whom participated in the vocational training and cash grant interventions. We refer to the “deworming sample” as the subset of children whose parents participated in the PSDP, but were not randomly selected into the treatment group of the vocational training or cash grant interventions (so PSDP individuals who were not involved in the training/grant program, as well as PSDP individuals who were part of the training/grant program control group). Because the voucher/grant winners and non-winners were randomly selected, the analysis will adjust the survey weights for individuals in the non-winner comparison group in order to maintain initial (baseline PSDP) population representativeness. We refer to the “vocational training and cash grants sample” as the group of children whose parents were part of the vocational training intervention (and thus also participants in the earlier PSDP and GSP programs).

1.5 Analysis and data examined to date

At the time of registering this pre-analysis plan, we have collected information on a subset of the Wave 1 sample using a tablet-based survey instrument. At the start of data collection, we registered a data management memo on the AEA registry to outline who would have access to the KLPS-4 Kids data collected prior to the registration of this pre-analysis plan. The data management memo specifies that all KLPS-4 Kids data collected prior to the registration of this plan has been compiled, organized, and stored only by those team members who are not involved in writing of this pre-analysis plan. Those team members who have been involved in writing this pre-analysis plan have only seen summary statistics and tracking rates for the purposes of ensuring data quality. They have not examined the data nor performed any data analysis before registering this plan. No team members have performed any estimates of treatment effects. Access to the KLPS-4 Kids data will be provided to research team members involved in writing the pre-analysis plan only after the pre-analysis plan is filed on the AEA RCT Registry. Since the pre-analysis plan for the I Module is still in the drafting process at the time of registering this KLPS-Kids pre-analysis plan, we will only access data from the Kids Assessments and PC Module; we will not link data across the Kids Assessments, PC Module, and I Module until the I Module pre-analysis plan is filed on the AEA RCT Registry.

1.6 Roadmap

The remainder of this document lays out our main regression specifications and causal interpretation of impacts at the population level; planned methods of multiple hypothesis correction when interpreting individual outcome and sub-index measures; heterogeneity analysis; exploratory analysis into the channels through which the health, training and cash grants interventions may operate; the outcomes and hypotheses we intend to test

regarding child outcomes and early life investments in children; and the conceptual basis upon which we create mean effects indices.

We discuss regression specifications and the interpretation of estimated coefficients as causal at the population level. If deworming, training and cash grants affect fertility, this differential fertility somewhat changes the interpretation of the results compared to a standard analysis with a pre-defined analysis population. In particular, we will focus on estimates of average differences among the next generation of children born to our program beneficiaries, which we consider the relevant effect for understanding intergenerational impacts at the population level.

In the final section, we group main outcomes in two broad categories: Primary Child Outcomes and Child Investment Outcomes. Primary Child Outcomes include (1) Language and Cognitive Abilities, (2) Behavior & Socio-Emotional Development, (3) Subjective Health, and (4) Height. Child Investment Outcomes include (5) Early Life Health Investments, (6) Home Environment, (7) Schooling Enrollment and Educational Investments, and (8) Child Discipline Strategies. We also include a description of additional outcomes which will be included in the resulting study, or its appendix.

This document captures our current thinking about analysis with this data, but we anticipate carrying out some additional analyses beyond those included in this plan. As such, this plan is not meant to be an exhaustive set of all analyses we will carry out, but rather a core set of initial estimates that will hopefully inspire further and exploratory analyses.

2 Analysis

2.1 Regression Specifications

2.1.1 Deworming sample

The main focus of analysis in this pre-analysis plan is the intergenerational impact of the deworming intervention. We will focus on intention-to-treat (ITT) estimates, for at least two reasons. First, in the three interventions we study, compliance rates are quite high, leading ITT and treatment effect on the treated (TOT) estimates to be similar. Second, with regard to the deworming intervention in particular, previous research has shown that untreated individuals within treatment communities experienced gains, complicating estimation of treatment effects on the treated within schools (Miguel and Kremer, 2004).

The main specification for the deworming sample is:

$$Y_{ik} = \alpha + \beta_1 T_{ik}^{PSDP} + \beta_2 T_{ik}^{COST} + L'_{ik} \theta + \varepsilon_{ik} \quad (1)$$

in which T_{ik}^{PSDP} takes value 1 if child i has a parent who attended school k in PSDP group 1 or 2 in 1998, and thus β_1 is the main coefficient of interest. T_{ik}^{COST} is an indicator that takes value one if the parent of child i was assigned to the cost-sharing treatment group,

which had a much lower take-up of the deworming treatment in 2001¹¹. Outcomes are discussed at length below.

The vector of controls L_{ik} is included to increase precision of estimated effects, and to account for variables that were used to stratify either the original PSDP randomization, or in the sampling for the KLPS sample (Bruhn and McKenzie 2009). This vector comprises an indicator for gender of interviewer; months elapsed since the start of the survey wave; a wave 2 indicator; the total density of primary school children in a 6 km radius around the parents' PSDP school in 1998; an indicator for inclusion in the vocational education / cash grant sample; an indicator for KLPS parent gender; indicator for parent grade in 1998; indicator for geographic zone of parent's school in 1998; population of parent's school in 1998; and average 1996 test score of parent's PSDP school.¹² For the subset of outcome variables that are not already normalized by child age and gender (as described below), we will also include controls for child gender and age (in either three or six month bins, consistent with our approach outlined below).

For analyses using the PSDP sample, we include survey weights that take into account the sampling for the KLPS and the two-stage tracking strategy of KLPS-Kids data collection, corrected for individuals in the non-winner comparison group of the vocational training and cash grant interventions, in order to maintain initial (baseline PSDP) population representativeness. For analyses using the vocational training and cash grants sample, we will follow a similar approach but will not include weights needed to maintain initial (baseline PSDP) population representativeness. We will report robust standard errors clustered at the 1998 school level. We will also report treatment effect estimates from specification without the additional covariates L_{ik} as a robustness check. Finally, in addition to estimating equation (1) for all children, we will break down the intergenerational impacts of the deworming treatment for younger (3-5 years) and older children (6-8 years).

The main hypothesis test will be a two-sided t-test on the null-hypothesis that $\beta_1 = 0$. For this main hypothesis test we will also present p-values that adjust for multiple hypothesis testing; we present the details of such adjustment in section 3.1. We will also conduct an additional F-test regarding the joint significance of β_1 and β_2 , which tests the null hypothesis that the set of two deworming treatment interventions (free treatment and cost-sharing) jointly had zero intergenerational impacts.

2.1.2 Vocational training and cash grants sample

The vocational training and cash grants sample consists of individuals who previously participated in either the PSDP or the GSP, and applied to participate in the vocational

¹¹ Please refer to Baird et al (2016) for more details on the cost-sharing intervention and the reduction in take-up with the deworming drugs.

¹² The vocational training intervention also included a randomly assigned information intervention, and we will include an indicator for the treatment group of this intervention as well (see Hicks *et al.*, 2015c, for more information). There were no meaningful impacts of this information intervention on vocational education attainment patterns so we do not expect it to have substantial impacts in this analysis.

training voucher program. For this sample, we will estimate the following specification:

$$Y_{ik} = \alpha + \gamma_1 T_{ik}^{VOCED} + \gamma_2 T_{ik}^{CASH} + L'_{ik} \theta + \varepsilon_{ik} \quad (2)$$

in which T_{ik}^{VOCED} takes value one if the child's parent was selected to receive a vocational training voucher in 2009, T_{ik}^{CASH} takes value one if the child's parent was selected to receive a cash grant in 2013-2014, and γ_1 and γ_2 are the coefficients of interest that capture the intergenerational impact of the vocational training voucher and cash grant treatments, respectively. The remaining terms of equation (2) are analogous to the variables included in equation (1), but additionally include an indicator for participation in the PSDP (as opposed to the GSP) as well as a PSDP treatment assignment indicator and a GSP treatment assignment indicator.¹³ We also take into account the two-stage tracking strategy of KLPS-Kids data collection. We will report robust standard errors clustered at the 1998 school level. We will estimate equation (2) for the full age range of children, as well broken out by younger (3-5 years) and older children (6-8 years).

We may additionally choose to compare the size of treatment effects across the various interventions of interest. In the event that we choose to do so, we will pool the data, utilizing both the PSDP sample and the vocational training and cash grants sample, and run a single specification including indicators for each of the treatments and the vector of controls L_{ik} , and then perform an F-test for equality of the key treatment coefficients.

2.2 Heterogeneity

In additional analyses beyond the main regression specification above, we will estimate heterogeneous treatment effects using interaction terms between each treatment indicator and variables of particular theoretical and conceptual interest, including:

- Gender of parent
- Gender of child
- Age of parent
- Age of child
- Parent's 1996 PSDP school's average test score

2.3 Externalities

Although externalities are not the primary focus of the analysis, we will present additional specifications that explore potential externalities (spillovers) for the deworming parents. Exposure to spillovers is captured by the treatment saturation proportion within 6 kilometers. Estimates that do not account for treatment spillovers, such as those presented in equation (1), will be lower bounds on true overall deworming

¹³ Again, we cannot identify the causal impacts of the PSDP and GSP interventions in this analysis (using the vocational training and cash grants sample), since earlier PSDP or GSP treatment may have affected individual selection into applying for a vocational training voucher, but we include the treatment assignment indicators for completeness.

impacts (Miguel and Kremer 2004, Baird et al 2016).

One issue with employing local deworming treatment rates as an explanatory variable is that it is a function of the local treatment decisions of households in the relevant local area, leading to possible endogeneity concerns if, for instance, take-up is higher in areas where people have unobservably better labor market prospects. To address these concerns we construct the local saturation measure as a function of the local coverage rate of treatment school pupils within 6 km of school j , which is exogenously determined by the experimental design, times the average take-up rate of deworming drugs when treatment was free in the entire sample, Q , i.e., $P_k = R_k Q$. This implies that variation in the local saturation variable is driven entirely by the experimental design, with the average take-up rate serving as a useful “rescaling” to allow for a more meaningful interpretation of the magnitude of the estimated effects. Including this term in the PSDP sample specification results in the following regression:

$$Y_{ik} = \alpha + \lambda_1 T_{ik}^{PSDP} + \lambda_2 T_{ik}^{COST} + \gamma P_k + L'_{ik} \theta + \varepsilon_{ik} \quad (3)$$

The remaining terms in this equation, including the controls specified in $L'_{ik} \theta$ are defined as above.

2.4 Going beyond mean effects

Estimation of distributions of outcomes are of interest in this type of study as an additional piece of exploratory data analysis. We will non-parametrically estimate the distributions of outcomes separately for the treatment and control groups, for each of the three interventions, using kernel estimation techniques and will present these results for the main outcome indices. If we find suggestive graphical evidence of differences in the distributions, we will also report quantile regression results to better characterize the magnitude and statistical significance of these differential effects across the distribution.

2.5 Mechanisms

We will explore channels and mechanisms that might explain the estimated average treatment effects for the three interventions. For instance, gains in parent income might help explain increased investments in child health or learning resources at home. Given the large range of possible estimated effects that might be observed across the three interventions, it is difficult to fully characterize the appropriate subsequent tests to establish mechanisms, and we do not attempt to fully describe these in this document. Thus by its very nature, the results on mechanisms and channels will be more exploratory and tentative than the main program effect estimates that we have pre-specified in this document.

Among other possibilities, we might explore mediation analysis or Oaxaca-Blinder decompositions. We may use a counterfactual approach to mediation analyses (*paramed* command in Stata) (Emsley and Liu, 2013). In these models, which are widely used in psychology, nutrition, and public health (although less so in economics, see Angrist and

Pischke, 2008), the independent variable would be randomized assignment, the dependent variable would be a child development outcome, and the mediators would be family-level or household-level variables that could be on the causal pathway between deworming (or vocational training or cash grants) of parents and future improved outcomes in children.

2.6 Differential Attrition at the Parent Level

The interpretation of differences between the treatment and control groups as causal effects is jeopardized if there is differential attrition across these groups. Though it is impossible (by the very nature of attrition) to fully determine if attrition behavior is correlated with outcomes of interest, the existence of balanced characteristics along a large number of observable dimensions would provide some suggestive evidence that the propensity to attrite is not strongly related to outcomes of interest.

We will estimate average baseline differences in terms of baseline parent covariates using standard two-sample t-tests between those found and not found during the KLPS-Kids tracking activity. These covariates include:

- Parent assignment to deworming treatment (groups 1 and 2) and control (group 3), directly and interacted with parent gender
- Parent assignment to vocational training voucher treatment and control, directly and interacted with parent gender
- Parent assignment to cash grant receipt and control, directly and interacted with parent gender
- Parent gender
- Age of parent in September 2018
- 1996 PSDP school's average test score
- Indicator for whether parent's 1998 primary school is located in Budalangi division
- Population of parent's 1998 primary school
- Total number of treatment participants who studied at primary schools within 6 km of parent's 1998 primary school
- Total primary school students within 6 km of parent's 1998 primary school
- Parent 1998 test scores¹⁴

If we observe differential rates of attrition across the treatment and control groups, we will also report the Lee bounds on the main results. Lee bounds trim the sample such that the share of observed individuals is equal for both groups, with all trimming of the sample being done either from above (the right tail of the outcome distribution) or from below (the left tail), to generate upper and lower bounds, respectively. See Lee (2009) for a further explanation.

¹⁴ This test score was collected in 1998 and was part of the first-year follow-up of the deworming program. No impacts of deworming were detected. This data exists for only a (non-random) subset of parents. For more information on this test score, see Miguel and Kremer (2004).

2.7 Differential Fertility

Deworming, vocational training, and cash grants may affect the fertility of KLPS study participants and thus censor outcomes of some children (i.e., those who are never born, or not yet born during our study period, due to intervention treatment status). Differential fertility is related to but distinct from differential attrition. Differential attrition is the result of a missing data problem that changes the analysis population across treatment arms and should be minimized whenever possible. Differential fertility may also affect average differences across treatment and control groups by changing the analysis population, but in this case there is no missing data problem: the population of the next generation of children may simply differ in size and composition across treatment groups. Since we are interested in the average characteristics of these resulting populations, it is appropriate to focus on average differences between the children of treatment versus control group parents. That is, it may be impossible to “hold fertility constant” if parent fertility and family size are channels through which outcomes are being influenced.

We intend to investigate differential fertility directly. In particular, we will investigate whether there are differences in the propensity to have a child, the total number of children, and the number of KLPS-Kids sample-eligible children (based on their age) across treatment groups for the three interventions. This will be a main piece of pre-specified analysis in the KLPS-4 I module pre-analysis plan (which is currently in progress).

We note that we did not detect a statistically significant relationship between fertility and deworming treatment in analysis of the KLPS Round 2 data. However, the deworming treatment sample did have a statistically significant effect on miscarriages (as noted in Baird *et al.*, 2016), and thus differential fertility is a legitimate issue to consider. We will check for differential fertility patterns among parents who received the vocational training voucher or the cash grant interventions as part of the analysis.

2.8 Population Causal Impacts and Interpretation of Results

In a standard randomized controlled trial, the average treatment effect refers to the mean difference in outcomes in the treatment and control groups. This is interpreted as the average difference between the treatment and control groups’ potential outcomes in a fixed population defined at baseline. In this study, we also focus on population average treatment effects, but we are unable to interpret the mean difference as the average counterfactual (i.e., treatment versus control potential outcomes) among a predetermined group of children. Due to the possibility of differential fertility, the distribution of potential outcomes in the treatment arms may differ. The average difference between the children of treatment and control group parents is still a well-defined statistical quantity and is meaningful given our interest in understanding average outcomes for the offspring of the original program beneficiaries. This is what we call “treatment effects” throughout this document.

Of course, to the extent that there are only minor differences in observed fertility patterns

(e.g., numbers of children, timing, characteristics of parents versus non-parents, etc.) across treatment groups, there is less reason to believe that the average difference across treatment and control children captures something that is meaningfully different from the standard interpretation in terms of potential outcomes.

3 Outcomes and Hypotheses

In this section we outline the primary and secondary outcomes of interest for which we will explore intergenerational impacts of the interventions including the deworming and vocational training and cash grants programs. Outcomes will be collected via two instruments, (1) a set of child assessments, and (2) the Primary Caregiver Module survey (PC Module), which is administered to the adult identified by the KLPS adult respondent as a primary caregiver of the child.¹⁵

Table 1 summarizes the primary outcomes of interest, Table 2 describes in detail the construction of the primary outcomes of interest, and Table 3 describes additional outcomes of interest. We refer to specific test items or survey questions by the name of the survey and the section and question number. For instance “PC 3.3” refers to Primary Caregiver Module, Section 3, question 3.

Table 1 details the primary outcomes of interest, and Table 2 summarizes how these primary outcomes are constructed for cases where the outcome is a scale or index. The outcomes are nested within two broad categories of outcomes, Primary Child Outcomes, and Child Investment Outcomes. Included in Primary Child Outcomes are four families of outcomes: (1) Language and Cognitive Abilities (drawing on Language, Math & Spatial Abilities, and Executive Function Sub-Indices), (2) Behavior & Socio-Emotional Development, (3) Subjective Health, and (4) Height. Included in Child Investment Outcomes are four families of outcomes: (5) Early Life Health Investments, (6) Home Environment Investments, (7) Schooling Enrollment and Educational Investments, and (8) Child Discipline Strategies.

Each family of outcomes is constructed from items at different levels of aggregation, ranging from individual component measures to sub-indices. While theoretically interesting, due to the novelty of some of these measures, especially with respect to the rural Kenyan context, some of these groupings may prove speculative. As such, we also plan to report measures of index quality and coherence in the appendix by examining the correlation patterns of components within each index. We may also do further exploratory research based on the eventual correlation structure of index components, for example, by adjusting the sub-indices or indices as deemed necessary and/or presenting results with alternative groupings of component measures (for example, if distinct groups of variables appear highly collinear). To make it easier to understand what the indices

¹⁵ During the I Module survey administration, KLPS adult respondents are asked to identify the primary caregiver of the child as someone who knows the child very well and spends a substantial amount of time with the child each week. In cases where the KLPS respondent (the biological parent of the child) meets these requirements, we prioritize surveying the KLPS respondent as the primary caregiver. In practice, in the majority of cases a biological parent is administered the PC module.

represent, we will present the results for all component measures individually (unless specified otherwise and most likely in an appendix) in addition to the results for each final constructed index.

The remainder of this section is structured as follows. We first explain how indices will be constructed and how we will carry out multiple testing adjustments. Second, we provide details on each of the primary outcomes in Table 1 and 2. Finally, we present additional outcomes in Table 3 that will be analyzed either in the main paper text or in an appendix.

3.1 Construction of Indices and Multiple Testing Adjustment

When an index consists of only indicator variables, the index will be the sum of the indicators. When indices contain at least one continuous variable or a count variable taking more than two values, we will use the mean effects approach: normalizing each component variable to be mean zero with unit variance within the control group, thereafter constructing the index by summing each component variable. Where appropriate (for example, for the cognitive outcomes derived from assessments), we will normalize within gender and age bands, as described below. For indices that are constructed by combining several sub-indices, we follow a similar approach: normalizing each sub-index to be mean zero with unit variance within the control group, then summing across the normalized component sub-indices to create the index. Where appropriate, index components will be re-signed so that all the directions of negative and positive outcomes are consistent across all components.

We also note that we will exclude any variables that turn out to have very limited variance, as these will not contribute any meaningful information. Furthermore, if a pre-specified variable is missing more than 30% of possible observations among those with a completed PC module survey or a completed set of child assessments, we will drop it from inclusion in the index. We cannot anticipate why a particular variable will be omitted so frequently and expect such cases to be rare. However, if such events arise where the variable warrants exclusion, we will explore these reasons in the analysis. Finally, we will report all component measures used to create indices either in the paper or in the appendix.

For the main coefficient estimates of interest (for instance, in equation 1 above), we will present two sets of statistical significance levels. We will first present the standard “per-comparison” p-values, which provide the unconditional probabilities of a false positive. These are appropriate for a researcher with an *a priori* interest in a specific outcome. For instance, researchers interested in the effect of parent deworming on children’s height should focus directly on this p-value. Since we test multiple hypotheses (for instance, for the related but distinct outcomes listed under the first hypothesis regarding cognitive abilities), it is appropriate to control for the possibility that some true null hypotheses will be falsely rejected. Therefore, we plan to compute the False Discovery Rate (FDR) adjusted q-values that limit the expected proportion of rejections within a set of

hypotheses that are Type I errors¹⁶. Thus, while a p-value is the unconditional probability of a type I error, the analogous FDR q-value is the minimum proportion of false rejections within a family that one would need to tolerate in order to reject the null hypothesis¹⁷. Specifically, we will follow the approach to FDR analysis adopted in Casey et al. (2012) and the references cited therein. In particular, we will compute three sets of FDR adjusted q-values, at different levels of aggregation. First, we will compute FDR q-values for all component measures *within* a family of outcomes that make up a sub-index (or in cases where there is no relevant sub-index, that make up a broad index); we will do this for the component measures contained in Table 1 (Primary Outcomes) and Table 3 (Additional Outcomes). Second, we will compute FDR-adjusted q-values for all sub-indices *within* a broad index; we will do this for the sub-indices contained in Table 1. Third, we will report FDR q-values *across* the set of all broad indices contained in Table 1.

3.2 Language and Cognitive Abilities

In Table 1 we specify up to six individual outcomes (six for ages 3-5 years, seven for age 6, and eight for ages 7-8), which are the components of three sub-indices, which in turn comprise one broad index of cognitive abilities. The three sub-indices are (1) a Language Sub-Index, (2) a Math & Spatial Abilities Sub-Index, and (3) an Executive Function Sub-Index.

The broad index will be constructed by normalizing and summing across the component sub-indices as described in section 3.1. The component measures are tests that have been designed specifically for assessing young children and have been locally adapted to the Kenyan context after extensive piloting. The sub-indices present theoretically motivated groupings of the tests, while the broad index is a more speculative measure of overall cognitive abilities. The sub-indices are of standalone interest and will be reported independently and in addition to the broad index (although, as we note above, we may find that the sub-indices should be combined in different ways). For the broad index, we will report the correlation structure of the individual tests as a measure of index quality and coherence. Developmental domains tend to be global or interrelated among younger children, gradually becoming more domain-specific as children age. For this reason, we may choose to place more emphasis on the global Language and Cognitive Abilities Index among younger children, and place more emphasis on the Language, Math & Spatial Abilities, and Executive Function Sub-Indices among older children.

The Language sub-index includes the PPVT, MDAT, EGRA-Swahili, and EGRA-English assessments, the Math and Spatial Abilities sub-index includes the mental transformation (one part of the MELQO) and EGMA assessments, and the Executive Function sub-index includes the forward digit span (other part of the MELQO), DCCS, and PLUS-EF assessments. We provide more detail on each of these tests in what

¹⁶ When applicable, we will report several FDR q-values, if an outcome or index is included in different groupings or families.

¹⁷ In this sense, false positives are driven not only by sampling variation (the traditional interpretation of a p-value) but also by having multiple outcomes to test.

follows.

For all tests we will create Z-scores by subtracting the mean and dividing by the standard deviation within the control group sample using age-gender groups (using 3-month age bands if sufficient sample size within 3-month bands allows, or aggregating to 6-month age bands otherwise). For the Z-scores, we will exclude any practice items and only consider test items. We also plan to report raw scores for each assessment, most likely in an appendix.

For the cognitive tests, we will code non-responses from children as incorrect responses, though the raw data indicates whether such responses were actually incorrect responses or simply non-responses. Batteries of tests will be administered to children aged 3-5 years, 6 years, or 7-8 years (where age will be judged on the day of the assessment), as summarized by the table below.¹⁸ We aim to measure language, cognitive, and executive function abilities along similar dimensions using age-appropriate assessments. For example, the PLUS-EF measures aspects of executive function (inhibition, cognitive flexibility, and attention) among older (6-8 year old) children while the DCCS card sort measures those same executive function abilities among younger (3-5 year old) children. Two tests (PPVT, Forward Digit Span) are administered across all age bands. Below we provide a description of each individual assessment along with details for how each will be scored. We note that in some cases the assessments have been modified from their original format to fit the Kenyan context. For most tests, trained field staff will first determine the language in which the child is most proficient (English, Kiswahili, Luo, or Luhya) and administer the entire test in that language, where appropriate. We summarize the assessments administered to children within each age group and language of administration in the table below.

	3-5 years (36-71 months)	6 years (72-83 months)	7-8 years (84-107 months)	Language of Administration
PPVT	✓	✓	✓	English, Kiswahili, Luo, Luhya
Mental Transformation	✓			English, Kiswahili, Luo, Luhya
Forward Digit Span	✓	✓	✓	English, Kiswahili, Luo, Luhya
DCCS Card Sort	✓			English, Kiswahili, Luo, Luhya
PLUS-EF		✓	✓	English, Kiswahili, Luo, Luhya
MDAT Language	✓			English, Kiswahili, Luo, Luhya
EGRA-Swahili		✓	✓	Swahili
EGRA-English			✓	English
EGMA		✓	✓	English, Kiswahili, Luo, Luhya

¹⁸ Note that what we call age range 3-5 years old includes sampled children who have not yet “aged-in” at the time of the assessment (younger than 3 years old) and what we call age range 6-8 includes sampled children who have “aged-out” by the time of the assessment (older than 8 years 11 months). See section 1.3 for more detail on how we plan to handle these cases.

1. **The Peabody Picture Vocabulary Test (PPVT; Dunn and Dunn, 2007).** PPVT measures receptive vocabulary. Children are presented with four images and asked to point to the image that corresponds to the word the enumerator says. The outcome is the Z-score of the sum of correct items (not including practice items), created within gender and age bands. Children aged 3-5 years are tested on Sets 1 to 6, while children aged 6-8 years are tested on Sets 3 to 10. We will also report raw scores, most likely in an appendix.
2. **Mental Transformation (subtask from Measuring Early Learning Quality and Outcomes Direct Assessment module; MELQO DA; UNESCO et al 2017).** The mental transformation assessment measures children's spatial abilities. The assessment presents children with an image of several separated pieces of a particular shape and asks children to identify which complete shape those pieces would combine to create. The assessment consists of two practice and five test items and is administered to children aged 3-5 years. The outcome is the Z-score of the sum of correct items created within gender and age bands (not including practice items). We will also report raw scores, most likely in an appendix.
3. **Forward Digit Span (MELQO DA subtask).** The forward digit span assessment is a test of working memory. Children are asked to listen to and verbally repeat back a series of numbers in sequence. The assessment consists of two practice and five test items, and is administered to children aged 3-8 years. The outcome is the Z-score of the sum of correct items created within gender and age bands (not including practice items). We will also report raw scores, most likely in an appendix.
4. **Dimensional Change Card Sort (DCCS; Zelazo, 2006).** The DCCS assessment is a test of executive function (specifically, cognitive flexibility). In the first of two rounds ("pre-switch"), children are asked to sort cards of two shapes and two colors according to their color; in the second round ("post-switch"), children are asked to sort the same set of cards according to their shape. The DCCS assessment is administered to children aged 3-5 years. The primary outcomes will be two separate indicators for passing each of the two rounds (correct responses for at least 5 out of 6 items in each round) within age and gender bands (not including practice items). We may also report Z-scores of the sum of correct items for each round and for the second round conditional on having passed the first round created within gender and age bands (not including practice items). We will also report raw scores, most likely in an appendix.
5. **Malawi Developmental Assessment Tool - Language and Hearing (MDAT – Language and Hearing; Gladstone et al., 2010).** The MDAT Language and Hearing scale measures general language abilities, including receptive and expressive vocabulary, understanding analogies, ability to identify common objects and their use, and ability to answer questions. The test is administered to children aged 3-5 years. The outcome is the Z-score of the sum of correct items created within gender and age bands. We will also report raw scores, most likely in an appendix.

6. **Promoting Learning, Understanding, Self-Regulation (PLUS-EF; Obradović et al 2018).** PLUS-EF is an assessment of executive function. The PLUS-EF was developed to measure various aspects of executive function, including the capacities to attend to relevant stimuli, inhibit previously learned responses when task rules change, and demonstrate cognitive flexibility such as learning and applying new rules. The assessment is administered on tablets. Enumerators read instructions and advance each section, but children select responses on the tablet themselves. Children are challenged to respond accurately under non-negligible time pressure. We administer 3 of 4 PLUS EF tasks: MSIT, Hearts & Flowers, and Flanker. Each task includes a series of consecutive trials across up to three categories (in “blocks” of trials): congruent, incongruent, and mixed. Performance will be calculated separately for each of these three categories, combining a measure of performance (accuracy) on blocks of trials within each category from across the three tasks. Accuracy scores for each task are calculated as the proportion of correct responses (correct responses divided by the sum of correct and incorrect responses) conditional on a sufficient level of non-missing responses¹⁹. The test is administered to children aged 6-8 years. The outcomes are Z-scores of accuracy scores created within gender and age bands for each of the 3 categories (not including practice items). We will also report raw scores, most likely in an appendix.
7. **Early Grade Reading Assessment Swahili (EGRA Swahili; Gove & Wetterberg, 2011; Dubeck & Gove, 2015).** EGRA Swahili is a standardized assessment designed and developed for USAID. The purpose of the tool is to measure the literacy of children attending primary school in classes 1-3 in terms of Kiswahili proficiency at a national level, such that scores from this assessment will have national comparability. The assessment consists of 6 sections, during which children are asked to identify letters, sounds, and words, differentiate between invented and real words, and complete oral reading and reading comprehension tasks. The assessment is administered to children aged 6-8 years. Outcomes will be Z-scores of the sum of correct items created within gender and age bands for each of the 6

¹⁹ In order to determine whether or not an assessment contains a sufficient level of non-missing data to calculate an accuracy score, we will use the standardized guidelines specified below as a starting point. However, given that this is the first use of the (adapted) test in our specific context, we may adjust the cutoffs/thresholds as we determine to be appropriate, in the spirit of retaining as much meaningful data as possible. Any adjustments will be data-driven, clearly stated, and we will also make available all results that show outcomes for the assessment using both the standardized guidelines and our adapted guidelines. The standardized guidelines that we will use as a starting point hold that accuracy scores can be calculated when there are no more than 7/12 invalid trials for each of the Hearts & Flowers Congruent and Incongruent blocks, no more than 23/33 invalid trials for Hearts & Flowers Mixed block; no more than 9/24 invalid trials for each of the MSIT Congruent and Incongruent blocks; no more than 5/11 invalid trials for the Flanker Congruent block, no more than 3/6 invalid trials for the Flanker Incongruent block, and no more than 30/45 invalid trials for the Flanker Mixed block. Note that “invalid” responses include non-responses and responses considered missing if a) the child stops responding for at least 10 trials at the end of the task, in which case the full string of consecutive non-responses are considered missing, b) a child responds with 10 or more presses of the same button in a block, in which case all responses within that block are set to missing, or c) a child responds within 200 milliseconds (indicating an “anticipatory response” rather than a true response), in which case the trial is considered as missing.

sections (not including practice items). We will also report raw scores, most likely in an appendix.

8. **Early Grade Reading Assessment English (EGRA English; Gove & Wetterberg, 2011; Dubeck & Gove, 2015).** EGRA English is also a standardized assessment designed and developed for USAID. The purpose of the tool is to measure the English proficiency of children attending primary school in classes 1-3 at a national level. We administer only two of the sections of the complete assessment, such that scores from these two sections only will have national comparability. These include an oral reading section and a reading comprehension section, selected to determine (1) the English reading and (2) the English comprehension abilities of children in the sample. The assessment is administered to children aged 7-8 years. Outcomes will be Z-scores of the sum of correct items created within gender and age bands for each of the 2 sections (not including practice items). We will also report raw scores, most likely in an appendix.
9. **Early Grade Math Assessment (EGMA; Platas et al 2014).** EGMA is also a standardized assessment designed and developed for USAID. The purpose of the tool is to measure the early math skills of children attending primary school in classes 1-3 at a national level. Similarly, scores from this test will have the benefit of national comparability. The measure has 6 sections, during which children are tested on their knowledge of numbers, simple and complex addition, simple and complex subtraction, and their ability to interpret and solve word problems. The assessment is administered to children aged 6-8 years. Outcomes will be Z-scores of the sum of correct items created within gender and age bands for each of the 6 sections (not including practice items). We will also report raw scores, most likely in an appendix.

3.3 Behavior and Socio-Emotional Development

We administer the age-specific Strengths and Difficulties Questionnaires (SDQ) to the primary caregiver of each child to assess children's socio-emotional development (PC 6.1-6.25; SDQ; Goodman, 1997). Standard outcomes constructed from the SDQ include the Emotional Symptoms, Conduct Problems, Hyperactive, Peer Problems, and Prosocial Scales, as well as the Total Difficulties Score. Each of these scales and their components are described in more detail in Table 2. Note that for each of these measures (aside from the Prosocial Scale), lower values indicate positive outcomes and greater values indicate negative outcomes in keeping with the literature. Depending on the paper, presentation, or audience, we may occasionally choose to reverse the measures so that lower values indicate negative outcomes while greater values indicate positive outcomes for ease of interpretation. Since this would represent a departure from the typical presentation of these measures in the literature, we will clearly specify and indicate when we choose to present these measures in this way.

In addition to studying the standard outcomes constructed from the SDQ, we also construct the Strengths and Difficulties Index by normalizing and summing the component sub-indices within gender-age bands and relative to the control group using

the procedure described in section 3.1. The Strengths and Difficulties Index is a more speculative measure of child behavior, which includes all components of the Total Difficulties Score (reverse-signed so that lower values indicate negative outcomes and greater values indicate positive outcomes) and also the Prosocial Scale. For the broad index we will report the correlation structure of the components as a measure of index quality. For this family of outcomes, we plan to report each of the sub-indices and the broad index, but will not report outcomes for each of the individual 25 component questions.

3.4 Subjective Health

We will present four individual subjective health measures and one broad index. We describe each measure below:

1. **No sickness in the past seven days.** Indicator equals one if caregiver indicates that child has not experienced fever, malaria, vomiting, cough, diarrhea, or any other infection in past seven days (PC 3.6).
2. **Overall child health.** Five point scale that asks caregiver to rate child health on a scale from 1-5 where a higher score indicates better health (PC 3.7).
3. **No serious health problems since birth.** Indicator (PC 3.8).
4. **No disability.** The no disability indicator is based on caregiver's answer to the following 10 difficulties questions, used by the World Health Organization (WHO) as a severe disability screener (Durkin et al., 1995). If answers to all 10 questions indicate that child has no difficulties, then the indicator takes value of one. While we plan to report the final index, we will not report effects for each of the individual components.
 - a. Child had serious delays in learning to walk compared to other children²⁰ (PC 3.9, PC 3.9a)
 - b. Child has difficulty seeing (PC 3.10)
 - c. Child has difficulty hearing (PC 3.11)
 - d. Child does not understand caregiver (PC 3.12).
 - e. Child has difficulty moving or weakness or stiffness in arms and legs (PC 3.13).
 - f. Child has seizures (PC 3.14).
 - g. Child has lower learning ability than other children (PC 3.15).
 - h. Child cannot speak or communicate (PC 3.16).
 - i. Child has speech impediments (PC 3.17).
 - j. Child appears cognitively delayed, or delayed in language²¹ (PC 3.18).

5. **Subjective Health Index.** The Subjective Health Index will be created from

²⁰ For clarification, we separately ask parents whether the child was able to walk by age 2.

²¹ If uncertain, parents are asked whether the child could speak by age two (a "no" response) or could not speak by age two (a "yes" response).

outcomes described in 1-4, by normalizing and summing the four components (three indicators and one index) as described in section 3.1. For this outcome we will report the correlation structure of the components as a measure of index quality.

3.5 Height

Height. We will construct the height outcome by taking the mean of three height measures (collected at the conclusion of the set of child assessments) and constructing z-scores within age and gender bands using WHO child growth standards (de Onis *et al.*, 2004).

3.6 Early Life Health Investments

We will present two individual measures and one broad index related to early life health investments. We describe each measure below:

1. **Vaccination Index.** Sum of indicators over the following items. While we plan to report the final index, we will not report effects for each of the individual vaccination components.
 - a. Indicator for having received BCG vaccination (PC 3.3a).
 - b. Indicator for having received polio vaccination (PC 3.3b).
 - c. Indicator for having received DPT vaccination (PC 3.3c).
 - d. Indicator for having received measles vaccination (PC 3.3d).
 - e. Indicator for having received yellow fever vaccination (PC 3.3e).
2. **Parasitic Prevention Index.** Sum of indicators over the following items (which will be reported in an appendix):
 - a. Indicator for child slept under a bed net last night (PC 3.4).
 - b. Indicator for child dewormed in past 12 months (PC 3.5).
3. **Early Life Health Investments Index.** The Early Life Health Investments Index will be created from outcomes 1 and 2 (both sub-indices), by normalizing and summing the two component sub-indices following the procedure described in section 3.1. For this outcome we will report the correlation structure of the components as a measure of index quality.

3.7 Home Environment Investments

To measure home environment investments, we will present six individual measures and one broad index, a modified version of the Family Care Indicators (FCI) (Hamadani et al. 2010) These measures (and associated scoring) were adapted from Kariger et al. (2012), Hamadani et al. (2010), Özler et al. (2018), Bradley et al. (2001), Prado et al. (2016) and UNICEF (2015). We describe each measure below:

1. **Household Books.** Reported number of books of all types (PC 5.1c) minus the

- number of picture or storybooks (PC 5.1di), which are included as part of the “Varieties of Play Materials” Index. Note that when we combine this into the modified FCI index below, we treat this as an indicator for whether the household has any books (again excluding picture and storybooks).
2. **Magazines and Newspapers.** Sum of indicators over the following items:
 - a. Newspapers, magazines, pamphlets, or brochures at home (PC 5.1e)
 - b. Pictures, posters, calendars, or other type of art work on the walls at home (PC 5.1f)
 3. **Sources of Play Materials Index:** Sum of indicators over the following items:
 - a. Plays with homemade toys (PC 5.2a)
 - b. Plays with toys from a shop or manufactured toys (PC 5.2b)
 4. **Varieties of Play Materials Index:** Sum of indicators over the following items:
 - a. Music player or radio at home (PC 5.1a).
 - b. Musical instruments at home (PC 5.1.b).
 - c. Paper and pen or art supplies at home (PC 5.1g).
 - d. Number of storybooks or picture books at home (PC 5.1di), converted to an indicator for having any storybooks or picture books at home.
 - e. Plays games of strategy (ludo, checkers, chess, video/phone games (PC 5.1i).
 - f. Child makes toys (PC 5.1h).
 5. **Play Activities:** Sum of indicators over the following items²² (which will be reported in an appendix):
 - a. Caregiver reads books to or looks at books with child (PC 5.4a)
 - b. Caregiver tells stories to child (PC 5.4b)
 - c. Caregiver sings songs or plays instruments with child (5.4c)
 - d. Caregiver plays with child (PC 5.4d)
 - e. Caregiver constructs objects or art with child (PC 5.4e)
 - f. Caregiver names, counts, or draws things with child (PC 5.4f)
 - g. Caregiver helps child with homework (PC 5.4g)
 - h. Caregiver talks with child about what he/she is learning in school (PC 5.4h)
 - i. Caregiver teaches child vocabulary words in English or Swahili (PC 5.4i)
 - j. Caregiver teaches child vocabulary words in local language (PC 5.4j)
 - k. Caregiver plays sports or other physical activity with child (PC 5.4k)
 - l. Caregiver takes child on a fun outing (PC 5.4l)
 6. **Number of storybooks or picture books at home** (PC 5.1di)
 7. **Modified Family Care Indicators (FCI) Index.** The Modified Family Cares Indicators Index will be created by taking the sum of an indicator for whether the household has any books (from index 1) and the sum of indices 2 to 5. We do not include the number of storybooks in this overall index, as an indicator for having any story or picture books features in the “Varieties of play materials” index. For this outcome we will report the correlation structure of the components as a measure of index quality.

²² For all items, “caregiver” refers to either the caregiver him/herself or another household member above the age of 15.

In the pre-analysis plan for pilot data collected from children (Fernald et al. 2015), we generated the home environment investments subindices and broad index in a different manner. While the underlying questions are very similar, the process of aggregation differs. In the appendix, we present this alternate set of indices, which we may report in an appendix for consistency with earlier work.

3.8 School Enrollment and Educational Investments

1. **School Enrollment and Educational Investments Index.** We plan to present an index constructed as the sum of normalized averages over the following outcomes related to age-appropriate schooling enrollment, attendance, and other educational investment outcomes.
 - a. Indicator for child currently enrolled in school, including ECD, pre-school, primary school, or other school (PC 5.6)
 - b. Indicator for child ever enrolled in school, including ECD, pre-school, primary school, or other school (PC 5.6a)
 - c. Indicator for child attended school last week (PC 5.7d)
 - d. Number of days child attended school last week, conditional on attendance (PC 5.7di)
 - e. Cost of schooling last month, actual paid by household (PC 5.eii)
 - f. Cost of daycare last month, actual paid by household (PC 5.9a)

3.9 Child Discipline Strategies

We will present two individual measures and one broad index related to parent- or caregiver-reported child discipline strategies used with the child. These outcomes were drawn from Sadowski *et al.* (2004), UNICEF (2010), and UNICEF (2015). We describe each measure below:

1. **Positive Discipline Techniques Index.** Sum of indicators over the following items, with higher values indicating higher reported use of positive discipline techniques (which will be reported in an appendix):
 - a. In past month, an adult took away privileges or grounded child (PC 5.5a).
 - b. In past month, an adult explained wrong behavior to child (PC 5.5b).
 - c. In past month, an adult gave misbehaving child alternate activity (PC 5.5d).
2. **Negative Discipline Techniques Index.** Sum of indicators over the following items, with higher values indicating higher reported use of negative discipline techniques (which will be reported in an appendix):
 - a. In past month, an adult has yelled at child (PC 5.5c).
 - b. In past month, an adult has called the child names (PC 5.5e).
 - c. In past month, an adult has hit the child (PC 5.5f).
3. **Child Discipline Strategies Index.** Index based on outcomes 1 and 2, constructed by normalizing and summing across component outcomes following the

procedure described in section 3.1. Note that the Negative Discipline Techniques sub-index will be re-signed in construction of the overall Child Discipline Strategies Index so that positive indicates “no adults have used the particular negative discipline technique”. For this outcome we will report the correlation structure of the components as a measure of index quality.

3.10 Additional Outcomes

Table 3 summarizes additional outcomes that will either be presented in an appendix or in the main text of the final paper. Additional outcomes include the following:

1. **Birthweight.** While this an important measure of intergenerational returns to deworming, vocational training, and cash grants, we choose to label it as an additional outcome because we expect a large share of missing data (PC 3.2).
2. **Any Vaccination.** Related to parental investments in child, we will also present:
 - a. An indicator for any vaccination (maximum of indicators, PC 3.3a-3.3f). We expect little variation in this measure, with nearly all children reported to receive at least one vaccination.
 - b. An indicator for received any other vaccination (PC 3.3f)
3. **Schooling Outcomes.** We plan to report on early-childhood investments made in terms of current and past daycare enrollment along the following measures:
 - a. Indicator for child currently enrolled in daycare (PC 5.9)
 - b. Indicator for child ever enrolled in daycare (PC 5.9b)
4. **Caregiver Mental Health Index.** We administer the Center for Epidemiologic Studies Depression Scale-Short Form (CESD-10; Andersen et al 1994) to construct the Caregiver Mental Health Index (PC 2.7). For cases where the primary caregiver is the KLPS respondent, this information will be collected in the I Module and will not be collected again in the PC module. The index is made by summing the following items reported on a scale ranging from 1 (rarely or none of the time) to 4 (all of the time). Where necessary, responses will be recoded so that positive responses are scored (1) and negative responses are scored (4). Note that for the final index, lower values indicate positive outcomes and greater values indicate negative outcomes in keeping with the literature. Depending on the paper, presentation, or audience, we may choose to reverse the index so that lower values indicate negative outcomes while greater values indicate positive outcomes for ease of interpretation. Since this would represent a departure from the typical presentation of this measure in the literature, we will clearly specify and indicate when we choose to present the index in this way. While we plan to report the final index, we will not report effects for each of the individual components. In the analysis of this data, we will include an indicator variable for whether this was collected as part of the I module (as opposed to the PC module) as an additional regression covariate.
 - a. In the past week, caregiver was bothered by things that usually do not

- bother him/her (PC 2.7a).
 - b. In the past week, caregiver had a problem concentrating on what he/she was doing (PC 2.7b).
 - c. In the past week, caregiver felt depressed or trouble in his/her mind (PC 2.7c).
 - d. In the past week, caregiver felt that everything he/she did took up all his/her energy (PC 2.7d).
 - e. In the past week, caregiver felt helpful about the future (PC 2.7e).
 - f. In the past week, caregiver felt afraid (PC 2.7f).
 - g. In the past week, caregiver had difficulty sleeping peacefully (2.7g).
 - h. In the past week, caregiver felt happy (2.7h).
 - i. In the past week, caregiver felt lonely (2.7i).
 - j. In the past week, caregiver lacked the motivation to do anything (2.7j).
5. **Time Use.** Estimates of child time use are calculated in one-hour increments for common activities. We plan to sum time spent on various activities across the following broad categories (and report individual items in an appendix):
- a. Unstructured leisure time
 - i. Hours spent informally playing with friends (PC 5.3f)
 - ii. Hours spent watching TV, playing video games, etc. (PC 5.3j)
 - b. Productive activities and/or chores
 - i. Hours spent doing chores (PC 5.3g)
 - ii. Hours spent on family business (PC 5.3h)
 - c. Educational activities
 - i. Hours spent at school, pre-school, day care (PC 5.3a)
 - ii. Hours spent reading, doing homework, or studying (PC 5.3i)
 - d. Other time use
 - i. Hours spent going to and from school (PC 5.3b)
 - ii. Hours spent doing a structured non-sports activity (PC 5.3c)
 - iii. Hours spent on religious activities (PC 5.3d)
 - iv. Hours spent on formal sports (PC 5.3e)
 - v. Hours spent on other non-sleep activities (PC 5.3k)
6. **Competition.** We plan to look at competition choices (risk-neutral “alone” choice versus high-payoff risky choice “compete”) in two ways: firstly looking at how parents choose on behalf of their children, and secondly how children choose for themselves. (We note that additional analysis with this data will be discussed in the KLPS-4 I module pre-analysis plan.) We plan to examine the following:
- a. Parent choice for child, correlation with child’s choice, by parent gender, child gender, and parentXchild gender. (I Module 23.3.1)
 - b. Child choice of “alone” versus “compete,” separately for female and male children, testing for differences in treatment effects across gender (Outcomes from KLPS Kids Assessment).

4. Exploratory Analysis

1. **Sleep.** We plan to do exploratory analysis of sleep outcomes among children in the sample, with a particular emphasis on examining heterogeneity by gender, rural/urban location, age, and city-specific outcomes (e.g., Nairobi, Kisumu). We plan to examine four measures:

- a. **Sleep efficiency**, calculated as:

$$\text{Sleep efficiency} = \frac{(\text{Time in bed} - \text{Sleep latency} - \text{Wake after sleep onset})}{\text{Time in bed}}$$

- Time in bed: Time child woke up minus time child went to bed (PC 4.1 and 4.4)
- Sleep latency: Time it took to fall asleep (PC 4.2)
- Wake after sleep onset: Total time awake during night (PC 4.3a)

- b. **Sleep time**, calculated as:

$$\text{Sleep time} = \text{Time in Bed} - \text{Sleep latency} - \text{Wake after sleep onset}$$

- c. **Bed time last night** (PC 4.1)
- d. **Bed time night before last** (PC 4.7)
- e. **Wake time this morning** (PC 4.4)
- f. **Wake time yesterday morning** (PC 4.8)
- g. **Time spent napping** (PC 4.6b)

2. **Interactions across interventions.** In an extension of regression specifications (1) and (2) described above, we will also examine the effect of assignment to multiple treatment groups (a set of double interactions and one triple interaction). The interactions between the PSDP and GSP treatment indicators with the vocational training and cash grant treatment indicators may not necessarily have a causal interpretation due to potential selection into the vocational training and cash grants sample. Moreover, we do not expect our study design to have sufficient statistical power to generate precise estimates for many of these interaction terms (particularly for the smaller samples involved in the vocational training and cash grants program interactions), and hence such analyses should be considered suggestive rather than definitive. The patterns that emerge will likely stimulate further exploratory analysis using the dataset.

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Tables

See attached Table 1, Table 2, Table 3, and Table A1.

Appendix

See attached copies of Kenya Life Panel Survey-Kids (KLPS-Kids) training manual, non-proprietary portions of assessment materials, and primary caregiver survey module.

A1. Alternate indices for Home Environment Investments

In Fernald et al. (2015), we defined a measure of Home Environment Investments using the following subindices (note that some of the individual components have since been refined). We may report outcomes constructed in an analogous manner in an appendix. Table A1 compares the construction below with what we describe in Section 3.7.

1. **Music at Home Index.** Sum of indicators over the following items (which will be reported in an appendix):
 - a. Music player or radio at home (PC 5.1a).
 - b. Musical instruments at home (PC 5.1.b).
2. **Reading Materials at Home Index.** Sum of normalized averages over the following items (which will be reported in an appendix):
 - a. Number of books (all types) at home (PC 5.1c).
 - b. Number of storybooks or picture books at home (PC 5.1di).
 - c. Number of children's textbooks at home (PC 5.1dii)
 - d. Newspapers, magazines, pamphlets, or brochures at home (PC 5.1e).
3. **Creative Outlets at Home Index.** Sum of indicators over the following items (which will be reported in an appendix):
 - a. Pictures, posters, calendars, or other type of art work on the walls at home (PC 5.1f).
 - b. Paper and pen or art supplies at home (PC 5.1g).
 - c. Child makes toys (PC 5.1h).
4. **Toys:** Sum of indicators over the following items (which will be reported in an index):
 - a. Plays games of strategy (ludo, checkers, chess, video/phone games (PC 5.1i).
 - b. Plays with homemade toys or plays with toys from a shop or manufactured toys (PC 5.2a, PC 5.2b).
5. **Engagement in Activities to Support Development Index.** Sum of indicators

over the following items²³ (which will be reported in an appendix):

- a. Caregiver reads books to or looks at books with child (PC 5.4a)
- b. Caregiver tells stories to child (PC 5.4b)
- c. Caregiver sings songs or plays instruments with child (5.4c)
- d. Caregiver plays with child (PC 5.4d)
- e. Caregiver constructs objects or art with child (PC 5.4e)
- f. Caregiver names, counts, or draws things with child (PC 5.4f)
- g. Caregiver helps child with homework (PC 5.4g)
- h. Caregiver talks with child about what he/she is learning in school (PC 5.4h)
- i. Caregiver teaches child vocabulary words in English or Swahili (PC 5.4i)
- j. Caregiver teaches child vocabulary words in local language (PC 5.4j)
- k. Caregiver plays sports or other physical activity with child (PC 5.4k)
- l. Caregiver takes child on a fun outing (PC 5.4l)

6. **Home Environment Investment Index.** Index based on outcomes 1-5 above, constructed by normalizing and summing the six component outcomes following the procedure described in section 3.1. For this outcome we will we will report the correlation structure of the components as a measure of index quality.

²³ For all items, “caregiver” refers to either the caregiver him/herself or another household member above the age of 15.

Table 1: Primary Outcomes

Individual Outcomes	Age Range	Sub-Index	Broad Index
Panel A: Primary Child Outcomes			
Language and Cognitive Abilities			
Peabody Picture Vocabulary Test Z-Score	3-8 years	Language Index	Cognitive Abilities Index
MDAT Language and Hearing Z-Score	3-5 years		
EGRA-Swahili Z-Score	6-8 years		
EGRA-English Z-Score	7-8 years		
Mental Transformation Z-Score	3-5 years	Math and Spatial Abilities Index	
EGMA Z-Score	6-8 years	Executive Function Index	
Forward Digit Span Z-Score	3-8 years		
DCCS Card Sort Passing Indicator: Pre-switch round	3-5 years		
DCCS Card Sort Passing Indicator: Post-switch round	3-5 years		
PLUS-EF Z-Score: Congruent Task	6-8 years		
PLUS-EF Z-Score: Incongruent Task	6-8 years		
PLUS-EF Z-Score: Mixed Task	6-8 years		
Behavior and Socio-Emotional Development			
Emotional Symptoms Scale		Total Difficulties Score*	Strengths and Difficulties Index
Conduct Problems Scale			
Hyperactive Scale			
Peer Problems Scale			
Prosocial Scale		Prosocial Scale	
Subjective Health			
No sickness in past seven days			Subjective Health Index
Overall child health			
No serious health problems since birth			
No disability indicator			
Height			
Height			Height
Panel B: Child Investment Outcomes			
Early Life Health Investments			
Vaccination Index			Early Life Health Investments Index
Parasitic prevention Index			
Home Environment Investments			
Household books			Modified Family Care Indicators (FCI) Index
Magazines or newspapers			
Sources of play materials			
Varieties of play materials			
Play activities			
Number of picture or storybooks			
Schooling Enrollment and Educational Investments			
			School Enrollment and Educational Investments Index
School Enrollment and Educational Investments Index			
Child discipline strategies			
Positive discipline techniques index			Child Discipline Strategies Index
Negative discipline techniques index			

Notes:

1. Age ranges are reported for assessments that vary by child age. If ages are not specified, the outcome is collected for all children
2. * indicates components where the direction will be resigned for internal consistency in construction of the index (higher values reflect positive outcomes, lower values reflect negative outcomes).

Table 2: Construction of Primary Outcomes

	Aggregation	Question	
Outcome	Method	Number	Question Description
Panel A: Primary Child Outcomes			
Behavior and Socio-Emotional Development			
Emotional Symptoms Scale ⁺	Sum	PC 6.3	Often complains of headaches, stomach-aches, or sickness
		PC 6.8	Many worries or often seems worried
		PC 6.13	Often unhappy, depressed or tearful
		PC 6.16	Nervous or clingy in new situations, easily loses confidence
		PC 6.24	Many fears, easily scared
Conduct Problems Scale ⁺	Sum	PC 6.5	Often loses temper
		PC 6.7	**Generally well behaved, usually does what adults request
		PC 6.12	Often fights with other children or bullies them
		PC 6.18	Age 3 or younger: Often argumentative with adults Age 4 or older: Often lies or cheats
		PC 6.22	Age 3 or younger: Can be spiteful to others Age 4 or older: Steals from home, school or elsewhere
Hyperactive Scale ⁺	Sum	PC 6.2	Restless, overactive, cannot stay still for long
		PC 6.10	Constantly fidgeting or squirming
		PC 6.15	Easily distracted, concentration wanders
		PC 6.21	**Age 3 or younger: Can stop and think things out before acting **Age 4 or older: Thinks things out before acting
		PC 6.25	**Good attention span, sees work through to the end
Peer Problems Scale ⁺	Sum	PC 6.6	Rather solitary, prefers to play alone
		PC 6.11	**Has at least one good friend
		PC 6.14	**Generally liked by other children
		PC 6.19	Picked on or bullied by other children
		PC 6.23	Gets along better with adults than with other children
Prosocial Scale ⁺	Sum	PC 6.1	Considerate of other people's feelings
		PC 6.4	Shares readily with other children, for example toys, treats, pencils
		PC 6.9	Helpful if someone is hurt, upset or feeling ill
		PC 6.17	Kind to younger children
		PC 6.20	Often offers to help others (parents, teachers, other children)
Subjective Health			
No disability Indicator ⁺	Max	PC 3.9	Serious delays in learning to walk compared to other children
		PC 3.10	Difficulty seeing
		PC 3.11	Difficulty hearing
		PC 3.13	Difficulty moving. Weakness or stiffness in arms and legs.
		PC 3.14	Has seizures
		PC 3.12	Child does not understand caregiver
		PC 3.15	Child has lower learning ability than other children
		PC 3.16	Child cannot speak or communicate
		PC 3.17	Speech impediments
PC 3.18	Cognitively delayed, or delayed in language		

Notes:

1. ⁺ indicates that individual components will not be reported separately.
2. ** indicates components where the direction will be resigned for internal consistency in construction of the index (higher values reflect **negative** outcomes, lower values reflect **positive** outcomes, in keeping with the literature).

Table 2: Construction of Primary Outcomes (continued)

Outcome	Aggregation Method	Question Number	Question Description
Panel B: Child Investment Outcomes			
Early Life Health Investments			
Vaccination Index ⁺	Sum	PC 3.3a	Received BCG vaccination
		PC 3.3b	Received polio vaccination
		PC 3.3c	Received DPT vaccination
		PC 3.3d	Received measles vaccination
		PC 3.3e	Received yellow fever vaccination
Parasitic Prevention Index	Sum	PC 3.4	Slept under bed net last night
		PC 3.5	Dewormed in past 12 months
Home Environment Investments			
Household Books	Sum		Reported number of books (all types) at home, subtracting off number of picture or storybooks (5.1di). We convert this to an indicator for any household books (excluding picture or storybooks) when constructing the modified FCI measure.
Magazines and Newspapers	Sum	PC 5.1c	
		PC 5.1e	Newspapers, magazines, pamphlets, or brochures at home
Sources of Play Materials	Sum	PC 5.1f	Pictures, posters, etc
		PC 5.2a	Plays with homemade toys
Varieties of Play Materials	Sum	PC 5.2b	Plays with toys from a shop or manufactured toys
		PC 5.1a	Music player or radio at home
		PC 5.1b	Musical instruments at home
		PC 5.1g	Paper and pen or art supplies at home
			Number of storybooks or picturebooks at home, converted to indicator for any story or picture books
		PC 5.1di	
		PC 5.1i	Plays games of strategy (ludo, checkers, chess, video/phone games)
		PC 5.1h	Child makes toys (balls, dolls, etc)
Play activities	Sum	PC 5.4a	Caregiver reads books to or looks at books with child
		PC 5.4b	Caregiver/HH member tells stories to child
		PC 5.4c	Caregiver/HH member sings songs/plays instruments with child
		PC 5.4d	Caregiver/HH member plays with child
		PC 5.4e	Caregiver/HH member constructs objects or art with child
		PC 5.4f	Caregiver names, counts, or draws things with child
		PC 5.4g	Caregiver helps child with homework
		PC 5.4h	Caregiver talks with child about what learning in school
		PC 5.4i	Caregiver teaches vocabulary words in English or Swahili
		PC 5.4j	Caregiver teaches vocabulary words in local language
		PC 5.4k	Caregiver/HH member plays sports or other physical activity with child
		PC 5.4l	Caregiver/HH member takes child on a fun outing
Schooling Enrollment and Educational Investments			
School Enrollment and Educational Investments Index	Normalized Average	PC 5.6	Child currently enrolled in school, including ECD, pre-school, primary school, or other school
		PC 5.6a	Child ever enrolled in school, including ECD, pre-school, primary school, or other school
		PC 5.7d	Child attended school last week
		PC 5.7di	Number of days child attended last week
		PC 5.eii	Cost of schooling last month, actual paid by household
		PC 5.9a	Cost of daycare last month, actual paid by household
Child Discipline Strategies			
Positive Disciplines Technique Index	Sum	PC 5.5a	In past month, an adult took away privileges or grounded
		PC 5.5b	In past month, an adult explained wrong behavior to child
		PC 5.5d	In past month, adult gave misbehaving child alternate activity
Negative Discipline Techniques Index*	Sum	PC 5.5c	In past month, an adult has yelled at child
		PC 5.5e	In past month, an adult has called the child names
		PC 5.5f	In past month, an adult has hit the child

Notes:

1. We will report all questions in an appendix, with both naïve p-values and multiple testing corrected FDR q-values.
2. ⁺ indicates that individual components will not be reported separately.
3. * indicates components where the direction will be resigned for internal consistency in construction of the index (higher values reflect positive outcomes, lower values reflect negative outcomes).

Table 3: Additional Outcomes

Table 3: Additional Outcomes		
Question Number	Outcome Description	Index
Anthropometry		
PC 3.2	Birth weight	
Parental Investments		
PC 3.3	Received any vaccination	
Schooling Outcomes		
PC 5.9	Child currently enrolled in daycare	
PC 5.9b	Child ever enrolled in daycare	
Caregiver Mental Health (CESD)		
	<i>In the past week:</i>	
PC 2.7a	Caregiver was bothered by things that usually do not bother him/her	Caregiver Mental Health Index ⁺
PC 2.7b	Caregiver had a problem concentrating on what he/she was doing	
PC 2.7c	Caregiver felt depressed and troubled	
PC 2.7d	Caregiver felt that everything he/she did took up all his/her energy	
PC 2.7e	**Caregiver felt hopeful about the future	
PC 2.7f	Caregiver felt afraid	
PC 2.7g	Caregiver had difficulty sleeping peacefully	
PC 2.7h	**Caregiver was happy	
PC 2.7i	Caregiver felt lonely	
PC 2.7j	Caregiver lacked the motivation to do anything	
Time Use		
PC 5.3f	Hours spent informally playing with friends	Unstructured
PC 5.3j	Hours spent watching, playing video games, etc.	Leisure
PC 5.3g	Hours spent doing chores	Productive Activities/Chores
PC 5.3h	Hours spent on family business	
PC 5.3a	Hours spent at school, pre-school, day care	Educational Activities
PC 5.3i	Hours spent reading, doing homework, or studying	
PC 5.3b	Hours spent going to and from school	
PC 5.3c	Hours spent doing a structured non-sports activity	Other
PC 5.3d	Hours spent on religious activities	
PC 5.3e	Hours spent on formal sports	
PC 5.3k	Hours spent on other non-sleep activities	
Competition		
I-Module 23.3.1	Parental choice for child ("alone" versus "compete")	
Kids Assessments	Child choice of "alone" versus "compete"	

Notes:

1. Center for Epidemiologic Studies Depression Scale (CESD) will be collected as part of the I-Module for cases where the caregiver is the KLPS focus respondent.
2. ⁺ indicates that individual components will not be reported separately.
3. ** indicates components where the direction will be resigned for internal consistency in construction of the index (higher values reflect **negative** outcomes, lower values reflect **positive** outcomes, in keeping with the literature).

Table A1: Mapping of Modified Family Care Indicators (FCI) to KLPS Questions

FCI Construction	FCI Items	KLPS Items	Home Enviroment Investment Index Category	
FCI Subscale: Household Books				
Number observed	Total number of books observed, excluding picture or story books: none, 1-2, 3-5, >=6	PC 5.1c Reported number of books (all types) at home	Reading Materials	
FCI Subscale: Magazines or Newspapers				
Number observed	Total number magazines or newspapers observed: none, 1-2, 3-5, >=6	PC 5.1e Reported household has newspapers, magazines, pamphlets, or brochures at home	Reading Materials	
		PC 5.1f Reported household has pictures, posters, etc at home	Creative Outlets	
FCI Subscale: Sources of play materials				
Observed, yes/ no	Household objects	PC 5.2a Plays with homemade toys	Toys	
	Toys bought from store	PC 5.2b Plays with toys from a shop or manufactured toys		
	Things from outside Home-made toys			
FCI Subscale: Varieties of Play Materials				
Observed, yes/ no	Things which make/ play music	PC 5.1a Music player or radio at home	Music	
		PC 5.1b Musical instruments at home		
	Things for drawing/ writing	PC 5.1g Paper and pen or art supplies at home	Creative Outlets	
	Picture books		Number of storybooks or picturebooks at home, converted to indicator for any story or picture books	Reading Materials
		PC 5.1di		
		PC 5.1i Plays games of strategy (ludo, checkers, chess, video/phone games)	Toys	
		PC 5.1h Child makes toys (balls, dolls, etc)	Creative Outlets	
		Things for stacking Things for moving around Toys for learning shapes and colors Things for pretending		
	FCI Subscale: Play Activities			
	Reported, yes/no	Read/ looked at books with child	PC 5.4a Caregiver reads books to or looks at books with child	Engagement in Activities to Support Development (reported)
		Tell stories to child	PC 5.4b Caregiver tells stories to child	
		Sing songs with child	PC 5.4c Caregiver sings songs or plays instruments with child	
Take child out of home place		PC 5.4l Caregiver takes child on a fun outing		
Play with the child with toys		PC 5.4d Caregiver plays with child		
		PC 5.4e Caregiver constructs objects or art with child		
		PC 5.4k Caregiver plays sports or other physical activity with child		
Spend time with child in naming things, counting, drawing		PC 5.4f Caregiver names, counts, or draws things with child		
		PC 5.4g Caregiver helps child with homework		
		PC 5.4h Caregiver talks with child about what he/she is learning in school		
		PC 5.4i Caregiver teaches child vocabulary words in English or Swahili		
		PC 5.4j Caregiver teaches child vocabulary words in local language		

Notes:

1. This table maps questions from the Family Cares Indicators (Hamadani et al. 2010) to questions in the KLPS-4 Wave 1 PC Module, as well as the Home Environment Investments subindices used as part of earlier KLPS work (Fernald et al. 2015). Items in italics are those in the FCI index that have no analogue in the KLPS data.

**KLPS-KIDS TRAINING MANUAL
CHILD ASSESSMENTS, 3-8 YEARS
20 SEPTEMBER 2018**

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Introduction

Some of the data we will be collecting with KLPS KIDS is concerned with how children are developing. We are interested in learning how well children perform across a range of assessments, including measures of language abilities, vocabulary, capacity to pay attention, memory, problem-solving, and fine motor skills. Most of the tests are brief and some use colorful materials for the children to play with. All tests will be administered via tablet.

Before we get into the specifics of the actual tests, we will review some guidelines for assessing young children.

General Testing Considerations

Assessing young children is very different from testing big children. When older children sit for exams, they must write the entire test alone, without any interaction with the teacher or others. This type of testing does not work well with young children. Instead, you will be engaging the child and interacting with the child during each task. Your goal is to get the best performance possible from the child. This requires the following:

Being prepared: Before you leave for the field, you must review the ages of the children you will be testing that day. Child age determines which tests you will administer. Be sure to gather the materials you need to administer the appropriate-aged tests with the children you plan to assess.

A mindful approach: Getting a child to perform the best possible on these assessments lies in part with your testing skills. These skills include: finding a suitable spot to conduct the tests; making the child feel at ease; maintaining a good pace or flow; keeping the child interested in the tests; eliminating (as possible) distractions; responding sensitively to the child's needs; adjusting your interactions to the child's demeanor; remaining patient throughout the testing period; and demonstrating objectivity throughout the session.

Setting up the test area: As possible, testing should take place in a quiet, private environment, away from distractions and other people. You can ask the caregiver if there is such as space available inside the home, in a courtyard, or on the side of the house. Be certain that any test materials are placed directly in front of the child, in easy reach, and that they are oriented the correct way. Only have the materials needed for the present test out; all other test materials should be kept to your side, away from the child. The examiner can sit directly next to the child, making sure to sit between the child and the score sheet or tablet and materials (as seen in "a" and "b."). Take care that the child cannot read anything on your tablet or manuals by keeping them on the other side of your body, away from the child.

a.



b.



It is possible that you will be testing children in homes or schools that do not have tables, desks or chairs available. In such cases, you may have to rely upon what is available (i.e., benches, porches, etc.) as seen in “c.” or test children while sitting on the floor or ground (“d.”).

With any seating arrangement, be certain that the test materials are in your control, and that the child cannot reach or play with materials not being used for the present test. Your tablet should also be held or placed so that the child cannot read or touch the screen.

c.



d.



Establishing rapport: Your first objective is to establish rapport with the child, so that they will be more likely to complete each task to the best of their ability. You may seem like a big, scary stranger to some children, especially if they are shy. It is your responsibility to make the child feel comfortable with you. To do this, bend or kneel down to the child’s level, and introduce yourself. Ask the child to tell you his/her name. As you prepare to start the testing, chat with the child. You can ask if they go to school, what they like about school, what games or sports they like to play, what other things they like to do, etc. Then, explain what you will be doing. Tell the child, *“I have some fun things in my bag here for you to play with. We are going to play some games. Some games will be easy, and some may be a bit new to you. Are you ready to have some fun?”*

Some children may remain uncomfortable. You can suggest that a caregiver, parent or other adult relative sit nearby, to make the child feel more at ease. Be sure to remind this person that they cannot talk, help the child, praise or scold the child, or otherwise be involved with the testing in any way.

Giving the tests: Read instructions and components of the tests **exactly** as written. Do not offer specific feedback about the child’s response (such as, *“You did it!”* or *“That’s not right”*) unless specified to do so during practice items. Any comments you make should be

consistent, regardless if the child responded correctly or incorrectly to the item. You can say, “OK,” “Good work,” or “Hmm.” Provide general praise when the child has completed responding to the item or test. Some children will hesitate in their responses, looking to you for feedback as to whether they are correct or not. It is important that you do not give indication (such as smiling, nodding) about whether they are correct or not. If they pause, you can ask if they are finished or if they have made their choice, but do not look at the correct response. When they have completed the test, praise the child again briefly and move on to the next assessment. More specific instructions for each test are provided below.

Taking breaks: If the child requests a break to use the restroom, get something to drink, etc., allow the child to do so. Be sure the child knows to return to you as soon as s/he is finished. If the child appears restless, tired or unable to concentrate, suggest taking a short break between assessments. Avoid taking a break in the middle of a test. Tell the child, “Let’s take a short break. We can start again in about 5 minutes. I’ll tell you when we are ready to start again.” Close any easel and cover the response forms so that no information can be easily seen. Encourage child to get up, use the restroom, get a drink (if available), etc. Do NOT allow the child to run far off or become involved playing with other children, play on swings or other apparatus or lie down to go sleep. After about 5 minutes, say, “OK, let’s get started again.” **Briefly remind the child of the instructions.** Try not to allow more than two breaks.

Testing Schedule by Age

We will be administering a range of tests across ages and abilities. These include:

Peabody Picture Vocabulary Test (PPVT): a test of receptive vocabulary.

Mental Transformation: a test of spatial abilities.

Forward Digit Span: a test of working memory.

Dimensional Change Card Sort (DCCS): a test of executive function

Malawi Developmental Assessment Tool – Language: a test of language abilities

PLUS-EF: tablet-administered tests of executive function.

Early Grade Reading Assessment (EGRA) - Swahili and English: tests of literacy.

Early Grade Mathematics Assessment (EGMA): a test of early math abilities.

All tests are not administered to all children. The only tests administered to all children are the PPVT and the Forward Digit Span. The schedule by age is as follows:

Assessment	3 years	4 years	5 years	6 years	7 years	8 years
PPVT	✓	✓	✓	✓	✓	✓
Mental Transformation	✓	✓	✓			
Forward Digit Span	✓	✓	✓	✓	✓	✓
DCCS Card Sort	✓	✓	✓			
MDAT Language	✓	✓	✓			
PLUS-EF				✓	✓	✓
EGRA-Swahili				✓	✓	✓
EGRA-English					✓	✓
EGMA				✓	✓	✓
TOTAL TESTS per age	5	5	5	5	6	6

We will be administering the tests in the following order:

Ages 36-71 months (3-5 years)	Ages 72-83 months (6 years)	Ages 84-107 months (7-8 years)
PPVT	PPVT	PPVT
Mental Transformation	Forward Digit Span	Forward Digit Span
Forward Digit Span	PLUS-EF	PLUS-EF
DCCS Card Sort	EGRA-Swahili	EGRA-Swahili
MDAT Language	EGMA	EGRA-English
		EGMA

Assessments

PEABODY PICTURE VOCABULARY TEST, 4th EDITION (PPVT-4)

These tests are administered following the published PPVT-4 administration manual.

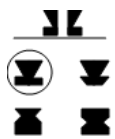
Citation: Dunn and Dunn, 2007.

MENTAL TRANSFORMATION

Description of measure: The mental transformation assessment challenges children to look at some pieces of shapes (e.g., 2 halves of a circle) and then identify the shape that would be made if those pieces were put together. This is like a puzzle game, but the activity is completed mentally (just by looking at pictures). This test measures a child's spatial abilities, or the capacity to visualize objects and their relations to each other. There are 5 test items and 2 practice items.

Mental Transformation Materials

1. Mental Transformation Item Stimuli
2. Tablet with Mental Transformation test opened



Practice Items: Get out the stimuli print-outs, with Practice Item 1 showing.

Say, *"In this game, we are going to look at some shapes and some pieces of shapes. Look at these pieces"* [POINT TO SET OF 2 PIECES].

Say, *"Now look at these shapes"* [POINT TO EACH OF THE 4 CHOICES].
"If you put these pieces together [POINT TO SET OF 2 PIECES], they will make one of these shapes [WAVE HAND OVER 4 CHOICES]."

Say, *"Point to the shape the pieces make."*

If correct or not, you will explain how to examine the shapes to form a whole. The goal of the 2 practice items is to help the child learn how to solve the problems with some concrete suggestions.

Say *"Look at this shape. It is flat at the top. Look at these sides [POINT TO SLANTING SIDES]. They are slanting inwards [DEMONSTRATE TO THE CHILD]. Now look at the lower part [POINT TO LOWER PART], It is flat, and its sides are flat [DEMONSTRATE THAT SIDES ARE NOT SLANTING]. Now show me which shape resembles this? [POINTING TO THE PARTS BELOW]*

Pause and wait for the child to answer. Then demonstrate correct answer as below:

Point to the pieces and say, *“When you put these pieces together, [MOTION WITH FINGERS AND INDICATE PUSHING THE PIECES TOGETHER] they will make this shape [POINT TO CORRECT SHAPE].*

Proceed to Practice item 2. Administration will duplicate what was done for Practice item 1.

Repeat instructions for each item. Say, *“Point to the shape [WAVE HAND OVER 4 RESPONSE OPTIONS] these pieces [POINT TO 2 PIECES] make.”* Do not give verbal feedback. Tell child to do their best if they seem frustrated. **If child struggles, give full instructions again, as necessary.** If, after giving instructions again, child does not choose a shape, move onto next Mental Transformation item (or next task if on last item).

Administer all items and record child’s response for each item. Note that the correct response for each item is circled in the picture that accompanies each item. Score 1 (Yes, Correct), 0 (No, Incorrect), or (NR, No Response).

Citation: Subtask from Measuring Early Learning Quality and Outcomes Direct Assessment module; MELQO DA; UNESCO et al., 2017.

FORWARD DIGIT SPAN

Description of measure: This is a test of working memory. In this test, you will ask the child to repeat back to you a series of numbers that you have said. There are no materials for this test. You will read the instructions and numbers to be repeated from your tablet. There are 2 practice items and 4 test items.

Practice Items: Say, *“In this game, I am going to say some numbers. I want you to say them after me. Do not start until I have finished saying the numbers. If I say 7...8 you say 7...8. Now you try it. Please listen carefully.”*

Be sure to pause for one second in between each number in the sequence. For example « 4 » [pause] « 2 ».

Practice item 1: Say *“4...2”* [WAIT FOR CHILD TO RESPOND. IF THE CHILD MAKES AN ERROR, SUPPLY THE CORRECT ANSWER.] If the child answers correctly say, *“That’s right.”*

Practice item 2: Say *“6...1...3”* [WAIT FOR CHILD TO RESPOND. IF THE CHILD MAKES AN ERROR, SUPPLY THE CORRECT ANSWER.] If the child answers correctly say, *“That’s right.”*

Say, *“Okay, now let’s do some more. Just listen carefully and do your best.”* Be sure to pause for one second in between each number in the sequence.

For each item: read the numbers, then say nothing. If the child pauses, wait 5 seconds, then mark as no response and continue with next item. **Do not read the numbers more than once.**

Say, *“Are you ready? I can only say the numbers one time, so listen carefully.”*

Administer all items and record child's response for each item. Responses can be scored as 1 (Correct), 0 (Incorrect) or (NR, No Response).

Citation: Subtask from Measuring Early Learning Quality and Outcomes Direct Assessment module; MELQO DA; UNESCO et al., 2017.

DIMENSIONAL CHANGE CARD SORT

Description of measure: This is a test of executive function. It tests how children can learn to sort cards by different characteristics (by color, by shape) when those two characteristics are embedded or crossed. That is, children will be asked to sort cards by color (red, green) and shape (lorries, stars) with cards that have red and green lorries and stars. You will play 2 games with the child: sorting by color, and sorting by shape. **There are no stop rules.**

This task can be difficult for young children. It is essential that you read the directions exactly as stated. This is a task that requires a bit of thought and practice to ensure you get it right. There are 6 items per game, and each game includes checks for understanding.

Materials:

3. 14 cards, 7 with a red lorry and 7 with a green star
4. 2 boxes: 1 with a red lorry and 1 with a green star
5. Tablet with DCCS screen opened

Be sure to place the sorting boxes about 20 cm from the child, and about 10 cm apart from each other. These should be facing the child squarely. The red lorry box should be on the FO's right, and the green star box should be on the FO's left.

You will need to order your cards for the color game followed by shape game. Use "color game" codes: p1, p2, 1, 2, 3, 4, 5, 6, followed by "shape game" codes: 1, 2, 3, 4, 5, 6.

General rules for administration of both games:

- If the child points to the box, you may sort the card for him/her.
- Do not say "okay" in response to sort. Say, "let's do another one," "let's do it again," etc.
- Point to boxes by touching the top with a finger.
- Do not bring out the card until the rule statement is complete.
- **Once card has been presented, you cannot repeat the rule. State "here's a ____" while simultaneously presenting the card.**
- Hold the card above both boxes in the center (not over one box or the other).

COLOR GAME

The first game you will play with the child will require him/ her to sort cards by color, ignoring the shapes. You will use cards numbered p1, p2, 1, 2, 3, 4, 5, 6.

Say, "Now we are going to play other different games together."

Explain the rules of the first game. Show the child the boxes.

Say, "Here's a red lorry and here's a green star. We are going to play a game called the Color game. In this game, the rule is, the green ones go here. [POINT TO BOX ON LEFT, WITH THE GREEN STAR.] And the red ones go here. [POINT TO BOX ON RIGHT WITH THE RED LORRY.]

Show the child the first card (p1). Say, "See, I have a green one. It goes here." [PLACE IN BOX WITH THE GREEN STAR, ON THE LEFT.] "And, see, I have a red one (p2), it goes here." (PLACE IN BOX WITH RED LORRY, ON THE RIGHT.)

"This is the Color game. Have you understood? Now let's play!"

Checking for understanding: We want to be certain children understand the game, so we will check with them again.

Say, *"Can you show me where the green ones go in the Color game?"* If correct, say *"Very good. That's right."* **Move on to demonstration with red card.**

If incorrect, say, *"That's not right. Remember, in the Color game, all the green ones go here, and all the red ones go here."* [POINT TO APPROPRIATE BOXES.]

Repeat again for the green card. Say, *"Can you show me where the green ones go in the Color game?"* If correct, say *"Very good. That's right."*

If incorrect, say, *"That's not right. Remember, in the Color game, all the green ones go here, and all the red ones go here."* [POINT TO APPROPRIATE BOXES.] Do not repeat again. Continue with red card demonstration.

Demonstration with red card:

Say, *"Can you show me where the red ones go in the Color game?"* If correct, say *"Very good. That's right."*

If incorrect, say, *"That's not right. Remember, in the Color game, all the red ones go here, and all the green ones go here."* [POINT TO APPROPRIATE BOXES.]

Repeat again for the red card. Say, *"Can you show me where the red ones go in the Color game?"* If correct, say *"Very good. That's right."* If incorrect, say, *"That's not right. Remember, in the Color game, all the green ones go here, and all the red ones go here."* [POINT TO APPROPRIATE BOXES.] Do not repeat again. Move on to the color game trials.

Now you are ready for the actual trials. You will score BOX WITH RED LORRY, BOX WITH GREEN STAR or NO RESPONSE for the child's response to each trial. For each trial, you will present the card as you say the instructions:

Trial 1: Present the card to the child. Say, *"If it is a green one, put it here, but if it is a red one, put it here. Here is a red one."*

Trial 2: Present the card to the child. Say, *"If it is a green one, put it here, but if it is a red one, put it here. Here is a green one."*

Trial 3: Present the card to the child. Say, *"If it is a green one, put it here, but if it is a red one, put it here. Here is a green one."*

Trial 4: Present the card to the child. Say, *"If it is a green one, put it here, but if it is a red one, put it here. Here is a red one."*

Trial 5: Present the card to the child. Say, *"If it is a green one, put it here, but if it is a red one, put it here. Here is a red one."*

Trial 6: Present the card to the child. Say, *"If it is a green one, put it here, but if it is a red one, put it here. Here is a green one."*

This concludes the Color Game. The next game will ask children to sort by shape.

SHAPE GAME

Say, *"Now we're going to play a new game. We're not going to play the color game anymore. We're going to play a game called shape game."*

In this game, the rule is, the Stars go here. [POINTING TO THE BOX ON THE LEFT, WITH GREEN STAR] *and the Lorries go here.* [POINTING TO THE BOX ON THE RIGHT, WITH THE RED LORRY].

This is the Shape game. Have you understood? Let's play!"

Checking for understanding: We want to be certain children understand the game, so we will check with them again.

Say, *"Can you show me where the stars go in the Shape game?"* If correct, say *"Very good. That's right."* **Move on to demonstration with lorry card.**

If incorrect, say, *"That's not right. Remember, in the Shape game, all the stars go here, and all the lorries go here."* [POINT TO APPROPRIATE BOXES.]

Repeat again for the star card. Say, *"Can you show me where the stars go in the Shape game?"* If correct, say *"Very good. That's right."* If incorrect, say, *"That's not right. Remember, in the Shape game, all the stars go here, and all the lorries go here."* [POINT TO APPROPRIATE BOXES.] Do not repeat again. Move on to the lorry card demonstration.

Demonstration with lorry card:

Say, *"Can you show me where the lorries go in the Shape game?"* If correct, say *"Very good. That's right."* Proceed to the trials.

If incorrect, say, *"That's not right. Remember, in the Shape game, all the stars go here, and all the lorries go here."* [POINT TO APPROPRIATE BOXES.]

Repeat again for the lorry card. Say, *"Can you show me where the lorries go in the Shape game?"* If correct, say *"Very good. That's right."* If incorrect, say, *"That's not right. Remember, in the Shape game, all the lorries go here, and all the stars go here."* [POINT TO APPROPRIATE BOXES.] Do not repeat again. Move on to the Shape game.

Now you are ready for the actual trials. You will score STAR, LORRY or NO RESPONSE for the child's response to each trial.

Trial 1: Present the card to the child. Say, *"If it is a star, put it here, but if it is a lorry, put it here. Here is a lorry."*

Trial 2: Present the card to the child. Say, *"If it is a star, put it here, but if it is a lorry, put it here. Here is a star."*

Trial 3: Present the card to the child. Say, *"If it is a star, put it here, but if it is a lorry, put it here. Here is a lorry."*

Trial 4: Present the card to the child. Say, *"If it is a star, put it here, but if it is a lorry, put it here. Here is a lorry."*

Trial 5: Present the card to the child. Say, *“If it is a star, put it here, but if it is a lorry, put it here. Here is a star.”*

Trial 6: Present the card to the child. Say, *“If it is a star, put it here, but if it is a lorry, put it here. Here is a star.”*

Citation: Zelazo, 2006.

MALAWI DEVELOPMENTAL ASSESSMENT TOOL (MDAT)

Description of measure: The MDAT is an adapted test designed to assess the skills and capabilities of young children. Tests like the MDAT are used to identify children who are not developing well for their age, or to evaluate research projects. Dr. Melissa Gladstone and colleagues in Blantyre created the MDAT in the interest of having a child assessment tool appropriate for use in rural Malawi. The MDAT uses locally available and familiar objects to entice children into demonstrating easily observable behaviors. Items are administered directly to the child. Most children enjoy the MDAT tasks. The MDAT was modified for use in the KLPS-KIDS.

Materials for MDAT Kit

1. Objects for naming, identifying and knowing usage:

- | | |
|---------------------------|--------------------|
| ·Torch | ·Watch |
| ·Matchbox | ·Fork |
| ·Sieve | ·Thread |
| ·Candle | ·Lantern Wick |
| ·Cup | ·Comb |
| ·Spoon | ·Nail |
| ·Soap | ·Funnel |
| ·Pencil or ball point pen | ·Bottle top |
| ·Scissors | ·Plastic container |

2. Blocks – 12 (square one-inch size)

3. Plain paper (2-3 pieces per child)

4. Paper with four circles of different colors (for naming colors)

Overview of MDAT Language Items

20. Child can tell you his/her first name
21. Child knows actions of objects
22. Child can identify (point to or give you) objects you name
23. Child can name objects
24. Child is able to categorise things
25. Child is able to follow a 3-stage command
26. Child is able to tell you the use of objects
28. Child knows questions relating to the understanding of certain concepts
29. Child understands the adjectives such as “faster”
31. Child can understand prepositions and follow tasks related to this
32. Child understands the concept of opposites
33. Child knows quantities – can count at least 3 objects
34. Child knows quantities – can count at least 5 objects
35. Child knows quantities – up to 10
36. Child knows how old they are
- 37-40. Child names red, blue, yellow and green
41. Child names one letter in first name.

- 42. Child names two letters in first name
- 43. Child names three or more letters in first name
- 44. Child can tell you where s/he currently lives
- 46. Child can pass you one block
- 47. Child can pass you 3 blocks
- 48. Child can pass you 5 blocks

MDAT Administration Guide

Below are instructions for the order in which the items should be administered. This should help FOs, as it groups together test items that use the same materials. Sometimes, you will be able to score two or more related items from the administration of just one item. Guidelines for scoring multiple items from one administration are noted. There are no stop rules; all items are administered to all children.

ADMINISTRATION: INTRODUCTIONS

You have already introduced yourself to the child. Record for item 20 Yes or No based on their ability to tell you their name (can be a nickname).

Administer items 36 and 44.

Be certain that you can verify responses to these items with a guardian or caregiver.

20. Child can tell you his or her first name. You should have already introduced yourself to the child.
Score 1 (Yes) if child can say their first name, or commonly used nickname. Do NOT administer this item by saying, "Is your name John?" or "Your name is John, right?" Child must tell you their name.
36. Child knows how old they are. Ask, "How old are you?" This can also be asked in English, if you believe the child may be better able to understand the question and respond in English.
Score 1 (Yes) if child can tell you his/her age. Be sure to verify child's age with guardian or caregiver or teacher.
44. Child can tell you the name of the village where s/he currently lives. Ask the child, "Tell me, what is the name of the village where you are living now?"
Score 1 (Yes) if child can tell you the name of the village where s/he lives. Be sure to verify child's current residence with guardian or caregiver.

ADMINISTRATION: LANGUAGE/HEARING (ITEMS 21-43)

FO CHECK: ITEMS 20, 36 AND 44 SHOULD HAVE BEEN SCORED AFTER INTRODUCTIONS WITH THE CHILD. IF YOU HAVE NOT SCORED THESE ITEMS, DO SO NOW

21a-21e. Knows actions of objects.

Materials: cup, pencil, thread, fork, torch, nail, scissors and wick

Put the cup, pencil, thread, fork, torch, nail, scissors and wick out in front of the child. Arrange them so they are easy to see. Ask child:

- a. "Which one is for drinking?"
- b. "Which one is for writing?"
- c. "Which one is for sewing?"
- d. "Which was is for eating?"
- e. "Which one is for cutting?"

For each item, score 1 (Yes) if the child can correctly point to the item matching the described action. **Remove cup and pencil; leave the thread, fork, torch, nail, scissors and wick in front of the child.**

23a-23n. Child can NAME objects.

Materials: soap, nail, comb, torch, scissors, safety pin, candle, thread, sieve, fork, mirror, wick, watch, funnel, matchbox

Place the objects in front of child, arranged so the child can see all easily.

Say to the child "*What is this?*" as you point to each object. Allow time (5 seconds) for the child to respond before recording response and moving on to the next item.

Leave all objects in place for the next item.

Score 1 (Yes) if child correctly names the object; score 0 if child does not correctly name object.

22a-22n. Child can IDENTIFY (point to) objects you name.

Materials: soap, nail, comb, torch, scissors, safety pin, candle, thread, sieve, fork, mirror, wick, watch, funnel

With the 14 items (as above in item 23) in front of the child, ask the child to point to the objects as you name them. Say to the child "Show me the [OBJECT]," or "Point to the [OBJECT]," etc., until all 14 objects have been named by you. Allow time (5 seconds) for the child to respond before recording response and moving on to the next item.

Leave all objects in place for the next item.

Score 1 (Yes) if child correctly identifies the object; score 0 if child does not correctly identify the object.

26a-26e. Child is able to tell you the use of objects.

Materials: objects from item 22

Without pointing to any of the objects, ask the child:

- a. "What do you do with soap?"
- b. "What do you do with a wick?"
- c. "What do you do with a watch?"
- d. "What do you do with a torch?"
- e. "What do you do with matches?"

The child's response should indicate the general purpose of the object. For example, when asked, "What do you do with soap?" the child can say "Wash (your body or items)" or "It's for cleaning." An answer such as "It's for clothes" lacks a verb and is not acceptable.

Answers for wick: lighting candle, lighting fire

Answers for watch: telling time, tells the hours

Answers for torch: shines light, makes light, use at night when it's dark

Answers for matches: making fire, lighting stove, for cooking

Put away all objects.

For each item, score 1 (Yes) if the child can correctly tell you the purpose of the item. Score 0 (No) if the child cannot tell you the use of the item.

25. Child is able to follow a 3-stage command.

Materials: cup and spoon

Say: *"Listen carefully now. I want you to pay close attention to what I am saying. I am going to ask you to do 3 things. Please wait until I am finished. I will say this only once. I want you to do these 3 things just as I say. Are you ready? OK, good."*

Here we go: Put the spoon in the cup, touch your nose and pat your head."

Do NOT give further instruction after the child has started to carry out the commands. You can encourage the child by saying, "Go on," or "Good. Keep going." Child can try only once.

Put cup and spoon away.

Score a 1 (Yes) if child is able to understand command and carry out all 3 actions in succession (in the right order).

24. Child is able to categorise things – put things together based on some common feature.

Materials: pencil and paper for recording child's responses, tablet

Say to the child, *"I want you to tell me some different foods that you eat. Tell me as many foods as you can think of."* Record on paper all of the foods mentioned. Each food must be distinct. That is, child CANNOT receive credit for saying fruit and mango. Child CAN receive credit for saying papaya and mango.

Write down exactly what child says. If child is quiet for 5 seconds, encourage them by saying, *"Another one? Do you know more?" (This can be done 3 times)*

If the child names at least 5 foods, score 1 (Yes) and continue to item 28.

If the child does not mention at least 5 foods, say *"Good. Now tell me some animals that you know. Tell me all the animals you know of...."*

Write down exactly what child says. If child is quiet for 5 seconds, encourage them by saying, *"Another one? Do you know more?" (This can be done 3 times)*

Child can receive credit for saying the name of a young vs mature animal (kitten, cat). If child says bird (category) and chicken only give credit for one of these. If child says chicken and crow, give credit for both (these are 2 types of a category).

Be sure to prompt (up to 3 times) if the child names 2 correct responses. Say, *"Good. Tell me another food (animal)."* Do this up to 3 times. If the child still cannot name 5 foods or animals, score as 0 (No).

If the child can name at least 5 foods OR at least 5 animals, score a 1 (Yes).

28a-28c. Child knows questions relating to the understanding of certain concepts. No materials are used for this item.

Ask the child:

- a. "[NAME], What do you do when you are hungry?"
- b. "[NAME], What do you do when you are tired?"
- c. "[NAME], What do you do when you are cold?"

Acceptable answers include "eat," "sleep" or "rest," and "put on a jacket or sweater, etc." or "go inside the house," or "go by the fire." If child responds, for example, "I go to the store to get food," in response to "What do you do when you are hungry?" prompt the child by saying, "I see. And then what do you do?" You can prompt once for each question.

Score 1 (Yes) if child can correctly respond to the question

29a-29b. Understands adjectives. No materials are used in this item.

Ask the child:

- a. "Which goes faster, a bicycle or a motorbike?"
- b. "Which is bigger, a goat or a cow?"

Note: correct response for 29a is motorbike; correct response for 29b is cow.

Score 1 (Yes) if child can correctly respond to the question

31a-31e. Child can understand prepositions and follow tasks related to this.

Materials: cup, container, bottle top

Put the container and cup in front of the child, upside down. Get out a bottle-top. Say, "*This is a cup [POINT TO THE CUP] and this is a container [POINT TO THE CONTAINER]. This [PICK UP BOTTLE TOP] is a bottle top. We are going to play a game with the cup, container and bottle top.*" Put the bottle top in front of the child. Tell the child:

- a. "Put the bottle top under the container"
- b. "Put it on the cup"
- c. "Put it next to the container"
- d. "Put the bottle top between the container and the cup"
- e. "Put it behind the cup."

Note: for item 31c, a correct response can be placing the bottle top to the side of or in front of the container.

Score 1 (Yes) if the child can correctly respond to the request

32a-32e. Understands the concept of opposites. No materials are used for this item.

Say to the child, "I want you to help me finish some sentences. If a man is big, a baby is _____."

If the child says "small," "little," or something similar continue to 32a.

If the child says nothing or something other than "small" or "little" or the equivalent, say, "That's not right. A baby is **small** or **little**. A man is much, much bigger! Compared to a man, a baby is **small**."

"Let's try another one: An ant is small, but an elephant is _____."

If the child STILL does not understand, score 0 (No) for 32a-32e and continue to next item.

If the child understands, say, "Good! Let's try some more."

- a. If the sun comes up in the day, the stars comes out at _____.
- b. During the day we are awake, at night we are _____.
- c. If you cry when you are sad, you smile when you are _____.
- d. The stove is hot, ice is _____.
- e. You walk on the road, you swim in the _____.

Score 1 (Yes) if child can correctly respond to the question

35., 34. AND 33. Knows quantities.

Materials: 12 blocks

Line up 12 blocks in a row in front of the child. Ask the child, "Can you tell me how many [BLOCKS] are here? Count them for me." Write down/ record in tablet the maximum the child could count.

Child MUST be able to correctly count objects and is not assigning numbers incorrectly to objects (i.e, repeating numbers, counting out of order, etc.)

NOTE: SCORE ITEMS 34 AND 33 FROM THIS ADMINISTRATION.

NOTE: You will also record the language child used to count the blocks.

Leave the blocks out for the next items.

Item 35: Score 1 (Yes) if child can correctly count 10 or more blocks.

Item 34: Score 1 (Yes) if child can correctly count up to 9 blocks.

Item 33: Item 35: Score 1 (Yes) if child can correctly count up to 4 blocks.

46. Child can pass one block.

Materials: 12 blocks

After the child has counted up to 10 items, say “*Good. Now, I want you to put ONE block here.*” Point to a space in front of you.

Replace the block(s) into the line.

Score 1 (Yes) if child passes you only ONE block.

47. Child can pass 3 blocks.

Materials: 12 blocks

Say, “*Good. Now, I want you to put 3 blocks here.*” Point to a space in front of you.

Replace the block(s) into the line.

Score 1 (Yes) if child passes you exactly 3 blocks.

48. Child can pass 5 blocks.

Materials: 12 blocks

Say, “*Good. Now, I want you to put 5 blocks here.*” Point to a space in front of you.

Put away all of the blocks.

Score 1 (Yes) if child passes you exactly 5 blocks.

37. Names red.

Materials: Page with four colored circles

Put the page with four colored circles in front of the child. Point to the **red** circle and say, “*What color is this?*”

Score 1 (Yes) if child says red.

38. Names blue.

Materials: Page with four colored circles

Leave the page with four colored circles in front of the child. Point to the **blue** circle and say, “*What color is this?*”

Score 1 (Yes) if child says blue.
<p>39. Names yellow.</p> <p><u>Materials:</u> Page with four colored circles</p> <p>Leave the page with four colored circles in front of the child. Point to the yellow circle and say, “<i>What color is this?</i>”</p>
Score 1 (Yes) if child says yellow.
<p>40. Names green.</p> <p><u>Materials:</u> Page with four colored circles</p> <p>Leave the page with four colored circles in front of the child. Point to the green circle and say, “<i>What color is this?</i>”</p>
Score 1 (Yes) if child says green.
<p>41-43. Names three or more letters in first name.</p> <p><u>Materials:</u> Pencil/ pen and paper</p> <p>Write child’s first name in large, clear, capital letters on a piece of paper. Ask child to name the letters. Say, “<i>Tell me this letter,</i>” as you point to each letter.</p> <p>SCORE ITEMS 42 AND 41 FROM THIS ADMINISTRATION:</p>
Item 43: Score 1 (Yes) if child can say 3 or more letters in name.
Item 42: Score 1 (Yes) if child can say 2 letters in name.
Item 41: Score 1 (Yes) if child can say 1 letter in name.

Citation: Gladstone et al., 2010.

PLUS-EF (Promoting Learning, Understanding Self-Regulation)

Description of measure: The PLUS-EF was developed to measure some skills that seem to underlie how children perform in and outside of the classroom. These skills have to do with the capacity to remember several rules, apply them, and then be flexible enough to change responses when then rules change in some way. We will use 3 timed tasks, administered via tablet. Note that the PLUS-EF tasks are independent from the Survey CTO programmed tests. Each task includes instructions that should be followed exactly as worded in Swahili.

Materials:

6. Tablet, with PLUS-EF battery open

General suggestions: Take some time to ensure that the child is comfortable with using the tablet. Encourage the child to hold the tablet, or set it in a place (flat, or upright) that makes the screen resolution optimal for viewing and responding. We need to be sensitive to lighting conditions, to ensure that sunny or dark places are not interfering with the administration. We want to be sure that each child has chance to engage with the tablet in the way that is most comfortable for them. There are several practice items before the first task. This is opportunity for you to explore what is best for the child. At a minimum, the tablet should be positioned just a few centimeters away, directly in front of the child, so that the child can respond quickly. Some children may be a bit hesitant about holding the tablet, but we should encourage the child to have the tablet as close to them as possible. As these tests are all timed, distance between the child and tablet can affect the overall performance.

Specific rules: Be certain to explain the rules clearly during the practice items, as this is the time to help children learn the rules of each task. Do not interfere with the child while he or she is completing any of the tests. Do not stop a test before completed, as the test cannot be repeated.

Citation: Obradović et al., 2018.

EGRA-Swahili

Description of measure: The Early Grade Reading Assessment (EGRA) was initiated and developed by USAID researchers. The purpose of the tool is to measure, at a national level, the literacy of children attending primary school in classes 1-3. The measure was adapted by Kenyan education experts to reflect the standards of the education policy. Children are tested about their Swahili literacy as Swahili is an official national language. The measure has 6 sections. These will be reviewed below.

Section 1, Letter Sound Knowledge: The first section includes 100 letters, 10 per row, with 3 practice letters. **This is a timed test. The test lasts 60 seconds.** The child must point to and say the sound of each letter. You will see 10 letters (one row) on your screen at a time. You will need to pay close attention to the letters the child points to and the sounds the child names. Note that the child can self-correct (that is, change their response). You will score each letter-sound as 1 (Yes, Correct) or 0 (No, Incorrect). There are 3 practice trials.

Materials:

7. EGRA Swahili Stimuli Booklet, page 2
8. EGRA Swahili FO Worksheet for recording responses
9. Cell phone or stopwatch for timing
10. Tablet

Show the child the sheet of letters in the student stimuli booklet (page 2).

Practice Trial 1: Say, *“Karatasi hii ina herufi mbali mbali. Tafadhali zitamke sauti za herufi zote unazozijua. Kwa mfano, sauti ya herufi hii [POINT TO PRACTICE LETTER “N”) ni “/n/”*

Practice Trial 2: Say, *“Hebu tufanye mazoezi: Nitamkie sauti ya herufi hii” [POINT TO PRACTICE LETTER “m”]:*

If the child responds correctly, say: *“Vyema, sauti ya herufi hii ni “/m/”*

If the child does not respond correctly, say: *“Sauti ya herufi hii ni “/m/”*

Practice Trial 3: Say, *“Sasa, hebu jaribu sauti nyingine za herufi: Hebu nitamkie sauti ya herufi hii [POINT TO PRACTICE LETTER “e”]:*

If the child responds correctly, say, *“Vyema, sauti ya herufi hii ni “/e/”*

If the child does not respond correctly, say: *“Sauti ya herufi hii ni “/e/”*

Say, *“Je, umeelewa unavyopaswa kufanya?”* If child says no, repeat instructions as follows:

“Nikisema “Anza”, tafadhali zitamke sauti za herufi hizi haraka iwezenavyo lakini kwa makini. Nitamkie sauti za herufi, kuanzia hapa kisha kuendelea hivi.” [POINT TO THE FIRST LETTER ON THE ROW AFTER THE EXAMPLE AND DRAW YOUR FINGER ACROSS THE FIRST LINE]. Say, “Nitanyamaza nikusikilize. Uko tayari? Anza.” If the child does not respond correctly, say, *“Sauti ya herufi hii ni “/e/”*

Start your timer when the child puts his or her finger on the first letter in the first row. Follow along with your pencil on your worksheet and clearly mark any incorrect letters with a slash (/). Count self-corrections as correct. If you’ve already marked the self-corrected letter as incorrect, circle the letter and go on.

Stay quiet, except when providing answers as follows: if the child hesitates for 3 seconds, point to the next letter and say, *“Please go on.”* Mark the letter sound not read by the child

as incorrect. If the child gives you the letter name, rather than the sound, say, *“Please tell me the sound of the letter”*. This prompt may be given only **once** during the exercise.

Early Stop Rule: If the child fails to correctly name any letter-sound in the first row, say *“Thank you!”* and move on to the next section.

When 60 seconds have passed, stop the timer, and ask the child to stop. Note the last letter-sound the child named. If the child identified all 100 sounds before the end of 60 seconds, record how many seconds remained on the stopwatch. Enter responses marked on your paper into tablet.

Section 2, Syllable Sound Knowledge: This section includes 100 syllables, 10 per row, with 3 practice letters. **This is a timed test. The test lasts 60 seconds.** The child must point to and say the sound of each syllable. You will see 10 syllables (one row) on your screen at a time. You will need to pay close attention to the syllables the child points to and the sounds the child makes. Note that the child can self-correct (that is, change their response). You will score each syllable as 1 (Yes, Correct) or 0 (No, Incorrect). There are 3 practice trials.

Materials:

11. EGRA Swahili Stimuli Booklet, page 3
12. EGRA Swahili FO Worksheet for recording responses
13. Cell phone or stopwatch for timing
14. Tablet

Show the child page 3.

Practice item 1: Say to the child, *“Karatasi hii ina silabi mbali mbali. Tafadhali zitamke silabi zote unazozijua. Kwa mfano, silabi hii [THEN POINT TO PRACTICE SYLLABLE ‘ya’] ni ‘ya’*

Practice item 2: Say, *“Hebu tufanye mazoezi: Nitamkie silabi hii”* [POINT TO PRACTICE SYLLABLE ‘si’]:

If the child responds correctly, say, *“Vyema, silabi hii ni ‘si’*

If the child does not respond correctly, say, *Silabi hii ni ‘si’*

Practice item 3: Say, *“Sasa, hebu jaribu silabi nyingine: nitamkie silabi hii”* [POINT TO PRACTICE SYLLABLE ‘fu’]:

If the child responds correctly, say, *“Vyema, silabi hii ni ‘fu.’*

If the child does not respond correctly, say, *“Silabi hii ni ‘fu.’*

Say, *“Je, umeelewa unavyopaswa kufanya?”* If child says no, repeat instructions as follows:

“Nikisema ‘Anza’, tafadhali zitamke silabi hizi haraka iwezenavyo lakini kwa makini. Nitamkie silabi, kuanzia hapa kisha kuendelea hivi.” [POINT TO THE FIRST SYLLABLE ON THE ROW AFTER THE EXAMPLE AND DRAW YOUR FINGER ACROSS THE FIRST LINE]. *“Nitanyamaza nikusikilize. Uko tayari? Anza.”*

Start your timer when the child puts his or her finger on the first syllable in the first row. Follow along with your pencil on your worksheet and clearly mark any incorrect letters with a

slash (/). Count self-corrections as correct. If you've already marked the self-corrected letter as incorrect, circle the letter and go on.

Stay quiet, except when providing answers as follows: if the child hesitates for 3 seconds, point to the next syllable and say, "Please go on." Mark the syllable not read by the child as incorrect.

Early Stop Rule: If the child fails to correctly name any syllable in the first row, say "Thank you!" and move on to the next section.

When 60 seconds have passed, stop the timer, and ask the child to stop. Note the last syllable the child named. If the child identified all 100 syllables before the end of 60 seconds, record how many seconds remained on the stopwatch. Enter responses marked on your paper into tablet.

Section 3, Invented Word Reading: This section includes 50 invented words, 5 per row. In this section, children will point to and read each non-word. **This is a timed (60 second) test.** You will see 5 non-words (one row) on your screen at a time. You will need to pay close attention to the non-words the child points to and reads. You will be listening to the child's pronunciation of the non-words. Even though these are not real words, they should still follow the pronunciation rules for Swahili. Note that the child can self-correct (that is, change their response). You will score each non-word as 1 (Yes, Correctly Read) or 0 (No, Incorrectly Read). There are 3 practice trials.

15. EGRA Swahili Stimuli Booklet, page 4
16. EGRA Swahili FO Worksheet
17. Cell phone or stopwatch for timing
18. Tablet

Show the child the sheet of invented words in the page 4.

Practice item 1: Say, "*Karatasi hii ina maneno yaliyobuniwa. Ningependa usome maneno yote unayoweza. Kwa mfano, neno hili la kubuni ni: "buza"* [POINT TO THE PRACTICE WORD "BUZA"]

Practice item 2: Say, "*Hebu tufanye mazoezi: tafadhali lisome neno hili*" [POINT THE PRACTICE WORD "ZEFU"]

If the student says "zefu", say, "*Vizuri sana : "zefu"*"

If the student does not say "zefu" correctly say, "*Neno hili la kubuni ni "zefu."*"

Practice item 3: Say, "*Sasa, hebu jaribu neno lingine la kubuni: Tafadhali soma neno lifuatalo*" [POINT THE PRACTICE WORD "SHARU"]

If the student says "sharu", say, "*Vizuri sana : "sharu"*"

If the student does not say "sharu" correctly say, "*Neno hili la kubuni ni "sharu."*"

Say, "*Nikisema "Anza", yasome maneno haraka iwezekanavyo lakini kwa makini. Yasome maneno kutoka upande wa kushoto kuelekea upande wa kulia wa ukurasa huu, ukianzia mstari wa kwanza. Nitakimya nikusikilize, isipokuwa wakati unapohitaji usaidizi. Je, umeelewa jinsi unavyopaswa kufanya? Uko tayari? Anza."*

Start the timer when the child reads the first word. Follow along and mark in the tablet whether the child pronounces the word correctly or incorrectly. Count self-corrections as correct. Stay quiet, except when providing answers as follows: if the child hesitates for 3 seconds, read the word, and then point to the next word and say “*Tafadhali endelea.*” Mark the word you provide to the child as incorrect.

When 60 seconds have passed, stop the timer, and ask the child to stop. Note the last non-word the child read. If the child read all 50 non-words before the end of 60 seconds, record how many seconds remained on the stopwatch.

Early Stop Rule: If the child fails to correctly read any word in the first row, say “*Thank you!*” and move on to the next section.

Section 4, Identifying Real vs Invented Words: This section includes 20 words (4 words in 5 rows). Some are real Swahili words, while others are invented or meaningless words. **This is not a timed test.** The child will point to and read each word, and then tell you if the word has meaning or not. You will see 4 words (one row) on your screen at a time. You will need to pay close attention to the words the child points to and reads. You will be listening to the child’s pronunciation of the words and reporting if it is a real word or not. Note that the child can self-correct (that is, change their response). You will score each word as 1 (Yes, Correctly Identified) or 0 (No, Incorrectly Identified). There are 3 practice trials.

19. EGRA Swahili Stimuli Booklet, page 5
20. EGRA Swahili FO Worksheet
21. Cell phone or stopwatch for timing
22. Tablet

Show the child the sheet of words on page 5.

Practice item 1: Say, “*Karatasi hii ina maneno yaliyo na maana (maneno halisi) na yasiyo na maana (maneno ya kubuni). Ningependa usome maneno yote unayoweza kisha unieleze ikiwa neno ulilolisoma lina maana au halina maana, bila kuwacha. Kwa mfano, neno hili ni: “bino”, [POINT TO PRACTICE WORD “BINO”] hili neno halina maana.*”

Practice item 2: “*Hebu tufanye mazoezi: tafadhali lisome neno hili*” [POINT PRACTICE WORD “PAKA”]

If the student reads correctly and says “lina maana”, say, “*Vizuri sana : “neno paka lina maana”*”

If the student does not read correctly, or does not say whether or not it has a meaning, or says “halina maana”, say, “*Neno hili ni “paka” na lina maana.*”

Say, “*Zingatia tu kama maneno haya ni halisi kwa kiswahili na wala si kwa lugha nyingine.*”

Practice item 3: Say, “*Sasa, hebu jaribu neno lingine: Tafadhali soma neno lifuatalo*” [POINT TO PRACTICE WORD “NYOKI”]. If the student reads correctly and says “halina maana”, say, “*Vizuri sana : “halina maana.*” If the student does not respond correctly, or does not say whether or not it has a meaning, or says “lina maana”, say, “*Neno hili ni “nyoki” na halina maana.*”

For all, say, “*Nikisema “Anza”, nataka usome hivi: “bino” na halina maana, “paka” na lina maana, “nyoki” na halina maana. Uko tayari? Anza.*”

Ask the child to repeat the three examples in the correct way, saying “ bino”, na halina maana, “paka”, na lina maana, “nyoki” na halina mana.” if the child doesn't repeat correctly on the first try, you may have them try one more time. Then, move on to the test.

Stay quiet, unless the child hesitates for **5** seconds, in which case, point to the next word and say “*Tafadhali endelea.*” Mark the word not read by the child as non-response.

Early Stop Rule: If the child fails to correctly read and identify any words correctly in the first row, say “*Thank you!*” and move on to the next section.

Section 5a, Oral Reading: In this section, you will ask the child to read a short story out loud. The story includes 60 words. **This is a timed test (60 seconds).** You will see 9-19 words on 4 different screens. You will need to pay close attention to the words the child points to and reads. You will be listening to the child's pronunciation of the words. Note that the child can self-correct (that is, change their response). You will score each word as 1 (Yes, Correctly Read) or 0 (No, Incorrectly Read). There are no practice items.

- 23. EGRA Swahili Stimuli Booklet, page 6
- 24. EGRA Swahili FO Worksheet
- 25. Cell phone or stopwatch for timing
- 26. Tablet

Show the child the short story in page 6. Say, “*Hii hapa ni hadithi fupi. Ningependa uisome kwa sauti, haraka iwezekanavyo lakini kwa makini. Ukimaliza kuisoma, nitakuuliza maswali kuhusu yale uliyosoma. Je, umeelewa jinsi unavyopaswa kufanya? Nikisema “Anza,” isome hadithi vizuri kadri ya uwezo wako. Nitanyamaza nikusilikilize. Uko tayari? Anza.*”

Start the timer when the child reads the first word. Follow along with your pencil and clearly mark any incorrect words on the paper accordingly. Count self-corrections as correct. Stay quiet, unless the child hesitates for 3 seconds, in which case, point to the next word and say “*Tafadhali endelea.*” Mark the word not read by the child as incorrect. At 60 seconds, say “*Acha kusoma.*” Mark the final word read with a bracket (]).

Early Stop Rule: If the child fails to correctly read any words correctly in the first row, say “*Thank you!*” and move on to the next section. Be certain to record this in the tablet.

If the child read the entire story before the end of 60 seconds, record how many seconds remained on the stopwatch. Remove the story sheet in front of the child and move to the next section.

Section 5b, Reading Comprehension: In this section, you will ask the child to answer 5 questions based on the short story he or she read. **This is not a timed test, but children cannot spend more than 15 seconds per question.** You will be listening to the child's responses, and noting if the answer is correct or not. Note that the child can self-correct (that

is, change their response). You will score each word as 1 (Yes, Correct) or 0 (No, Incorrect). There are no practice items.

27. EGRA Swahili Stimuli Booklet, page 7
28. EGRA Swahili FO Worksheet
29. Tablet
30. Cell phone or stopwatch for timing child response

Immediately after the child has read the story, ask the following questions. The child has 15 seconds to answer each question. Mark the response as 1 (Correct) or 0 (Incorrect), using the answer key below:

Question	Acceptable answer
1. Katana anaishi wapi?	BUSIA; KATIKA KIJJI CHA BUSIA
2. Ni nani wamevamia wanakijiji wa Busia?	WEZI
3. Chifu amesema wezi watafanyiwa nini?	WATASHIKWA
4. Wezi watafanyiwa nini wakipatikana na hatia?	WAFUNGWA/WATAFUNGWA JELA/WATAFUNGWAJELA KWA MUDA MREFU SANA
5. Je, unafikiri wezi wanaiba nini kwa kijiji?	MIFUGO, VITU SHAMBANI / NYUMBANI ANY RELEVANT ANSWER

Section 6, Listening Comprehension: In this section, you will read a short story to the child, and then ask him or her 5 questions about the story. **This is not a timed test, but children cannot spend more than 15 seconds per question.** You will be listening to the child's responses and noting if the answer is correct or not. You will score each word as 1 (Yes, Correct) or 0 (No, Incorrect). There are no practice items.

Materials:

31. EGRA Swahili FO Worksheet
32. Tablet
33. Cell phone or stopwatch for timing child response

Show the pupil the passage in your tablet. Say, "*Hii hapa ni hadithi fupi. Nitaisoma kwa sauti. Nitaisoma mara moja tu. Halafu nitakuuliza maswali. Tafadhali sikiliza kwa makini kisha ujaribu kujibu maswali. Je, umeelewa jinsi unavyopaswa kufanya? Uko tayari? Naanza.*"

Read the passage in the next slide out loud. Please read slowly and with inflection.

"Dennis ni kijana wa umri wa miaka saba. Yeye yuko darasa la pili. Rafiki yake Dennis anaitwa John. Dennis na John wanapenda kuogelea mto Yala. Leo kumenyesha sana. Wazazi wao wamewaonya wasiogelee. Leo Dennis na John wamebaki nyumbani. Hawaendi kuogelea."

The child has 15 seconds to respond to each question. Note that the child can self-correct (that is, change their response). If the child hesitates on a question for more than 15 seconds, mark the item as wrong and move to the next question.

Question	Acceptable answer
1. Dennis ako na umri wa miaka ngapi ?	SABA, MIAKA SABA
2. Rafiki yake Dennis anaitwa nani ?	JOHN
3. Dennis na rafiki yake wanapenda kufanya nini ?	KUOGEELEA/KUOGEELEA MTONI YALA
4. Kwa nini wazazi wao wamewaonya wasiogelee ?	KWA SABABU KUMENYESHA, KWA SABABU YA MVUA
5. Unafikiri Dennis na John wanafanya nini nyumbani ?	WANACHEZA, WANATAZAMA RUNINGA/TELEVISHENI, WAMEPUMZIKA, N.K.L

Citation: Gove & Wetterberg, 2011; Dubeck & Gove, 2015.

EGRA-English

Description of measure: The Early Grade Reading Assessment (EGRA) was initiated and developed by USAID researchers. The purpose of the tool is to measure, at a national level, the literacy of children attending primary school in classes 1-3. The measure was adapted by Kenyan education experts to reflect the standards of the education policy. Children are tested about their ability to read and understand English as English is an official national language. The measure has 2 sections. These will be reviewed below.

Section 5a, Oral Reading: In this section, you will ask the child to read a short story in English. The story has 66 words in total. **This is a timed (60 second) test.** You will see 5-22 words on your screen at one time. You will need to pay close attention to the words the child points to and reads. You will be listening to the child's pronunciation of the words. Note that the child can self-correct (that is, change their response). You will score each word as 1 (Yes, Correctly Read) or 0 (No, Incorrectly Read). There are no practice items.

Materials:

- 34. EGRA English Stimuli Booklet, page 6
- 35. EGRA English FO Worksheet
- 36. Cell phone or stopwatch for timing
- 37. Tablet

Show the child the short story in page 6 of student stimuli booklet-English. Say, "*Here is a short story. I want you to read it. Ready? Begin.*" Note that instructions can be read in Swahili or any other local language.

Start the timer when the child reads the first word. Follow along with your pencil and clearly mark any incorrect words on the paper accordingly. Count self-corrections as correct. Stay quiet, unless the child hesitates for 3 seconds, in which case, point to the next word and say "*Tafadhali endelea.*" Mark the word not read by the child as No Response. At 60 seconds, say "Stop." Mark the final word read with a bracket (]).

Early Stop Rule: If the child fails to correctly read any words correctly in the first row, say "*Thank you!*" and move on to the next section. Be certain to record this in the tablet.

If the child read the entire story before the end of 60 seconds, record how many seconds remained on the stopwatch. Enter responses marked on your paper into tablet. Remove the story sheet in front of the child and move to the next section.

Section 5b, Reading Comprehension: In this section, you will ask the child to answer 5 questions based on the short story he or she read. **This is not a timed test, but children cannot spend more than 15 seconds per question.** You will be listening to the child's responses and noting if the answer is correct or not. Note that the child can self-correct (that is, change their response). You will score each word as 1 (Yes, Correct) or 0 (No, Incorrect). There are no practice items.

- 38. EGRA English Stimuli Booklet, page 7
- 39. EGRA English FO Worksheet
- 40. Tablet

41. Cell phone or stopwatch for timing child response

Immediately after the child has read the story, turn the story page over and ask the following questions. The child has 15 seconds to answer each question. Mark the response as 1 (Correct) or 0 (Incorrect), using the answer key below:

Say, *“Now I am going to ask you a few questions about the story you just read. Try to answer the questions as well as you can.”* Note that instructions can be read in Swahili or any other local language.

Question	Acceptable answer
1. Who had a cat?	SARA
2. What did Sara and the cat like to do?	PLAY
3. Why was Sara sad?	THE CAT WAS NOT AT HOME, OR SIMILAR (E.G., THE CAT WAS GONE, SHE COULDN'T FIND THE CAT, ETC.)
4. What did Sara give the cat?	MILK
5. Why do you think Sara was happy?	SHE FOUND THE CAT, OR ANY REASONABLE ANSWER (E.G., THE CAT CAME BACK, THE CAT WAS HOME, ETC.)

Citation: Gove & Wetterberg, 2011; Dubeck & Gove, 2015.

EGMA

Description of measure: The Early Grade Math Assessment (EGMA) was initiated and developed by USAID researchers. The purpose of the tool is to measure, at a national level, the early math skills of children attending primary school in classes 1-3. The measure was adapted by Kenyan education experts to reflect the standards of the education policy. Children are tested about their knowledge of numbers, addition, and subtraction. The measure has 6 sections. These will be reviewed below.

Task 1, Number Identification: In this first task, the child will be asked to point to and name 20 numbers. **This is a timed (60 second) test.** You will need to see the number the child points to and listen to what the child calls it. For each number, you will record 1 (Yes, Correct) or 0 (No, Incorrect). There are no practice items.

Materials:

- 42. EGMA Stimuli Booklet, page 1
- 43. EGMA FO Worksheet for recording responses
- 44. Tablet
- 45. Cell phone or stopwatch for timing

Say, *“Hapa pana nambari kadhaa. Nataka uonyeshe kila nambari kwa kidole na uniambie ni nambari gani. Nitakuhesabia muda na nitakueleza wakati wa kuanza na wakumaliza.”*

Say, *“Kwa nambari ambazo ni mbili au tatu, tafadhali iseme nambari zima. Kwa mfano nambari 25, tafadhali sema “twenty five” badala ya “two-five.” Kwa nambari 100 tafadhali sema “one hundred” na sio “one-zero-zero.”*

NOTE: for this test, the child must correctly say the full number. For example, if the number is 919, the child must say "nine hundred nineteen." if the child says something such as "nine-one-nine" or "nine-nineteen," that is incorrect.

Point to the first number. Say, *“Anza hapa.”* Glide hand from left to right and say, *“Uko tayari?... Anza.”*

Start the stopwatch when the child points to and says the first number. If the child stops on a number for **5 seconds**, mark as no response and prompt the child to move on. Stop the time when 60 seconds have passed and ask the child to stop. Note the last number the child named.

Task 2, Number Discrimination: In this task, the child is asked to look at 2 written numbers you point to and tell you which is larger. There are 10 items in total. **This is not a timed task.** You will need to listen and record each response. For each item, you will record 1 (Yes, Correct) or 0 (No, Incorrect). There are 2 practice items.

Materials:

- 46. EGMA Stimuli Booklet, page 2a, 2b1, 2b2
- 47. EGMA FO Worksheet
- 48. Tablet

Show the child page 2a of the EGMA stimuli booklet. Point to the first set of numbers (**Practice item 1**).

Say, *Tazama nambari hizi. Niambie ni nambari gani kubwa?* If child says “8”, say “*Sahihi! 8 ndio kubwa.*”

If child says “4”, say, “*Nambari kubwa ni “8.”* [POINT TO 8]. Say, “*Hii ni 8. . .* [POINT TO 4]. Say, “*Hii ni 4. 8 ni kubwa kuliko 4. Tujaribu nyingine.*

Go to **Practice item 2**.

Say, *Tazama nambari hizi. Niambie ni nambari gani kubwa?* If child says “22”, say “*Sahihi! 22 ndio kubwa.*”

If child says “12”, say, “*Nambari kubwa ni “22.”* [POINT TO 22]. Say, “*Hii ni 22. . .* [POINT TO 12]. Say, “*Hii ni 12. 22 ni kubwa kuliko 12. Tujaribu nyingine.*

NOTE: For this item, children must SAY which number is larger to get a correct score. If they only point to a number, prompt them to say what the number is. You can say, “*Remember, you have to tell me which number is bigger.*”

In the case of 3-digit numbers, they DO NOT have to say the word “hundreds” to score a correct response. For example, in the case of the item “146 153” they can say “1-5-3” to indicate 153 is the larger number and still get a correct response. Similarly, they could also say “one fifty-three” and still get credit for this item.

For 2-digit numbers, the child must say the number correctly (e.g., twenty-two, and not two-two).

Use sheets 2b1 and 2b2 for this exercise. As you read each question, point to the numbers. If the child pauses for more than 5 seconds, then mark as no response and prompt the child to move on to the next item.

STOP RULE: The tablet will stop if the child gets 4 successive items (4 in a row) wrong.

Task 3, Number Pattern Completion: In this task, the child will be shown a series of 4 numbers, with one missing (e.g., 1, 2, __, 4). You will ask the child to look at each series and tell you which number goes in the blank space. You will read the sequence of numbers for the 2 practice items, but you will not read them for the 10 test items. You will just point to the empty space and ask the child which number goes there. **This is not a timed task.** For each item, you will record 1 (Yes, Correct) or 0 (No, Incorrect).

Materials:

- 49. EGMA Stimuli Booklet, page 3a, 3b1, 3b2
- 50. EGMA FO Worksheet
- 51. Tablet

Show the child page 3a of the EGMA stimuli booklet. Point to the first series of numbers (**Practice item 1**).

Say, “*Hapa pana nambari kadhaa. 1, 2, pengo, 4. Ni nambari gani itaenda hapa?*” If child says “3”, say, “*Ndiyo, 3! Nambari 3 itawekwa hapa. Tuseme nambari hizi pamoja.* [POINT TO EACH NUMBER.]

1, 2, 3, 4. 3 itawekwa hapa. Tujaribu mfano mwingine.”

If child says something other than “3,” say, “*Nambari 3 itawekwa hapa. Tuseme nambari hizi pamoja.* [POINT TO EACH NUMBER.] *1, 2, 3, 4. 3 inawekwa hapa. Tujaribu mifano zaidi.*”

Point to the second series of numbers (**Practice item 2**).

Say, ““*Hapa pana nambari kadhaa. 5, 10, 15, pengo. Ni nambari gani itaenda hapa?*” If child says “20”, say, “*Ndiyo, 20! Nambari 20 itawekwa hapa. Tuseme nambari hizi pamoja.* [POINT TO EACH NUMBER.]

5, 10, 15, 20. 20 itawekwa hapa. Tujaribu mfano mwingine.”

If child says something other than “20,” say, “*Nambari 20 itawekwa hapa. Tuseme nambari hizi pamoja.* [POINT TO EACH NUMBER.] *5, 10, 15, 20. 20 inawekwa hapa. Tujaribu mifano zaidi.*”

Use sheets 3b1 and 3b2 for this exercise. For each item, say, “*Here are some more numbers. Which number goes here?*” as you point to the numbers and the black space. Do not read the sequence of numbers. If the child pauses for more than **5 seconds**, then mark as no response and prompt the child to move on to the next item.

STOP RULE: The tablet will stop if the child gets 4 successive items (4 in a row) wrong.

Task 4 Level 1, Addition: In this task, children will be asked to solve 20 simple addition problems without using paper or pencil. **This is a timed (60 second) task.** For each item, the child will tell you the answer and you will record 1 (Yes, Correct) or 0 (No, Incorrect). There are no practice items.

Materials:

- 52. EGMA Stimuli Booklet, page 4a1
- 53. EGMA FO Worksheet
- 54. Tablet
- 55. Cell phone or stopwatch for timing

Show the child page 4a1 of the EGMA Stimuli Booklet.

Say, “*Hapa kuna mazoezi ya addition (plus).*” [GLIDE HAND FROM TOP TO BOTTOM.]

Say, “*Nitakuhesabia wakati na nitakuambia wakati wa kuanza na wakati wa kumaliza. Sema jibu kwa kila swali. Kama hauna jibu, endelea na swali linalofuata.*”

Say, “*Uko tayari? Anza hapa.*” [POINT TO THE FIRST PROBLEM AND START THE STOPWATCH.]

If the child pauses for more than **5 seconds**, then mark as no response and prompt the child to move on to the next item. Stop the time when 60 seconds have passed and ask the child to stop. Be certain to record all responses in tablet.

Indicate the methods the child used to solve the problems (mark all that apply). These include counting fingers or objects.

Task 4 Level 2, Addition: In this task, children will be asked to solve 5 advanced addition problems. The child can use paper and pencil or solve the problem in their head. **This is not a timed task.** For each item, you will record 1 (Yes, Correct) or 0 (No, Incorrect). Note that this task is NOT administered if the child failed every item in Task 4 Level 1. There are no practice items.

Materials:

- 56. EGMA Stimuli Booklet, page 4a2
- 57. Pencil and paper for child
- 58. EGMA FO Worksheet
- 59. Tablet

Show the child page 4a2 of the EGMA Stimuli Booklet.

Say, *“Ha Hapa kuna mazoezi mengine ya addition (plus).”*

Say, *“Ukipenda waweza kutumia penseli na karatasi. Lakini sio lazima. Tafadhali usiliandike swali tena. Kazi yako ni kusuluhisha hesabu na kuniambia jibu lako. Jaribu kusuluhisha haya haraka iwezekanavyo jinsi unavyojua. Utakuwa na muda mfupi kusuluhisha kila jaribio.”*

If the child pauses for more than 5 seconds (no activity), then mark as no response and prompt the child to move on to the next item. If the child solves the problem using a very inefficient method (tally marks, circles, etc.), then mark as wrong and prompt the child to move on to the next item. Ask the child *“Je, unajua njia reahisi ya kusuluhisha hesabu hii?”*

If the child is recopying the question and the boxes where the solution should go, remind the child that they should not simply copy the question, they should try and solve for a solution.

Indicate the methods the child used to solve the problems (mark all that apply). These include counting fingers or objects, making tally marks or circles, etc.

STOP RULE: The tablet will stop if the child gets 4 successive items (4 in a row) wrong.

Task 5 Level 1, Subtraction: In this task, children will be asked to solve 20 simple subtraction problems without using paper or pencil. **This is a timed (60 second) task.** For each item, the child will tell you the answer and you will record 1 (Yes, Correct) or 0 (No, Incorrect). There are no practice items.

Materials:

- 60. EGMA Stimuli Booklet, page 5a1
- 61. EGMA FO Worksheet
- 62. Tablet
- 63. Cell phone or stopwatch for timing

Show the child page 5a1 of the EGMA Stimuli Booklet.

Say, “*Hapa kuna mazoezi ya subtraction (minus).*”

Say, “*Nitakuhesabia wakati na nitakuambia wakati wa kuanza na wakati wa kumaliza. Sema jibu kwa kila swali. Kama hauna jibu, endelea na swali linalofuata.*”

Say, “*Uko tayari? Anza hapa.*” [POINT TO THE FIRST PROBLEM AND START THE STOPWATCH.]

If the child pauses for more than **5 seconds**, then mark as no response and prompt the child to move on to the next item. Stop the time when 60 seconds have passed and ask the child to stop. Be certain to record all responses in tablet.

Indicate the methods the child used to solve the problems (mark all that apply). These include counting fingers or objects.

Task 5 Level 2, Subtraction: In this task, children will be asked to solve 5 advanced subtraction problems. The child can use paper and pencil or solve the problem in their head. **This is not a timed task.** For each item, you will record 1 (Yes, Correct) or 0 (No, Incorrect). Note that this task is NOT administered if the child failed every item in Task 5 Level 1. There are no practice items.

Materials:

- 64. EGMA Stimuli Booklet, page 5a2
- 65. Pencil and paper for child
- 66. EGMA FO Worksheet
- 67. Tablet

Show the child page 5a2 of the EGMA Stimuli Booklet.

Say, “*Hapa kuna mazoezi mengine ya subtraction (minus).*”

Say, “*Say, “Ukipenda waweza kutumia penseli na karatasi. Lakini sio lazima. Tafadhali usiliandike swali tena. Kazi yako ni kusuluhisha hesabu na kuniambia jibu lako. Jaribu kusuluhisha haya haraka iwezekanavyo jinsi unavyojua. Utakuwa na muda mfupi kusuluhisha kila jaribio.*”

If the child pauses for more than 5 seconds (no activity), then mark as no response and prompt the child to move on to the next item. If the child solves the problem using a very inefficient method (tally marks, circles, etc.), then mark as wrong and prompt the child to move on to the next item. Ask the child “*Je, unajua njia reahisi ya kusuluhisha hesabu hii?*”

If the child is recopying the question and the boxes where the solution should go, remind the child that they should not simply copy the question, they should try and solve for a solution.

Indicate the methods the child used to solve the problems (mark all that apply). These include counting fingers or objects, making tally marks or circles, etc.

STOP RULE: The tablet will stop if the child gets 4 successive items (4 in a row) wrong.

Task 6, Word Problems: In this task, you will read math word problem to the child and ask them to solve it using counters or small objects. The child can also use pencil and paper. **This is not a timed task.** There is no stimulus page for this task. Move the child to the next question if he or she fails to produce a response in 30 seconds. For each item, you will record 1 (Yes, Correct) or 0 (No, Incorrect). There is one practice item, and 5 test items.

Materials:

- 68. Pencil and paper for child
- 69. Counters
- 70. EGMA FO Worksheet
- 71. Tablet

Say, *“Hapa nina mazoezi zaidi amabayo nitakuuliza uyafanye. Hapa pana vyombo kadhaa vya kukusaidia. Ukitaka, waweza kuvitumia lakini sio lazima uvitumie. Sikiliza kila zoezi kwa makini. Ukitaka nirudie, niko tayarikufanya hivyo. Sawa! Hebu tuanze.”*

Read the **practice item**:

“Kuna watoto watatu ndani ya matatu. Mtoto mmoja akatoka nje ya matatu. Je, ni watoto wangapi wamebaki ndani ya matatu?”

If the child says “2”, say *“Ndivyo; watoto wawili wamebaki ndani ya matatu. Hebu tufanye mazoezi zaidi.”*

If the child does **not** say “2”, say, *“Chukulia hivi vihesabio ni watoto [POINT TO THE COUNTERS.] Hesabu watoto watatu. Hawa watoto wako ndani ya matatu. Mtoto mmoja anatoka nje ya matatu. Ukitumia vihesabio, nionyeshe mtoto mmoja akitoka nje ya matatu. Je, ni watoto wangapi wamebaki ndani ya matatu? Ndivyo; watoto wawili wamebaki ndani ya matatu. Hebu tufanye mazoezi zaidi.”*

Say, *“Sasa ninayo mazoezi zaidi ambayo ningetaka ufanye”*. Read each item, pausing after each statement to be sure the child is understanding what you have said before continuing. If you think the child is not following, say *“Je, unaelewa?”*

For example, Item 1 should be read as follows:

Kuna watoto 3 ndani ya nyumba. [PAUSE AND CHECK.]

Watoto wengine 4 wanaingia ndani ya nyumba. [PAUSE AND CHECK.]

Je, sasa ni watoto wangapi wako ndani ya nyumba kwa jumla?

Prompt the child to move on if he or she stops on an item for **5** seconds and does not attempt to use counters, fingers, paper, or pencil)

NOTE: The correct answer to each item will be provided in the tablet. Be certain not to read this out loud. Indicate the methods the child used to solve the problems (mark all that apply). These include counting fingers or objects, making tally marks or circles, etc.

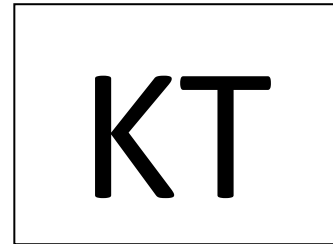
STOP RULE: The tablet will stop if the child gets 4 successive items (4 in a row) wrong.

Citation: Platas et al., 2014.

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Log Number: |__| |__| |__| |__| |__|



KLPS-KIDS ASSESSMENTS

VERSION: FEBRUARY 14, 2019 — ENGLISH

CHILD ID
__ __ __ __ __ __ __ -- __ __

This assessment should be administered to the biological children selected in the I-Module and recorded in the T-Sheet in accordance with the Kids assessment manual.

Log Number: |__| |__| |__| |__| |__|

Test 1: PPVT

IF CHILD IS 5 YEARS OLD OR UNDER, ADMINISTER PPVT SETS 1 to 6.

IF CHILD IS 6 YEARS OLD AND ABOVE, ADMINISTER PPVT SETS 3 TO 10.

***IF CHILD IS 6 YEARS OLD AND ABOVE, SKIP TO TEST 3: MELQO - FORWARD DIGIT SPAN,,
OTHERWISE CONTINUE.***

Test 2: MELQO - Mental Transformation

Materials: Sheet #5 Mental Transformation

STOP RULES: None

Practice Trial:

In this game, we are going to look at some shapes and some pieces of shapes.

Look at these pieces (point to set of 2 pieces).

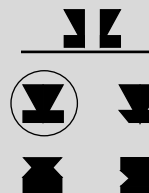
Now look at these shapes (point to each of the 4 choices).

If you put these pieces together (point to set of 2 pieces), they will make one of (wave hand over 4 choices).

Point to the shape the pieces make.

If correct, say That's right. Let's try some more.

If incorrect, point to the pieces and say, When you put these pieces together, (motioning with fingers and indicated pushing the pieces together) they will make this shape (point to correct shape). Let's try some more.



these shapes

	Instructions	Correct Answer	Correct (1)	Incorrect (2)	Child says I don't know/ no response (99)
16a	Look at these pieces (point to set of 2 pieces). Now look at these shapes (point to each of the 4 choices). If you put these pieces together (point to set of 2 pieces), they will make one of these shapes (wave hand over 4 choices). Point to the shape the pieces make.				
16b	Point to the shape (point to each of the 4 choices) these pieces make (wave hand over set of 2 pieces).				
16c	Point to the shape (point to each of the 4 choices) these pieces make (wave hand over set of 2 pieces).				
16d	Point to the shape (point to each of the 4 choices) these pieces make (wave hand over set of 2 pieces).				

Log Number: |___|___|___|___|___|

Test 3: MELQO - Forward Digit Span

#18 Forward Digit Span					
<p><i>Materials: None</i></p> <p><i>Other Notes: If the child makes an error, supply the correct answer on the <u>practice</u> items only.</i></p> <p><i>STOP RULES: None</i></p>					
<p>PRACTICE TRIAL:</p> <p>In this game, I am going to say a list of numbers. After you hear the numbers, I want you to repeat them after me in the same order.</p> <p>If I say 7..8, You say 7...8</p> <p>Now you try a couple. Please listen carefully.</p> <p><i>Pause for one second in between each number in the sequence. For example « 4 » [pause] « 2 ».</i></p> <p>Say: 4...2 Wait for child to respond. If the child makes an error, supply the correct answer. If the child answers correctly say, That's right.</p> <p>Say: 6...1...3 Wait for child to respond. If the child makes an error, supply the correct answer. If the child answers correctly say, That's right.</p>					
	<p><i>Okay, now let's do some more. Just listen carefully, and do your best.</i></p> <p><i>Pause for one second in between each number in the sequence</i></p>	Correct Answer	Correct (1)	Incorrect (0)	Child says I don't know/ no response (99)
18a	1...6	1...6			
18b	5...2...8	5...2...8			
18c	8...3...1...4	8...3...1...4			
18d	1...2...4...7...3	1...2...4...7...3			

IF CHILD IS 6 YEARS OLD AND ABOVE, SKIP TO TEST 6: PLUS-EF, OTHERWISE CONTINUE.

Test 4: Dimensional Change Card Sort (DCCS)

Log Number: |___|___|___|___|___|

Read: Now we are going to play other different games together.

ENSURE YOU HAVE:

TWO "SORTING" BOXES WITH A SLOT FOR PLACING CARDS. ONE BOX HAS A CARD WITH A [RED LORRY] ON WHITE BACKGROUND ATTACHED TO THE FRONT SIDE. ONE BOX HAS A CARD WITH A [GREEN STAR] ON WHITE BACKGROUND ATTACHED TO THE FRONT SIDE ("MODEL CARDS").

PLACE THE 2 "SORTING" BOXES ON THE TABLE APPROXIMATELY 20 CM FROM CHILD'S EDGE OF TABLE AND 10 CM APART. MAKE SURE THEY ARE ANGLED THE SAME WAY. THE BOX WITH THE [RED lorry] GOES ON THE FO'S RIGHT AND THE [GREEN star] GOES ON THE FO'S LEFT.

COLOR GAME

Color Game Instructions

Read: Here's a [red lorry] and here's a [green star].

We are going to play a game called color game.

In this game, the rule is, the green ones go here. **(POINTING TO BOX ON LEFT.)**

And the red ones go here. **(POINTING TO BOX ON RIGHT.)**

See, I have a green one. It goes here. **(PLACE IN BOX ON LEFT.)**

And, see, I have a red one, it goes here. **(PLACE IN BOX ON RIGHT.)**

This is the color game.

Have you understood?

Now let's play!

Color Game Rule Check

Oai. Can you show me where the green ones go in the color game?

Points to (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |___|

If child points to box on left, read: Very good, that's right. **Skip to question Obi.**

If child points to box on right, read: That's not right. Remember, in the color game, all the green ones go here, and all the red ones go here. **(POINT TO APPROPRIATE BOXES.) Then continue to question Oaii, to repeat the rule check.**

Oaii. Can you show me where the green ones go in the color game?

Points to (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |___|

If child points to box on left, read: Very good, that's right. **Continue to question Obi.**

If child points to box on right, read: That's not right. Remember, in the color game, all the green ones go here, and all the red ones go here. **(POINT TO APPROPRIATE BOXES.) Continue to question Obi.**

Obi. Can you show me where the red ones go in the color game?

Log Number: |___|___|___|___|___|

Points to (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |___|

If child points to box on right, read: Very good, that's right. **Skip to COLOR TRIALS.**

If child points to box on left, read: That's not right. Remember, in the color game, all the green ones go here, and all the red ones go here. **(POINT TO APPROPRIATE BOXES.) Continue to question Obii to repeat rule check.**

Obii. Can you show me where the green ones go in the color game?

Points to (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |___|

If child points to box on right, read: Very good, that's right. **Continue to COLOR TRIALS.**

If child points to box on left, read: That's not right. Remember, in the color game, all the green ones go here, and all the red ones go here. **(POINT TO APPROPRIATE BOXES.) Continue to COLOR TRIALS.**

COLOR TRIALS

REMEMBER:

- **IF THE CHILD POINTS TO THE BOX, YOU MAY SORT THE CARD FOR HIM/HER.**
- **DO NOT SAY "OKAY" IN RESPONSE TO SORT. SAY, "LET'S DO ANOTHER ONE," "LET'S DO IT AGAIN," ETC.**
- **POINT TO BOXES BY TOUCHING THE TOP WITH A FINGER.**
- **DO NOT BRING OUT THE CARD UNTIL THE RULE STATEMENT IS COMPLETE.**
- **ONCE CARD HAS BEEN PRESENTED, YOU CANNOT REPEAT THE RULE. STATE "HERE'S A ___" WHILE SIMULTANEOUSLY PRESENTING THE CARD.**
- **HOLD THE CARD ABOVE BOTH BOXES IN THE CENTER (NOT OVER ONE BOX OR THE OTHER).**

READ: Let's try this game!

1. If it is a green one, put it here, but if it is a red one, put it here. Here's a red one.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |___|
2. If it is a green one, put it here, but if it is a red one, put it here. Here is a green one.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |___|
3. If it is a green one, put it here, but if it is a red one, put it here. Here is a green one.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |___|
4. If it is a green one, put it here, but if it is a red one, put it here. Here is a red one.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |___|
5. If it is a green one, put it here, but if it is a red one, put it here. Here is a red one.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |___|
6. If it is a green one, put it here, but if it is a red one, put it here. Here is a green one.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |___|

Log Number: |__| |__| |__| |__| |__|

CONTINUE IF CHILD GETS AT LEAST 5 OUT OF 6 CORRECT, OTHERWISE, THANK CHILD AND END THE DCCS TEST.

SHAPE GAME

REMOVE CARDS FROM BOXES. REORDER FOR SHAPE GAME.

Shape Game Instructions

READ: Now we're going to play a new game.

We're not going to play the color game anymore.

We're going to play a game called shape game.

In this game, the rule is, the stars go here. **(POINTING TO THE BOX ON THE LEFT)**

And the lorrys go here. **(POINTING TO THE BOX ON THE RIGHT).**

This is the shape game.

Have you understood?

Let's play!

Shape Rule Check

Oai. Can you show me where the stars go in the shape game?

Points to (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |__|

If child points to box on left, read: Very good, that's right. **Skip to question Obi.**

If child points to box on right, read: That's not right. Remember, in the shape game, all the stars go here, and all the lorrys go here. **(POINT TO APPROPRIATE BOXES.) Then continue to question Oaii, to repeat the rule check.**

Oaii. Can you show me where the stars go in the shape game?

Points to (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |__|

If child points to box on left, read: Very good, that's right. **Continue to question Obi.**

If child points to box on right, read: That's not right. Remember, in the shape game, all the stars go here, and all the lorrys go here. **(POINT TO APPROPRIATE BOXES.) Continue to question Obi.**

Obi. Can you show me where the lorrys go in the shape game?

Points to (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |__|

If child points to box on right, read: Very good, that's right. **Skip to SHAPE TRIALS.**

If child points to box on left, read: That's not right. Remember, in the shape game, all the stars go here, and all the lorrys go here. **(POINT TO APPROPRIATE BOXES.) Then continue to question Obii, to repeat the rule check.**

Obii. Can you show me where the lorrys go in the shape game?

Points to (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |__|

If child points to box on right, read: Very good, that's right. **Continue to SHAPE TRIALS.**

Log Number: |__| |__| |__| |__| |__|

If child points to box on left, read: That's not right. Remember, in the shape game, all the stars go here, and all the lorries go here. **(POINT TO APPROPRIATE BOXES.) Continue to SHAPE TRIALS.**

SHAPE TRIALS

REMEMBER:

- **IF THE CHILD POINTS TO THE BOX, YOU MAY SORT THE CARD FOR HIM/HER.**
- **DO NOT SAY "OKAY" IN RESPONSE TO SORT. SAY, "LET'S DO ANOTHER ONE," "LET'S DO IT AGAIN," ETC.**
- **POINT TO BOXES BY TOUCHING THE TOP WITH A FINGER.**
- **DO NOT BRING OUT THE CARD UNTIL THE RULE STATEMENT IS COMPLETE.**
- **ONCE CARD HAS BEEN PRESENTED, YOU CANNOT REPEAT THE RULE. STATE "HERE'S A ____" WHILE SIMULTANEOUSLY PRESENTING THE CARD.**
- **HOLD THE CARD ABOVE BOTH BOXES IN THE CENTER (NOT OVER ONE BOX OR THE OTHER).**

READ: Let's try this game!

1. If it is a star, put it here, but if it is a lorry put it here. Here's a lorry.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |__|
2. If it is a star, put it here, but if it is a lorry put it here. Here is a star.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |__|
3. If it is a star, put it here, but if it is a lorry put it here. Here is a lorry.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |__|
4. If it is a star, put it here, but if it is a lorry put it here. Here is a lorry.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |__|
5. If it is a star, put it here, but if it is a lorry put it here. Here is a star.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |__|
6. If it is a star, put it here, but if it is a lorry put it here. Here is a star.
Placed in (1=Box with green star, 2=Box with red truck, 77=Refuses to respond): |__|

Read: Great job!

PUT AWAY ALL BOXES AND CARDS.

Log Number: |___| |___| |___| |___| |___|

Test 5: MDAT - LANGUAGE / HEARING

21. Child knows actions of objects.

Put out the CUP, PENCIL, THREAD, FORK, TORCH, NAIL, SCISSORS and WICK. Ask:

21a. ENG: Which one is for drinking?

KIS: Ipi ni ya kunywa?

SAM: esiriena esia khwekhonyera ong'wa?

LUO: Mane mar modho?

21a. PASS: 0 = NO

1 = YES

88 = N/A

21b. ENG: Which one is for writing?

KIS: Ipi ni ya kuandika?

SAM: Esiriena esia khwekhonyera okhwandika?

LUO: Mane mar ndiko?

21b. PASS: 0 = NO

1 = YES

88 = N/A

21c. ENG: Which one is for sewing?

KIS: Gani ni ya kushonea?

SAM: Esiriena esia khwekhonyera osona?

LUO: Mane mar kuoyo?

21c. PASS: 0 = NO

1 = YES

88 = N/A

21d. ENG: Which one is for eating?

KIS: Gani ni ya kula?

SAM: Esiriena esia khwekhonyera okhuria?

LUO: Mane mar chiemo?

21d. PASS: 0 = NO

1 = YES

88 = N/A

21e. ENG: Which one is for cutting?

KIS: Gani ni ya kukata?

SAM: Esiriena esia khwekhonyera okhenga?

LUO: Mane mar ng'ado?

21e. PASS: 0 = NO

1 = YES

88 = N/A

Score each item as a PASS if child can point to or name the correct item.

Log Number: |___|___|___|___|___|

23. Child can NAME objects.

Lay out the 14 objects listed below. PUT AWAY CUP AND PENCIL from question 21.

Point to each object and ask:

ENG: What is this?

KIS: Hii ni nini?

SAM: Sino ni sii?

LUO: Ma en ang'o?

Indicate those that the child is able to name:

INDICATE 88 IF CHILD REFUSES TO SPEAK.

	ENG:	KIS:	SAM:	LUO:	
a.	soap	sabuni	esabuni	sabun	22a. 0=NO, 1=YES, 88=N/A
b.	nail	msumari	msumari	musumwal	22b. 0=NO, 1=YES, 88=N/A
c.	comb	kichana	esichanuo	kichanu	22c. 0=NO, 1=YES, 88=N/A
d.	scissors	makasi	makasi	makas	22d. 0=NO, 1=YES, 88=N/A
e.	torch	tochi	itochi	toch	22e. 0=NO, 1=YES, 88=N/A
f.	safety pin	kipini	esipini	kipino	22f. 0=NO, 1=YES, 88=N/A
g.	candle	msumaa	musuma	msumaa	22g. 0=NO, 1=YES, 88=N/A
h.	thread	uzi	ovuusi	usi	22h. 0=NO, 1=YES, 88=N/A
i.	mirror	kioo	ikiyoo	kioo	22i. 0=NO, 1=YES, 88=N/A
j.	sieve	kichungi	esichungo	rachungi	22j. 0=NO, 1=YES, 88=N/A
k.	fork	uma	euma	uma	22k. 0=NO, 1=YES, 88=N/A
l.	wick	kitambi	olutambi	kitambi	22l. 0=NO, 1=YES, 88=N/A
m.	watch	saa	esa	saa	22m. 0=NO, 1=YES, 88=N/A
n.	funnel	kichoteo	efaneli	nyang'wara	22n. 0=NO, 1=YES, 88=N/A

22. Child can IDENTIFY objects that you name.

With the same 14 objects in front of the child, ask the child to point to the objects as you name them. Say:

ENG: Point to the _____.

KIS: Onyesha _____.

SAM: Ekesa _____.

LUO: Siemna _____.

Indicate those that the child is able to point to:

	ENG:	KIS:	SAM:	LUO:	
a.	soap	sabuni	Esabuni	sabun	22a. 0=NO, 1=YES, 88=N/A
b.	nail	msumari	msumari	musumwal	22b. 0=NO, 1=YES, 88=N/A
c.	comb	kichana	esichanuo	kichanu	22c. 0=NO, 1=YES, 88=N/A
d.	scissors	makasi	Makasi	makas	22d. 0=NO, 1=YES, 88=N/A
e.	torch	tochi	Itochi	toch	22e. 0=NO, 1=YES, 88=N/A
f.	safety pin	kipini	Esipini	kipino	22f. 0=NO, 1=YES, 88=N/A
g.	candle	msumaa	Musuma	msumaa	22g. 0=NO, 1=YES, 88=N/A
h.	thread	uzi	Ovuusi	usi	22h. 0=NO, 1=YES, 88=N/A
i.	mirror	kioo	Ikiyoo	kioo	22i. 0=NO, 1=YES, 88=N/A
j.	sieve	kichungi	esichungo	rachungi	22j. 0=NO, 1=YES, 88=N/A
k.	fork	uma	euma	uma	22k. 0=NO, 1=YES, 88=N/A
l.	wick	kitambi	olutambi	kitambi	22l. 0=NO, 1=YES, 88=N/A
m.	watch	saa	esa	saa	22m. 0=NO, 1=YES, 88=N/A
n.	funnel	kichoteo	efaneli	nyang'wara	22n. 0=NO, 1=YES, 88=N/A

26. Child is able to tell you the use of objects.

Do NOT point to any of the items. Indicate 88 if child refuses to speak. Ask:

26a. ENG: What do you do with soap?

KIS: Wewe hufanya nini na sabuni?

SAM: Khukhoreranga sina esabuni?

LUO: Itimo ga ang'o gi sabun?

26a. PASS: 0 = NO
1 = YES
88 = N/A

26b. ENG: What do you do with a wick?

KIS: Wewe hufanya nini na utambi?

SAM: khukhoreranga sina olutambi?

LUO: Itimo ga ang'o gi kitambi?

26b. PASS: 0 = NO
1 = YES
88 = N/A

26c. ENG: What do you do with a watch?

KIS: Wewe hufanya nini na saa?

SAM:Khukhoreranga sina esaa?

LUO: Itimo ga ang'o gi saa?

26c. PASS: 0 = NO
1 = YES
88 = N/A

26d. ENG: What do you do with a torch?

KIS: Wewe hufanya nini na tochi?

SAM: Khukhoreranga sina itochi?

LUO: Itimo ga ang'o gi toch?

26d. PASS: 0 = NO
1 = YES
88 = N/A

26e. ENG: What do you do with matches?

KIS: Wewe hufanya nini na kiberiti?

SAM: Khukhoreranga sina esiberiti?

LUO: Itimo ga ang'o gi kiberit?

26e. PASS: 0 = NO
1 = YES
88 = N/A

Score each item as a PASS if child can correctly state the use of the object, using a verb.

25. Child is able to follow a 3 stage command.

Put away everything except the spoon and cup.

Say:

ENG: Listen carefully now. I want you to pay close attention to what I am saying. I am going to ask you to do 3 things. I want you to do these 3 things just as I say. Are you ready? OK, good. Here we go: Put the spoon in the cup, touch your nose and pat your head.

KIS: Sasa, sikiliza kwa makini. Nataka uwe makini kwa yale ninayosema. Nitakuuliza ufanye vitu vitatu. Nataka ufanye hivi vitu vitatu kama nitakavyo sema. Uko tayari? Sawa, vizuri. Tunaendelea: weka kijiko ndani ya kikombe, shika mapua yako, na shika kichwa chako.

SAM: Tekeresia ebilai. Ndakha otekeresie ebilai khuesia ndi obola. Njookhuteba okhole ebindu bidatu. Ndakha okhole ebindu bidatu bino ngalu mbola. Ori tiyari ? sawa, bilayi. Khakhukhole: Ta esijiko mu sikombe, dira amolu kao manu ukude khu mtwe.

LUO: Koro winja malong'o. Adwaro ni mondo iwinj maber gima awacho. Adhi penji mondo idwok gik moko adek. Adwaro ni mondo itim gikmoko adek gi mana kaka awacho. Iikori? Kare, ber. Wachako: ket kijiko ei okombe, mak umi gi wiyi.

Child can try only once. Do NOT give further instruction after the child has started to carry out the commands.

You can encourage the

child by saying:

ENG: Go on. **OR** Good. Keep going.

KIS: Endelea. **OR** Sawa endelea.

SAM: Chiririra. **OR** Nebilayi. Chiririra.

LUO: Dhi nyime. **OR** Ber. Thi nyime.

Score a PASS if child is able to carry out all 3 actions in succession (in the right order).

25. PASS: 0 = NO

1 = YES

88 = N/A

24. Child is able to categorize things.

Indicate 88 if child refuses to speak. Say:

ENG: Tell me as many foods as you can think of.

KIS: Niambie vyakula vingi uwezavyo kufikiria.

SAM: Mborere ebiakhuria ebingi nga oluonyala okhupara.

LUO: Nyisa chiemo mangeny molooyo minyalo paro.

TALLY all of the foods mentioned. Each food must be distinct. That is, child CANNOT receive credit for saying “fruit” and “mango.”

Child CAN receive credit for saying “papaya” and “mango.”

You can prompt up to 3 times. If the child does not mention at least 5 distinct foods, say:

ENG: Good. Now tell me some animals that you know.

KIS: Vizuri. Sasa nieleze baadhi ya wanyama unaowajua.

SAM: Nebilayi lano mborere Echisolo echia wamanya.

LUO: Kare. Koro nyisa le moko ma ing’eyo.

TALLY each animal mentioned. You can prompt up to three times.

Score a PASS if the child can name at least 5 foods OR 5 animals.

24. PASS: 0 = NO

1 = YES, knows 5 distinct foods OR animals

88 = N/A

28. Child knows questions relating to the understanding of certain concepts.**Indicate 88 if child refuses to speak. Ask:****28a. ENG:** What do you do when you are hungry?**KIS:** Wewe hufanya nini unapo hisi njaa?**SAM:** Okholanga sina injala niikhuluma?**LUO:** Itimo ga ang'o ka kech kayi?**28a. PASS: 0 = NO****1 = YES****88 = N/A****28b. ENG:** What do you do when you are tired?**KIS:** Wewe hufanya nini unapo hisi uchovu?**SAM:** Okholanga sina nojong'ere?**LUO:** Itimo ga ang'o ka iol?**28b. PASS: 0 = NO****1 = YES****88 = N/A****28c. ENG:** What do you do when you are cold?**KIS:** Wewe hufanya nini unapo hisi baridi?**SAM:** Okholanga sina noburira imboo?**LUO:** itimo ga ang'o ka iwinjo koyo?**28c. PASS: 0 = NO****1 = YES****88 = N/A**

Acceptable answers include "eat," "sleep/rest," and "put on a jacket or sweater" or "go inside the house" or "go by the fire." If child responds, for example, "I go to the store to get food," prompt the child by saying, "I see. And then what do you do?"

Score a PASS on each item if child can answer correctly.

29. Child understands adjectives.

Ask:

29a. ENG: Which goes faster, a bicycle or a motorbike?

KIS: Gani inaenda mbio zaidi baisikeli ama pikipiki?

SAM: Esiri sichichanga embiro sana? Endika kose pikipiki?

LUO: Mane maringo matek ndiga koso apiko?

29a. PASS: 0 = NO

1 = YES

88 = N/A

29b. ENG: Which is bigger, a goat or a cow?

KIS: Gani kubwa zaidi, mbuzi au ng'ombe?

SAM: Esiriena esikhongo mno embusi kose engombe?

LUO: Mane ma duong', diel koso dhiang?

29b. PASS: 0 = NO

1 = YES

88 = N/A

Score a PASS on each item if child answers correctly.

31. Child can understand prepositions and follow related tasks.

Get out the CONTAINER, CUP and a BOTTLE TOP. Place the cup upside down in front of the child. Give the child the bottle top.

Say:

Take out the cup, empty container, and 1 bottle top.

31a. ENG: Put the bottle top under the container.

KIS: Weka pekee chini ya containa.

SAM: Ta epeke asi wa econtaina.

LUO: Ket pekle e bwo kasuku.

31a. PASS: 0 = NO

1 = YES

88 = N/A

31b. ENG: Put it on the cup.

KIS: Iweke juu ya kikombe.

SAM: Ite akulu wa esikombe.

LUO: Kete e wi kikombe.

31b. PASS: 0 = NO

1 = YES

88 = N/A

31c. ENG: Put it next to the container.

KIS: Iweke karibu na kontaina.

SAM: Ite ambi nende esikombe.

LUO: Kete but kasuku.

31c. PASS: 0 = NO

1 = YES

88 = N/A

31d. ENG: Put the bottle top between the container and the cup.

KIS: Weka pekee katikati ya containa na kikombe.

SAM: Ta epeke katikati ya containa nende esikombe.

LUO: Ket pekle kind kikombe gi kasuku.

31d. PASS: 0 = NO

1 = YES

88 = N/A

31e. ENG: Put it behind the cup.

KIS: Iweke nyuma ya kikombe.

SAM: Ite inyuma wa esikombe.

LUO: Kete tok kikombe.

31e. PASS: 0 = NO

1 = YES

88 = N/A

Score a PASS on each item if child completes it correctly.

32. Child understands the concept of opposites.**Indicate 88 if child refuses to speak. Say:****ENG:** I want you to help me finish some sentences. If a man is big, a baby is ____.

Nataka unisaidie kumaliza sentensi. Kama mwanaume ni mkubwa, mtoto ni

KIS: ____.**SAM** Ndakha ukhonye omaririsia sentensi chino. Omusacha nari mukhongo, omwana

: ni ____.

LUO: Adwa ni ikonya tieko andike moko. Ka dichuo duong' ,nyathi ____.**If the child says "small," "little," or something similar continue to question 32a (below). If the child does not understand, say:****ENG:** Let's try another one: An ant is small, but an elephant is ____.**KIS:** Wacha tujaribu nyengine: Siafu ni ndogo, lakini ndovu ni ____.**SAM** Kha khuteme eindi: endukusi ni endidi, enjofi ni ____.

:

LUO: Watem moro: ochunglo tin, to liech ____.**If the child STILL does not understand, discontinue and mark FAIL for each item. If the child understands, say:**

- 32a.** **ENG:** Good! Let's try some more. If the sun comes up in the day, the stars comes out at ____.
- KIS:** Vizuri! Wacha tujaribu zingine. Ikiwa jua hutoka mchana, nyota hutoka saa ____.
- SAM** Nebilayi! Kha khuteme echindi khandi. Omubasu nikutula esidete, eninginingi chitula ____.
- LUO:** Kare! Watem moko. Ka chieng biro odiochieng, sulwe biro ____.

32a. PASS: 0 = NO**1 = YES****88 =****N/A**

- 32b.** **ENG:** During the day we are awake, at night we are ____.
- KIS:** Wakati wa mchana tuko macho, usiku tuko ____.
- SAM** esidete khumoka, esiro khu
- LUO:** Ka odio chieng waneno, otieno wa ____.

32b. PASS: 0 = NO**1 = YES****88 =****N/A**

- 32c.** **ENG:** If you cry when you are sad, you smile when you are ____.
- KIS:** Ikiwa unalia kama umehuzunika, unatabasamu ukiwa ____.
- SAM** Ni khurira nikhusinyikhe, ocekha ni ____.
- LUO:** Ki inywak ka isin, ibuongjo ka ____.

32c. PASS: 0 = NO**1 = YES****88 =****N/A****32. (Continued)**

- 32d.** **ENG:** The stove is hot, ice is ____.
- KIS:** Stovu ni moto, barafu ni ____.
- SAM** Erijiko niribarire, ebarafu ____.
- LUO:** Stof liet, baraf ____.

32d. PASS: 0 = NO**1 = YES****88 = N/A**

- 32e.** **ENG:** You walk on the road, you swim in the ____.

32e. PASS: 0 = NO

Log Number: | ____ | ____ | ____ | ____ | ____ |

KIS: Unatembea barabarani, unaogolea ____.

SAM Okenda khu barabara, osoga ____.

:

LUO: Iwuotho e ndara, igo abal e ____.

1 = YES

88 =

N/A

Score a PASS on each item if child answers correctly.

35., 34. AND 33. Child knows quantities.

Line up 12 blocks in a row in front of the child, and say:

ENG: Can you tell me how many blocks are here? Count them for me.

KIS: Unaweza niambia blocks ngapi ziko hapa? Nihesabie.

SAM: Onyala khumborera blocks chinga chiri ano? Chivale.

LUO: Inyalo nyisa ni block adi manitie ka? Kwan na.

Child MUST be able to correctly count objects, and is not assigning numbers incorrectly to objects (i.e, repeating numbers, counting out of order, etc.).

35. Score as a PASS if child can correctly count 10 or more.

35. PASS: 0 = NO

1 = YES

88 = N/A

34. Score as a PASS if child can correctly count 5 or more.

34. PASS: 0 = NO

1 = YES

88 = N/A

33. Score as a PASS if child can correctly count 3 or more.

33. PASS: 0 = NO

1 = YES

88 = N/A

33a. In what language did the child count the blocks?

|___| |_____

1=English

2=KiSwahili

3=Samia

4=Luo

5=Other (specify)

46. Child can pass ONE block. Say:

ENG: Good. Now, I want you to put 1 block here.

KIS: Sawa. Sasa nataka uweke block 1 hapa.

SAM: Ebilayi. Nano ndakha ote block 1 ano.

LUO: Ber. Koro, adwa ni iket block 1 ka.

Score as a PASS if child moves ONE block only.

46. PASS: 0 = NO

1 = YES

88 = N/A

47. Replace block. Now see if child can pass THREE blocks.

Say:

ENG: Good. Now, I want you to put 3 blocks here.

KIS: Sawa. Sasa nataka uweke block 3 hapa.

SAM: Ebilayi. Nano ndakha ote blocks 3 ano.

LUO: Ber. Koro, adwa ni iket block 3 ka.

Score as a PASS if child moves THREE blocks only.

47. PASS: 0 = NO

1 = YES

88 = N/A

48. Replace blocks. Now see if child can pass FIVE blocks.

Say:

ENG: Good. Now, I want you to put 5 blocks here.

KIS: Sawa. Sasa nataka uweke block 5 hapa.

SAM: Ebilayi. Nano ndakha ote blocks 5 ano.

LUO: Ber. Koro, adwa ni iket block 5 ka.

Score as a PASS if child moves FIVE blocks only.

48. PASS: 0 = NO

1 = YES

88 = N/A

37. Child can name the color red.

Point to RED circle and say:

ENG: What color is this?

KIS: Hii ni rangi gani?

SAM: Ino ni kala sina?

LUO: Ma en rangi mane?

Score as PASS if child correctly names color.

37. PASS: 0 = NO

1 = YES

88 =

N/A

38. Child can name the color blue.

Point to BLUE circle and say:

ENG: What color is this?

KIS: Hii ni rangi gani?

SAM: Ino ni kala sina?

LUO: Ma en rangi mane?

Score as PASS if child correctly names color.

38. PASS: 0 = NO

1 = YES

88 = N/A

43. Names three or more letters in first name.

Write child's first name in large, capital letters on a piece of paper. Point to each letter and say:

ENG: Tell me this letter.

KIS: Niambie hii herufi.

SAM: Mborere ino ni leta si?

LUO: Nyisa leta ni.

Score PASS if child correctly names 3 or more.

43. PASS: 0 = NO

1 = YES

88 = N/A

39. Child can name the color yellow.

Point to YELLOW circle and say:

ENG: What color is this?

KIS: Hii ni rangi gani?

SAM: Ino ni kala sina?

LUO: Ma en rangi mane?

Score as PASS if child correctly names color.

39. PASS: 0 = NO

1 = YES

88 =

N/A

40. Child can name the color green.

Point to GREEN circle and say:

ENG: What color is this?

KIS: Hii ni rangi gani?

SAM: Ino ni kala sina?

LUO: Ma en rangi mane?

Score as PASS if child correctly names color.

40. PASS: 0 = NO

1 = YES

88 = N/A

42. Names two or more letters in first name.

Score PASS if child correctly names 2 or more.

42. PASS: 0 = NO

1 = YES

88 = N/A

41. Names one or more letters in first name.

Score PASS if child correctly names 1 or more.

41. PASS: 0 = NO

1 = YES

88 = N/A

Instructions for FO: Before submitting this test booklet at the IPAK office, please ensure that the test is fully filled out (including indicating "88" for all items after the test was stopped). Indicate here when that has been done.

100. Score sheet is complete:

(1=Yes, 2=No)

|___|

IF CHILD IS BELOW 6 YEARS OLD, END THE TEST AND THANK THE CHILD, OTHERWISE CONTINUE.

Log Number: |__| |__| |__| |__| |__|

Test 6: PLUS – EF

NOTE: THIS TEST IS ADMINISTERED TO CHILDREN WHO ARE 6 YEARS OLD AND ABOVE.

THIS IS AN ANDROID-BASED TEST THAT SHOULD BE ADMINISTRED SEPERATELY

ONCE DONE WITH THE TEST, MOVE TO TEST 7

Test 7: Early Grade Reading Assessment (EGRA) – Swahili

Early Grade Reading Assessment: Protocol

KLPS4-KIDS

SWAHILI

General Instructions

It is important to establish a playful and relaxed rapport with the children to be assessed, via some simple initial conversation among topics of interest to the child (see example below). The child should perceive the following assessment almost as a game to be enjoyed rather than a severe situation. It is important to read ONLY the sections in boxes aloud slowly and clearly.

Sehemu ya Kwanza: Ufahamu Wa Sauti Za Herufi

Muonyeshe mwanafunzi orodha ya herufi iliyomo katika kijitabu cha mwanafunzi. Kisha sema ifuatavyo:

Karatasi hii ina herufi mbali mbali. Tafadhali zitamke sauti za herufi zote unazozijua.

Kwa mfano, sauti ya herufi hii [kisha mwonyeshe herufi o] ni “/o/”

Hebu tufanye mazoezi: Nitamkie sauti ya herufi hii [mwonyeshe herufi N]:

Iwapo jawabu la mwanafunzi ni sahihi, sema: **Vyema, sauti ya herufi hii ni “/n/”**

Iwapo jawabu la mwanafunzi sio sahihi, sema: Sauti ya herufi hii ni “/n/”

Sasa, hebu jaribu sauti nyingine za herufi: Hebu nitamkie sauti ya herufi hii [mwonyeshe herufi m]:

Iwapo jawabu la mwanafunzi ni sahihi, sema: **Vyema, sauti ya herufi hii ni “/m/”**

Iwapo jawabu la mwanafunzi sio sahihi, sema: Sauti ya herufi hii ni “/m/” Je,

umeelewa unavyopaswa kufanya?

Nikisema “Anza”, tafadhali zitamke sauti za herufi hizi haraka iwezenavavyo lakini kwa makini. Nitamkie sauti za herufi, kuanzia hapa kisha kuendelea hivi. [Elekeza kidole chako katika herufi ya kwanza katika mstari wa juu baada ya mfano kisha uendelea hadi mwisho wa mstari huo]. Nitanyamaza nikusikilize. Uko tayari? Anza.



Anzisha saa ya kupimia kasi pindi mwanafunzi asomapo herufi ya kwanza. Fuatilia kusoma kwake ukitumia penseli kisha utie alama ya mkwaju (/) katika kila herufi ambayo hakuweza kuitamka. Iwapo, mwanafunzi anajisahihisha, jibu hilo ni sahihi. Iwapo ulikuwa umemkosoa mwanafunzi katika jibu ambapo alijisahihisha, tia alama ya duara (O) kwa herufi hiyo kisha uendelea. **Unapaswa kukimya**, isipokuwa wakati unampa mwanafunzi majibu, ifuatavyo: Iwapo mwanafunzi anasita kwa muda wa sekunde 3, mwelekeze katika herufi inayofuata kisha umwambie

“Tafadhali endelea.” Kisha utie alama ya kuonyesha hakupata jibu sahihi.

BAADA YA SEKUNDE 60 SEMA, “Acha kusoma.” Halafu tia alama ya mabano (/) katika herufi ya mwisho aliyosoma.

Kanuni ya kusitisha kusoma mapema: Iwapo mwanafunzi hatapata jawabu sahihi hata moja katika mstari wa kwanza, hata kwa kujikosoa, sema **“Asante !”** Sitisha shughuli hii, kisha utie alama katika kisanduku kilicho chini ya ukurasa huu kisha uendelea na sehemu inayofuata.

Mifano:

o N

m

1	2	3	4	5	6	7	8	9	10	
t	a	e	S	M	a	N	u	S	n	(10)
i	W	n	a	u	I	p	i	k	z	(20)
ny	u	A	p	ch	b	A	th	o	n	(30)
i	O	p	e	a	gh	u	n	w	i	(40)
E	z	ng'	n	T	A	K	m	ch	i	(50)
a	u	d	dh	V	I	i	z	M	e	(60)
sh	i	I	u	h	a	R	p	v	f	(70)
k	U	N	g	A	L	u	O	s	f	(80)
y	n	B	R	k	n	D	gh	t	K	(90)
m	o	h	gh	G	y	a	i	A	I	(100)

Muda uliosalia katika saa ya kupima kasi kufikia mwisho wa kusoma (idadi ya SEKUNDE) :

Tia alama katika kisanduku hiki iwapo shughuli ya kusoma ilisitishwa kwa sababu mwanafunzi hakupata jawabu sahihi katika mstari wa kwanza.

Sehemu ya Pili: Ufahamu Wa Silabi

Mwonyeshe mwanafunzi orodha ya silabi iliyomo katika kijitabu cha mwanafunzi. Kisha sema ifuatavyo:

Karatasi hii ina silabi mbali mbali. Tafadhali zitamke silabi zote unazozijua.

Kwa mfano, silabi hii [kisha mwonyeshe silabi 'ya'] ni "ya"

Hebu tufanye mazoezi: Nitamkie silabi hii [mwonyeshe silabi 'si']:

Iwapo jawabu la mwanafunzi ni sahihi, sema: **Vyema, silabi hii ni "si"**

Iwapo jawabu la mwanafunzi sio sahihi, sema: **Silabi hii ni "si"**

Sasa, hebu jaribu silabi nyingine: nitamkie silabi hii [mwonyeshe silabi 'fu']:

Iwapo jawabu la mwanafunzi ni sahihi, sema: **Vyema, silabi hii ni "fu."**

Iwapo jawabu la mwanafunzi sio sahihi, sema: **Silabi hii ni "fu."**

Je, umeelewa unavyopaswa kufanya?

Nikisema "Anza", tafadhali zitamke silabi hizi haraka iwezenavyo lakini kwa makini. Nitamkie silabi, kuanzia hapa kisha kuendelea hivi. [Elekeza kidole chako katika silabi ya kwanza katika mstari wa juu baada ya mfano kisha uendelea hadi mwisho wa mstari huo]. Nitanyamaza nikusikilize. Uko tayari? Anza.



Anzisha saa ya kupimia kasi pindi mwanafunzi asomapo silabi ya kwanza. Fuatilia kusoma kwake ukitumia penseli kisha utie alama ya mkwaju (/) katika kila silabi ambayo hakuweza kuitamka. Iwapo, mwanafunzi anajisahihisha, jibu hilo ni sahihi. Iwapo ulikuwa umemkosoa mwanafunzi katika jibu ambalo alijisahihisha, tia alama ya duara (O) kwa silabi hiyo kisha uendele. **Unapaswa kukimya**, isipokuwa wakati unampa mwanafunzi majibu, ifuatavyo: Iwapo mwanafunzi anasita kwa muda wa sekunde 3, mwelekeze kwa silabi inayofuata kisha umwambie **"Tafadhali endelea."** Kisha utie alama ya kuonyesha hakupata jibu sahihi.

BAADA YA SEKUNDE 60 SEMA, "Acha kusoma" Halafu tia alama ya mabano (/) katika silabi ya mwisho aliyosoma.

Kanuni ya kusitisha kusoma mapema: Iwapo mwanafunzi hatapata jawabu sahihi hata moja katika mstari wote wa juu, hata kwa kujikosa, sema **"Asante !"**, sitisha shughuli hii, kisha utie alama katika kisanduku kilicho chini ya ukurasa huu na uendele na shughuli inayofuata.

Mifano:

ya si fu

1	2	3	4	5	6	7	8	9	10	
na	de	ma	di	ra	vi	aa	zu	we	ndi	(10)
ne	za	do	bwa	bi	ho	he	ku	su	ngi	(20)
mba	ti	mi	wi	mwa	la	re	so	po	du	(30)
tu	ka	shi	mu	cho	ji	ua	hi	ru	yo	(40)
le	fi	zi	se	ye	nde	ni	fa	ha	mwe	(50)
sha	mo	ke	ju	vu	nye	me	te	o	da	(60)
he	ja	ba	nyu	pe	ngu	bu	mbi	yu	cha	(70)
nu	ko	li	sa	pa	ya	si	no	nzi	che	(80)
nda	fu	msi	ga	au	mto	ri	nga	to	be	(90)
mbe	ii	gu	go	wa	zo	ki	nya	pi	je	(100)

Muda uliosalia katika saa ya kupima kasi kufikia mwisho wa kusoma (idadi ya SEKUNDE) :

Tia alama katika kisanduku hiki iwapo shughuli ya kusoma ilisitishwa kwa sababu mwanafunzi hakupata jawabu sahihi katika mstari wa kwanza.

Sehemu ya Tatu: Kutambua Maneno ya Kubuni

Muonyeshe mwanafunzi orodha ya maneno ya kubuni iliyomo ndani ya kijitabu cha mwanafunzi, halafu sema,

Karatasi hii ina maneno yaliyobuniwa. Ningependa usome maneno yote unayoweza. Kwa mfano, neno hili la kubuni ni: “ buza”

Hebu tufanye mazoezi: tafadhali lisome neno hili [mwonyeshe neno “zefu”]

[Iwapo mwanafunzi atasema “zefu”, mwambie]: **“Vizuri sana : “zefu”**

[Iwapo mwanafunzi hakusoma neno “zefu” vizuri, mwambie]: **Neno hili la kubuni ni “zefu.”**

Sasa, hebu jaribu neno lingine la kubuni: Tafadhali soma neno lifuatalo mwonyeshe neno: “sharu”.

[Iwapo mwanafunzi atasema “sharu”, mwambie]: **“Vizuri sana : “sharu”**

[Iwapo mwanafunzi hakusoma neno “sharu” vizuri, mwambie]: **Neno hili la kubuni ni “sharu.”**

Nikisema “Anza”, yasome maneno haraka iwezekanavyo lakini kwa makini. Yasome maneno kutoka upande wa kushoto kuelekea upande wa kulia wa ukurasa huu, ukianzia mstari wa kwanza.

Nitakimya nikusikilize, isipokuwa wakati unapohitaji usaidizi. Je, umeelewa jinsi unavyopaswa kufanya? Uko tayari? Anza.



Anzisha saa ya kupimia kasi pindi mwanafunzi asomapo neno la kwanza. Fuatiliza kusoma kwake ukitumia penseli hukua ukitia alama ya mkwaju (/) katika kila neno ambalo hakusoma sahihi. Iwapo, mwanafunzi anajisahihisha, jibu hilo ni sahihi. Iwapo ulikuwa umemkosoa mwanafunzi katika jibu ambalo alijisahihisha, tia alama ya duara (O) kwa neno hilo kisha uendelee. **Unapaswa kukimya**, isipokuwa wakati unampa mwanafunzi majibu, ifuatavyo: Iwapo mwanafunzi anasita kwa muda wa sekunde 3, mwelekeze katika neno linalofuata kisha umwambie **“Tafadhali endelea.”** Kwa kila neno unalomsomea mwanafunzi, tia alama ya kuonyesha hakupata jibu sahihi.

BAADA YA SEKUNDE 60 SEMA, “Acha kusoma.” Halafu tia alama ya mabano (!) katika neno la mwisho alilosoma.

Kanuni ya kusitisha kusoma mapema: Iwapo mwanafunzi hakusoma vilivyo maneno yote katika mstari wa kwanza, sema **“Asante !”**, sitisha shughuli hii, kisha utie alama katika kisanduku kilicho chini ya ukurasa huu na uendelee na sehemu inayofuata.

Mifano:	buza	zefu	sharu	
1	2	3	4	5
mapa	nyuza	mwela	nziki	gazu (5)
ngute	gowe	vube	honzi	howe (10)
choyu	hefa	shifi	ndweku	ndami (15)
yota	regu	vicha	kine	leye (20)
dusu	msino	rime	chena	mbeta (25)
chuso	mtozo	toko	bwara	sharu (30)
riki	kabe	kuvi	sine	ngiso (35)
nepu	fipe	josa	rubwa	vili (40)
ripi	nzinga	zefu	hungu	mwate (45)
ndise	kenzi	mtofi	kengu	ndaho (50)

Muda uliosalia katika saa ya kasi kufikia mwisho wa kusoma (idadi ya SEKUNDE):

Tia alama katika kisanduku hiki iwapo shughuli ya kusoma ilisitishwa kwa sababu mwanafunzi hakupata jawabu sahihi katika mstari wa kwanza.

Sehemu ya Nne: Kutambua Maneno Halisi na ya Kubuni

Muonyeshe mwanafunzi orodha ya maneno halisi na ya kubuni iliyomo ndani ya kijitabu cha mwanafunzi, halafu sema,

Karatasi hii ina maneno yaliyo na maana (maneno halisi) na yasiyo na maana (maneno ya kubuni) . Ngingependa usome maneno yote unayoweza kisha unieleze ikiwa neno ulilolisoma lina maana au halina maana. Kwa mfano, neno hili ni: “bino”, hili neno halina maana.

Hebu tufanye mazoezi: tafadhali lisome neno hili [mwonyeshe neno “paka”]

[Iwapo mwanafunzi atasoma na kusema “lina maana”, mwambie]: **“Vizuri sana : “neno paka lina maana”**

[Iwapo mwanafunzi hakusoma vizuri au kusema “halina maana”, mwambie]: **Neno hili ni “paka” na lina maana.**

Sasa, hebu jaribu neno lingine: Tafadhali soma neno lifuatalo mwonyeshe neno: “nyoki”.

[Iwapo mwanafunzi atasoma na kusema “halina maana”, mwambie]: **“Vizuri sana : “halina maana”**

[Iwapo mwanafunzi hakusoma vizuri au kusema “lina maana”, mwambie]: **Neno hili ni “nyoki” na halina maana.**

Nikisema “Anza”, yasome maneno haraka iwezekanavyo lakini kwa makini huku uninieleza iwapo yana maana au la. Nitakimya nikusikilize. Je, umeelewa jinsi unavyopaswa kufanya? Uko tayari? Anza.


Unapaswa kukimya, Iwapo mwanafunzi anasita kwa muda wa sekunde 5, mwelekeze kwa neno linalofuata kisha umwambie “Tafadhali endelea.”Kwa kila neno asilolisoma mwanafunzi, tia alama ya kutojibu.

Mfano	bino	paka	nyoki
нено	Jibu sahihi	Jibu lisilosahihi	Kutojibu
uko [halisi]			
vyalu [buni]			
nundu [halisi]			
jana [halisi]			
puku [buni]			
hidi [buni]			
kinga [halisi]			
twiga [halisi]			
komu [halisi]			
damu [halisi]			
siwi [buni]			
ngazi [halisi]			
jutu [buni]			
tobu [buni]			
raha [halisi]			
kundi [halisi]			
wiba [buni]			
chuchu [buni]			
nyonya [halisi]			
bivi [buni]			

Sehemu ya Tano (a): Kusoma Hadithi kwa Sauti

Muonyeshe mwanafunzi hadithi iliyomo katika kijitabu cha mwanafunzi. Halafu sema hivi,

Hii hapa ni hadithi fupi. Ningependa uisome kwa sauti, haraka iwezekanavyo lakini kwa makini. Ukimaliza kuisoma, nitakuuliza maswali kuhusu yale uliyosoma. Je, umeelewa jinsi unavyopaswa kufanya? Nikisema “Anza,” isome hadithi vizuri kadri ya uwezo wako. Nitanyamaza nikusilikilize. Uko tayari? Anza.

 Anzisha saa ya kupimia kasi pindi mwanafunzi asomapo neno la kwanza. Fuatilia kusoma kwake ukitumia penseli hukuukitie alama ya mkwaju (/) katika kila neno ambalo hakusoma vilivyo. Iwapo, mwanafunzi anajisahihisha, jibu hilo ni sahihi. Unapaswa kukimya. Iwapo i mwanafunzi atasita kwa muda wa sekunde, mwelekeze kwa neno linalofuata kwa kumwambia “**Tafadhali endelea.**” Kwa kila neno unalomsomea mwanafunzi, tia alama ya kuonyesha hakupata jibu sahihi.

Baada ya sekunde 60 sema, “Acha kusoma.” Halafu tia alama ya mabano () katika neno la mwisho alilosoma.

Kanuni ya kusitisha kusoma mapema: Iwapo mwanafunzi hakusoma vilivyo maneno yote katika mstari wa kwanza, sema “**Asante !**”, sitisha shughuli hii, kisha utie alama katika kisanduku kilicho chini ya ukurasa huu na uendelee na sehemu inayofuata.

Sehemu ya Tano (b). Ufahamu Wa Hadithi

Baada ya kukamilika kwa sekunde 60 au Iwapo mwanafunzi atamaliza kusoma hadithi, **IONDOE hadithi kutoka mbele ya mwanafunzi**, kisha uulize swali la kwanza hapa chini.

Mpe mwanafunzi hadi sekunde 15 alijibu swali, tia alama mwafaka kulingana na jibu lake, halafu uendelee katika swali linalofuata.

Soma maswali ya kila mstari hadi katika mabano yanayoonyesha mahala mwanafunzi alikomea kusoma.

HADITHI 1: Katana		MASWALI	JIBU SAHIHI	JIBU LISILOSAAHIHI	KUTOJIBU
Katana anaishi katika kijiji cha Busia.	6	Katana anaishi wapi? [Busia, katika kijiji cha Busia]			
Busia kunaishi watu wengi. Wezi wamekuwa wakivamia wanakijiji wa Busia	16	Ni nani wamevamia wanakijiji wa Busia? [Wezi]			
na kuwasumbua sana.Kamau ambaye ni chifu wa kijiji cha Busia amewapa wezi onyo kali. Amesema wezi watashikwa.	34	Chifu amesema wezi watafanyiwa nini? [Watashikwa]			
Wakipatikana na hatia wezi watafungwa jela	40	Wezi watafanyiwa nini wakipatikana na hatia? [Wafungwa/watafungwa jela/watafungwajela kwa muda mrefu sana]			
kwa muda mrefu sana. Chifu amewaambia wanakijiji watoe habari kwa polisi.Wakifanya hivyo itakuwa ni rahisi kuwashika wezi wote kijijini.	60	Je, unafikiri wezi wanaiba nini kwa kijiji nini? [mifugo, vitu shambani / nyumbani Any relevant answer]			

Muda uliosalia katika saa ya kasi kufikia mwisho wa kusoma (idadi ya SEKUNDE):

Tia alama katika kisanduku hiki iwapo shughuli ya kusoma ilisitishwa kwa sababu mwanafunzi hakupata jawabu sahihi katika mstari wa kwanza.

Sehemu ya Sita (a): Hadithi ya Kusikiliza*Muonyeshe mwanafunzi hadithi iliyomo katika kijitabu chako. Halafu sema hivi,*

Hii hapa ni hadithi fupi. Nitaisoma kwa sauti. Nitaisoma mara moja tu. Halafu nitakuuliza maswali. Tafadhali sikiliza kwa makini kisha ujaribu kujibu maswali. Je, umeelewa jinsi unavyopaswa kufanya? Uko tayari? Naanza.

Sehemu hii haitapimwa muda.

HADITHI 2: Hamisi	MASWALI	JIBU SAHIHI	JIBU LISILOSAAHIHI	KUTOJIBU
Hamisi ni kijana wa umri wa miaka saba. Yeye yuko darasa la pili. Rafiki yake Hamisi anaitwa Majusa. Hamisi na Majusa wanapenda kuogelea mto Kata. Leo kumenyesha sana. Wazazi wao wamewaonya wasiogele. Leo Hamisi na Majusa wamebaki nyumbani. Hawaendi kuogelea	Hamisi ako na umri wa miaka ngapi ? [saba, miaka saba]			
	Rafiki yake Hamisi anaitwa nani ? [Majusa]			
	Hamisi na rafiki yake wanapenda kufanya nini ? [Kuogelea/kuogelea mtoni Kata]			
	Kwa nini wazazi wao wamewaonya wasiogele ? [Kwa sababu kumenyesha, Kwa sababu ya mvua]			
	Unafikiri Hamisi na Majusa wanafanya nini nyumbani ? [Wanacheza, wanatazama runinga/televisheni, wamepumzika, n.k]			

Sehemu ya Sita (b). Ufahamu wa Hadithi ya Kusikiliza

Baada ya kusoma hadithi, muulize mwanafunzi maswali. Mpe mwanafunzi hadi sekunde 15 alijibu swali, tia alama mwafaka kulingana na jibu lake, halafu uendelee katika swali linalofuata.

*Soma maswali ya kila mstari hadi mwisho.****IF CHILD IS BELOW 7 YEARS OLD, SKIP TO TEST 9: EARLY GRADE READING ASSESSMENT (EGRA) – MATHEMATICS, OTHERWISE CONTINUE.***

Early Grade Reading Assessment: Protocol

KLPS4-KIDS

ENGLISH

General Instructions

It is important to establish a playful and relaxed rapport with the children to be assessed, via some simple initial conversation among topics of interest to the child (see example below). The child should perceive the following assessment almost as a game to be enjoyed rather than a severe situation. It is important to read ONLY the sections in boxes aloud slowly and clearly.

Section 5a. Oral passage reading

Show the child the story in the student stimuli booklet. Say,

Here is a short story. I want you to read it aloud, quickly but carefully. When you have finished, I will ask you some questions about what you have read. Do you understand what you are to do? When I say “begin,” read the story as best as you can. I will keep quiet & listen to you. Ready? Begin.



Start the timer when the child reads the first word. Follow along with your pencil and clearly mark any incorrect words with a slash (/). Count self-corrections as correct. **Stay quiet**, unless the child hesitates for 3 seconds, in which case, point to the next word and say “**Please go on.**” Mark the word not read by the child as incorrect.

At 60 seconds, say “**Stop.**” Mark the final word read with a bracket ().

Early stop rule: If the child reads no words correctly on the first line, say “**Thank you!**”, discontinue this exercise, check the box at the bottom of the page, and go on to the next exercise.

Section 5b. Reading comprehension

When 60 seconds are up or if the child finishes reading the passage in less than 60 seconds, **REMOVE the passage from in front of the child**, and ask the first question below.

Give the child at most 15 seconds to answer the question, mark the child’s response, and move to the next question.

Read the questions for each line up to the bracket showing where the child stopped reading.

Now I am going to ask you a few questions about the story you just read. Try to answer the questions as well as you can.

Story 3: Sara’s Cat		QUESTIONS	CORRECT RESPONSE	INCORRECT RESPONSE	NO RESPONSE
Sara had a big cat.	1	Who had a cat? [Sara]			
The big cat was black. Sara and the cat liked to play.	17	What did Sara and the cat like to do? [Play]			
One day Sara came home from school. She looked for the big cat but it was not at home. Sara was sad.	39	Why was Sara sad? [The cat was not at home]			
After a while the cat came back. Sara gave the cat some milk.	52	What did Sara give the cat? [Milk]			
The big cat was happy and slept on her lap. Sara was happy too.	66	Why do you think Sara was happy[she found the cat, Any reasonable answer]			

Time remaining on stopwatch at completion (number of SECONDS) :

Check this box if the exercise was discontinued because the child had no correct answers in the first line

Test 9: Early Grade Reading Assessment (EGRA) – Mathematics




Early Grade Reading Assessment: Protocol

KLPS4-KIDS

MATHEMATICS

General Instructions

It is important to establish a playful and relaxed rapport with the children to be assessed, via some simple initial conversation among topics of interest to the child. The child should perceive the following assessment almost as a game to be enjoyed rather than a severe situation. It is important to read ONLY the sections in boxes aloud, slowly and clearly.

Task 1: Number Identification - EXERCISE				Sheet 1	60 seconds (Timed)																				
<p> Here are some numbers. I want you to point to each number and tell me what the number is. I am going to time you and will tell you when to start and when to stop.</p> <p><i>Kiswahili: Hapa pana nambari kadhaa. Nataka uonyeshe kila nambari kwa kidole na uniambie ni nambari gani. Nitakuhesabia muda na nitakueleza wakati wa kuanza na wakumaliza.</i></p> <p>- [Point to the first number] Start here. [Glide hand from left to right]. Are you ready? . . . Start.</p> <p><i>Kiswahili: [Onyesha nambari ya kwanza kwa kidole] Anza hapa. [Teleza mkono kutoka upande wa kushoto hadi wa kulia]. Uko tayari?... Anza.</i></p> <p>- What number is this?</p> <p><i>Kiswahili: Hii ni nambari gani?</i></p>					<p> (Stop)</p> <ul style="list-style-type: none">• If the time runs out (60 seconds), Tablet will turn red.																				
<p>Mark on the Tablet if incorrect or no response</p> <p>Put a bracket () on the Tablet after the last number is read</p> <table><tr><td>2</td><td>9</td><td>0</td><td>17</td><td>23</td></tr><tr><td>31</td><td>55</td><td>49</td><td>11</td><td>20</td></tr><tr><td>95</td><td>73</td><td>46</td><td>87</td><td>64</td></tr><tr><td>121</td><td>403</td><td>300</td><td>711</td><td>919</td></tr></table>				2	9	0	17	23	31	55	49	11	20	95	73	46	87	64	121	403	300	711	919		<p> (Move on)</p> <ul style="list-style-type: none">• If a child stops on a number for <u>5 SECONDS</u>, mark as wrong then prompt pupil to move on.
2	9	0	17	23																					
31	55	49	11	20																					
95	73	46	87	64																					
121	403	300	711	919																					

Task 2: Number Discrimination - PRACTICE				Sheet 2A		(Not Timed)			
<p>P1:</p> <p>👂 Look at these numbers. Tell me which number is bigger.</p> <p><i>Kiswahili: Tazama nambari hizi. Niambie ni nambari gani kubwa?</i></p> <p>8 4</p> <p>✓ 👂 That's correct, 8 is bigger. Let's do another one.</p> <p><i>Kiswahili: Sahihi! 8 ndio kubwa. Tujaribu nyingine.</i></p> <p>✗ 👂 The bigger number is 8. [Point to 8]: This is 8. [Point to 4]: This is 4. 8 is bigger than 4. Let's do another one.</p> <p><i>Kiswahili : Nambari kubwa ni 8. [elekeza kidole kwa kwa 8]. Hii ni 8. . [elekeza kidole kwa 4]. Hii ni 4. '8' ni kubwa kuliko '4'. Tujaribu nyingine.</i></p>									
<p>P2:</p> <p>👂 Look at these numbers. Tell me which number is bigger.</p> <p><i>Kiswahili: Tazama nambari hizi. Niambie ni nambari gani kubwa?</i></p> <p>12 22</p> <p>✓ 👂 That's right, 22 is bigger. Let's continue.</p> <p><i>Kiswahili: Hiyo ni sahihi, 22 ni kubwa. Ebu tuendele.</i></p> <p>✗ 👂 The bigger number is 22. [Point to 22]: This number is 22. [Point to 12]: This is 12. 22 is bigger than 12. Let's continue.</p> <p><i>Kiswahili : Nambari kubwa ni 22. [Elekeza kidole kwa 22]. Hii ni 12. [Elekeza kidole kwa 12]. 22 ni kubwa kuliko 12. Ebu tuendele.</i></p>									
Task 2: Number Discrimination - EXERCISE				Sheets 2B1 & 2B2		(Not Timed)			
<p>👂 Look at these numbers. Tell me which number is bigger.</p> <p><i>Kiswahili: Tazama nambari hizi. Nieleze ni nambari gani kubwa kuliko nyingine. Point and say [Repeat for each item]</i></p>						<p>(Stop)</p> <ul style="list-style-type: none">If the child makes 4 successive errors, the Tablet will turn red			
<p>Mark on the Tablet if incorrect or no response</p>						<p>(Move on)</p> <ul style="list-style-type: none">If the child doesn't respond after 5 SECONDS, mark as wrong then prompt pupil to move on.			
7	2	7	*1*	*0*	91	81	91	*1*	*0*
16	23	23	*1*	*0*	325	620	620	*1*	*0*
51	15	51	*1*	*0*	864	963	963	*1*	*0*
88	78	88	*1*	*0*	419	219	419	*1*	*0*
32	42	42	*1*	*0*	681	981	981	*1*	*0*

Task 3: Missing number - PRACTICE

Sheet 3A



(Not Timed)

P1:**Here are some numbers. 1, 2, dash, 4, what number goes here?***Kiswahili: Hapa pana nambari kadhaa. 1, 2, pengo, 4. Ni nambari gani itaenda hapa?*

1	2	(3)	4
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**That's correct, 3. Let's do another example.***Kiswahili: Hiyo ni sahihi, 3! Tujaribu mfano mwingine.***The number three goes here. Say the numbers with me. [Point to each number] 1, 2, 3, 4. 3 goes here. Let's do another example.***Kiswahili: Nambari 3 itawekwa hapa. Tuseme nambari hizi pamoja.**[Elekeza kidole kwa kila nambari]. 1, 2, 3, 4. Nambari 3 itawekwa hapa.**Tujaribu mfano mwingine.***P2:****Here are some numbers. 5, 10, 15, dash, what number goes here?***Kiswahili: Hapa pana nambari kadhaa: 5, 10, 15, pengo. Ni nambari gani itaenda hapa?*

5	10	15	(20)
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**That's correct, 20. Let's do some more.***Hiyo ni sahihi, 20! Tujaribu mifano zaidi.***The number 20 goes here. Say the numbers with me. [Point to each number] 5, 10, 15, 20. 20 goes here. Let's do some more.***Kiswahili: Nambari 20 itawekwa hapa. Tuseme nambari hizi pamoja**[elekeza kidole kwa kila nambari]. 5, 10, 15, 20. 20 inawekwa hapa.**Tujaribu mifano zaidi.*

Task 3: Missing number - EXERCISE		Sheets 3B1 & 3B2	⌚ (Not Timed)
<p>🔊 Here are some more numbers. [Point to the box] . . . What number goes here?</p> <p>Kiswahili: Hapa pana nambari zaidi. [Point to the box] ... Ni nambari gani itaenda hapa?</p> <p>[Repeat for each item]</p>		<p>⏸ (Stop)</p> <ul style="list-style-type: none"> • If the child gets 4 successive errors <p>➡ (Move on)</p> <ul style="list-style-type: none"> • If the child doesn't respond after 5 SECONDS, mark as wrong then prompt pupil to move on. 	
<p>Mark on the Tablet if incorrect or no response</p>			
1	<div>3 4 5 (6)</div> <div>10 623 624 (625) 626</div> <div>1 0</div>	6	<div>623 624 (625) 626</div> <div>1 0</div>
2	<div>12 13 (14) 15</div> <div>10 68 (66) 64 62</div> <div>1 0</div>	7	<div>68 (66) 64 62</div> <div>1 0</div>
3	<div>30 (40) 50 60</div> <div>10 75 80 (85) 90</div> <div>1 0</div>	8	<div>75 80 (85) 90</div> <div>1 0</div>
4	<div>(200) 300 400 500</div> <div>10 450 440 430 (420)</div> <div>1 0</div>	9	<div>450 440 430 (420)</div> <div>1 0</div>
5	<div>2 4 6 (8)</div> <div>10 9 14 (19) 24</div> <div>1 0</div>	10	<div>9 14 (19) 24</div> <div>1 0</div>

Task 4A: Addition: Level 1 - EXERCISE	Sheets 4A	60 seconds (Timed)																				
<p> Here are some addition exercises [glide hand from top to bottom]. I am going to time you and will tell you when to start and when to stop. Say the answer for each question. If you don't know an answer, move to the next question. Are you ready? . . .</p> <p><i>Kiswahili: Hapa kuna mazoezi ya kuongezea. [Pitisha mkono kutoka juu hadi chini]. Nitakuhesabia muda na nitakuambia wakati wa kuanza na wa kumaliza. Sema jibu kwa kila swali. Kama hujui jibu, endelea na swali linalofuata. Uko Tayari? . . .</i></p> <p>Start here [point to the first problem].</p> <p><i>Kiswahili: Anzia hapa [elekeza kidole kwa swali la kwanza]</i></p>	<p>(/) Incorrect or no response</p> <p>() After last problem attempted</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr><td>1 + 3 = (4)</td><td>7 + 8 = (15)</td></tr> <tr><td>2 + 3 = (5)</td><td>4 + 7 = (11)</td></tr> <tr><td>6 + 2 = (8)</td><td>7 + 5 = (12)</td></tr> <tr><td>4 + 5 = (9)</td><td>8 + 6 = (14)</td></tr> <tr><td>3 + 3 = (6)</td><td>9 + 8 = (17)</td></tr> <tr><td>8 + 1 = (9)</td><td>6 + 7 = (13)</td></tr> <tr><td>7 + 3 = (10)</td><td>8 + 8 = (16)</td></tr> <tr><td>3 + 6 = (9)</td><td>8 + 5 = (13)</td></tr> <tr><td>2 + 7 = (9)</td><td>8 + 10 = (18)</td></tr> <tr><td>9 + 1 = (10)</td><td>10 + 2 = (12)</td></tr> </tbody> </table>	1 + 3 = (4)	7 + 8 = (15)	2 + 3 = (5)	4 + 7 = (11)	6 + 2 = (8)	7 + 5 = (12)	4 + 5 = (9)	8 + 6 = (14)	3 + 3 = (6)	9 + 8 = (17)	8 + 1 = (9)	6 + 7 = (13)	7 + 3 = (10)	8 + 8 = (16)	3 + 6 = (9)	8 + 5 = (13)	2 + 7 = (9)	8 + 10 = (18)	9 + 1 = (10)	10 + 2 = (12)	<p> (Stop)</p> <ul style="list-style-type: none"> • If the time runs out (60 seconds), the Tablet will turn red. <p> (Move on)</p> <ul style="list-style-type: none"> • If a child stops on an item for 5 SECONDS, mark as wrong then prompt pupil to move on.
1 + 3 = (4)	7 + 8 = (15)																					
2 + 3 = (5)	4 + 7 = (11)																					
6 + 2 = (8)	7 + 5 = (12)																					
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3 + 3 = (6)	9 + 8 = (17)																					
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3 + 6 = (9)	8 + 5 = (13)																					
2 + 7 = (9)	8 + 10 = (18)																					
9 + 1 = (10)	10 + 2 = (12)																					
<p> Record time left (seconds):</p>		<div style="border: 1px solid black; height: 20px; width: 100%;"></div>																				
<p>To solve the problems, indicate the method the child used (tick all that apply):</p> <p><input type="checkbox"/> Solved the problems in his/her head</p> <p><input type="checkbox"/> Fingers</p> <p><input type="checkbox"/> Counters</p> <p><input type="checkbox"/> Tick marks on paper with a pencil</p> <p><input type="checkbox"/> Other (describe) _____</p>																						

Task 4B: Addition: Level 2 – EXERCISE		Sheet 4B	⌚ (Not Timed)
✍️ Paper and pencil.		⏸️ (Stop) <ul style="list-style-type: none"> • If the child did not answer any Level 1 question correctly. • If the child makes 4 consecutive errors. 	
🧠 Here are more addition exercises. You may use this paper and pencil if you want to. But you do not have to do so. <i>Kiswahili: Hapa kuna mazoezi mengine ya kuongezea. Ukipenda, waweza kutumia hii penseli na karatasi. Lakini sio lazima.</i> Start here [point to the first problem]. <i>Kiswahili: Anzia hapa [elekeza kidole kwa swali la kwanza]</i>		➡️ (Move on) <ul style="list-style-type: none"> • If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” • If a child continues to use an inefficient strategy or stops on an item for 5 SECONDS. 	
✎️ <u>Circle: 1 = Correct.</u> 0 = Incorrect or no response. <div> $12 + 7 = (19)$ <div>*1*</div> <div>*0*</div> </div> <div> $17 + 8 = (25)$ <div>*1*</div> <div>*0*</div> </div> <div> $18 + 11 = (29)$ <div>*1*</div> <div>*0*</div> </div> <div> $22 + 37 = (59)$ <div>*1*</div> <div>*0*</div> </div> <div> $38 + 26 = (64)$ <div>*1*</div> <div>*0*</div> </div>			
To solve the problems, indicate the method the child used [() tick all that apply]: <input type="checkbox"/> Solved the problems in his/her head <input type="checkbox"/> Fingers <input type="checkbox"/> Counters <input type="checkbox"/> Tick marks on paper with a pencil <input type="checkbox"/> Other (✎️ describe) _____			

Task 5A: Subtraction: Level 1 - - EXERCISE	Sheet 5A	60 seconds (Timed)																				
<p> Here are some subtraction exercises [glide hand from top to bottom]. I am going to time you and will tell you when to start and when to stop. Say the answer for each question. If you don't know an answer, move to the next question. Are you ready? . . .</p> <p><i>Kiswahili: Hapa kuna mazoezi ya kutoa [elekeza mkono kutoka juu hadi chini]. Nitakuhesabia muda na nitakuambia wakati wa kuanza na wa kumaliza. Sema jibu kwa kila swali. Kama hujui jibu, endelea na swali linalofuata. Uko Tayari? . . .</i></p> <p>Start here [point to the first question].</p> <p><i>Kiswahili: Anzia hapa [elekeza kidole kwa swali la kwanza]</i></p>	<p> (Stop)</p> <ul style="list-style-type: none"> If the time runs out (60 seconds), the Tablet will turn red. <p> (Move on)</p> <ul style="list-style-type: none"> If a child stops on an item for 5 SECONDS, mark as wrong and prompt pupil to move. 																					
<p> (/) Incorrect or no response</p> <p> () After last problem attempted</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr><td>$4 - 3 = (1)$</td><td>$15 - 8 = (7)$</td></tr> <tr><td>$5 - 3 = (2)$</td><td>$11 - 7 = (4)$</td></tr> <tr><td>$8 - 2 = (6)$</td><td>$12 - 5 = (7)$</td></tr> <tr><td>$9 - 5 = (4)$</td><td>$14 - 6 = (8)$</td></tr> <tr><td>$6 - 3 = (3)$</td><td>$17 - 8 = (9)$</td></tr> <tr><td>$9 - 1 = (8)$</td><td>$13 - 7 = (6)$</td></tr> <tr><td>$10 - 3 = (7)$</td><td>$16 - 8 = (8)$</td></tr> <tr><td>$9 - 6 = (3)$</td><td>$13 - 5 = (8)$</td></tr> <tr><td>$9 - 7 = (2)$</td><td>$18 - 10 = (8)$</td></tr> <tr><td>$10 - 1 = (9)$</td><td>$12 - 2 = (10)$</td></tr> </tbody> </table>	$4 - 3 = (1)$	$15 - 8 = (7)$	$5 - 3 = (2)$	$11 - 7 = (4)$	$8 - 2 = (6)$	$12 - 5 = (7)$	$9 - 5 = (4)$	$14 - 6 = (8)$	$6 - 3 = (3)$	$17 - 8 = (9)$	$9 - 1 = (8)$	$13 - 7 = (6)$	$10 - 3 = (7)$	$16 - 8 = (8)$	$9 - 6 = (3)$	$13 - 5 = (8)$	$9 - 7 = (2)$	$18 - 10 = (8)$	$10 - 1 = (9)$	$12 - 2 = (10)$		
$4 - 3 = (1)$	$15 - 8 = (7)$																					
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$9 - 7 = (2)$	$18 - 10 = (8)$																					
$10 - 1 = (9)$	$12 - 2 = (10)$																					
<p> Record time left (seconds):</p>																						
<p>To solve the problems, indicate the method the child used [(<input checked="" type="checkbox"/>) tick all that apply]:</p> <p>A.Solved the problems in his/her head</p> <p>B.Fingers</p> <p>C.Counters</p> <p>D. Tick marks on paper with a pencil</p> <p>E.Other (describe) _____</p>																						

Task 5B: Subtraction: Level 2 - EXERCISE		Sheet 5B	⌚ × (Not Timed)
Paper and pencil.		(Stop)	
Here are more subtraction exercises. You may use this paper and pencil if you want to. You do not have to do so. <i>Kiswahili: Hapa kuna mazoezi zaidi ya kutoa. Ukipenda, unaweza Kutumia hii penseli na karatasi. Lakini sio lazima.</i> Start here [point to first problem]. <i>Kiswahili: Anzia hapa [elekeza kidole kwa swali la kwanza]</i>		<ul style="list-style-type: none"> • If the child did not answer any Level 1 question correctly. • If the child makes 4 consecutive errors. 	
<u>Circle: 1 = Correct.</u> 0 = Incorrect or no response. $19 - 7 = (12)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $25 - 8 = (17)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $29 - 11 = (18)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $59 - 37 = (22)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0 $64 - 26 = (38)$ <input type="checkbox"/> 1 <input type="checkbox"/> 0		(Move on) <ul style="list-style-type: none"> • If a child uses an inefficient strategy (e.g., tick marks), ask the child “Do you know another way to solve the problem?” • If a child continues to use an inefficient strategy or stops on an item for <u>5 SECONDS.</u> 	
To solve the problems, indicate the method the child used [() tick all that apply]: <input type="checkbox"/> Solved the problems in his/her head <input type="checkbox"/> Fingers <input type="checkbox"/> Counters <input type="checkbox"/> Tick marks on paper with a pencil <input type="checkbox"/> Other (describe) _____			

Task 6: Word Problems - PRACTICE

(No stimuli Sheet)



(Not Timed)

Counters, paper and pencil.

I have some questions that I am going to read to you. You will work them out and tell me the answer. Here are some objects to help you. You can use them if you need them, but you don't have to use them. Listen very carefully to each question. If you want me to repeat the question, please ask me to do so. Okay, let's get started.

Kiswahili: Hapa nina maswali ambayo nitakusomea uyafanye. Utazifanya na kuniambia jibu. Hapa pana vifaa kadhaa vya kukusaidia. Ukitaka, waweza kuvitumia lakini sio lazima uvitumie. Sikiliza kila swali kwa makini. Ukitaka nirudie swali, niko tayari kufanya hivyo. Sawa! Hebu tuanze.

There are three children in the matatu.
One child gets out of the matatu.











How many children are left in the matatu? *Kiswahili: Kuna watoto watatu ndani ya matatu. Mtoto mmoja akatoka nje ya matatu. Je, ni watoto wangapi wamebaki ndani ya matatu?*


✓ That's right. There are two children left in the matatu. Let's do some more.

Kiswahili: Hiyo ni sahihi; watoto wawili wamebaki ndani ya matatu. Hebu tufanye mazoezi zaidi.

Imagine these counters are children [*point to counters*]. Count out three children. These children are in the matatu. One child gets out of the matatu. Using the counters, show me one child getting out of the matatu. How many children are left in the matatu? That's right. There are two children left in the matatu. Let's do some more.

Kiswahili: Chukulia hivi vihesabio ni watoto [elekeza kidole kwa vihesabio]. Hesabu watoto watatu. Hawa watoto wako ndani ya matatu. Mtoto mmoja anatoka nje ya matatu. Ukitumia vihesabio, nionyeshe mtoto mmoja akitoka nje ya matatu. Je, ni watoto wangapi wamebaki ndani ya matatu? Hiyo ni sahihi; watoto wawili wamebaki ndani ya matatu. Hebu tufanye mazoezi zaidi

Task 6: Word Problems - EXERCISE		 (No stimuli Sheet)	 (Not Timed)
  Counters, paper and pencil.			
 Now I have some more exercises for you. <i>Kiswahili: Sasa nina mazoezi zaidi kwako.</i>		 (Stop) • If the child gets 4 successive errors  (Move on) • If a child stops on an item for 5 SECONDS. (and does not attempt to use counters, fingers, paper, or pencil)	
Exercise 1  There are 3 children in a house. [<i>pause and check</i>] 4 more children go into the house. [<i>pause and check</i>] How many children are in the house altogether? <i>Kiswahili: Kuna watoto 3 ndani ya nyumba. [pumziko]. Watoto wengine 4 wanaingia ndani ya nyumba. [pumziko]. Je, sasa ni watoto wangapi wako ndani ya nyumba kwa jumla?</i>	Correct answer: 7 Circle one: <input type="radio"/> *1* Correct <input type="radio"/> *0* Incorrect	Comment: The “[<i>pause and checks</i>]” in each problem indicate that you should be certain that the child understands what you have said before continuing. You may want to ask, “ Do you understand? ” “ Je, unaelewa? ”	
Exercise 2  There are 7 children in the house. [<i>pause and check</i>] 3 are boys. The others are girls. [<i>pause and check</i>] How many girls are in the house? <i>Kiswahili: Kuna watoto 7 ndani ya nyumba. [pumziko]. 3 ni wavulana. Wengine ni wasichana. [pumziko]. Je, ni wasichana wangapi wako ndani ya nyumba?</i>	Correct answer: 4 Circle one : <input type="radio"/> *1* Correct <input type="radio"/> *0* Incorrect		
Exercise 3  There are 4 children in John’s house. [<i>pause and check</i>] There are 7 children in Mary’s house. [<i>pause and check</i>] How many more children must go into John’s house so that it has the same number of children as Mary’s house? <i>Kiswahili: Kuna watoto 4 kwa nyumba ya John. [pumziko]. Kuna watoto 7 kwa nyumba ya Mary. [pumziko]. Je, ni watoto wangapi wengine wanafaa kuingia kwa nyumba ya John ili idadi ya watoto iwe sawa na idadi ya watoto waliomo kwa nyumba ya Mary?</i>	Correct answer: 3 Circle one: <input type="radio"/> *1* Correct <input type="radio"/> *0* Incorrect		

<p>🧠 There are some children in a house. 4 more children go into the house. <i>[pause and check]</i> Now there are 9 children in the house. <i>[pause and check]</i> How many children were in the house at the beginning?</p> <p>Kiswahili: Kuna watoto kadhaa ndani ya nyumba. Watoto wengine 4 wanaingia kwa nyumba. <i>[pumziko]</i>. Sasa kuna watoto 9 ndani ya nyumba. <i>[pumziko]</i>. Je, ni watoto wangapi walikuwa ndani ya nyumba mwanzoni?</p>	<p>Correct answer: 5</p> <p>Circle one: _____</p> <p><input type="checkbox"/> *1* Correct <input type="checkbox"/> *0* Incorrect</p>	<p>🛑 (Stop) • If the child gets 4 successive errors ➡ (Move on) • If a child stops on an item for <u>5 SECONDS</u>. (and does not attempt to use counters, fingers, paper, or pencil)</p>
<p><u>Exercise 5</u> 🧠 There are 12 sweets. <i>[pause and check]</i> 3 children share the sweets equally. <i>[pause and check]</i> How many sweets does each child get?</p> <p>Kiswahili: Kuna peremende 12. <i>[pumziko]</i>. Watoto 3 wanagawana peremende zile kwa kiasi sawa. <i>[pumziko]</i>. Je, kila mtoto anapata peremende ngapi?</p>	<p>Correct answer: 4</p> <p>Circle one: _____</p> <p><input type="checkbox"/> *1* Correct <input type="checkbox"/> *0* Incorrect</p>	<p>Comment: The “[pause and checks]” in each problem indicate that you should be certain that the child understands what you have said before continuing. You may want to ask, “Do you understand?” “Je, unaelewa?”</p>
<p>To solve the problems, indicate the method the child used [() tick all that apply]:</p> <p><input type="checkbox"/> Solved the problems in his/her head <input type="checkbox"/> Fingers <input type="checkbox"/> Counters <input type="checkbox"/> Tick marks on paper with a pencil <input type="checkbox"/> Other ( describe) _____</p>		

Log Number: |__| |__| |__| |__| |__|

Test 10: Competition – Beadbag Toss

Instructions for Children

You will now do a task which is to throw a sandbag into a circle two meters away. You will get 5 throws. To be counted as a successful hit, the bag needs to stay inside the circle, and cannot touch the borders. Let's now practice the task.

Surveyor illustrates what counts as a successful hit and what is not a successful hit.

Record number of hits on practice test (5 throws)

|__|

Give child one star and show the child the stars, crayons, pencils and erasers.

You will now do the task again. This time, you can get stars for where you have the possibility of earning stars which can be exchanged for color crayons, pencils and erasers.

You will be given one star to start with and can get more stars on the task. One star can be exchanged for one item.

Give the child the one star the child gets to start with.

Show the illustrations when explaining the instructions

1. ALONE: you will get 1 star, regardless of the number of successful hits. For example, if you get 0 successful hits you will get 1 star. If you get 5 successful hits, you will get 1 star.
2. COMPETE: you will get 2 stars or 0 stars. You will get 2 stars if you win over another child of the same age who did the task in Busia. You will also get 2 stars if you get the same as the other child. You will get 0 stars if you lose.

If the subject asks questions about who the other child is, explain that the other child will be one of 10 children, 5 girls and 5 boys, who did the task in Busia, where the task was only offered for ALONE. The computer will select randomly one of these children to be the other child competing.

1a. How many stars do you get if you choose ALONE?

|__|

2a. How many stars do you get if you choose COMPETE and win, or get the same as the other person?

|__|

2b. How many stars do you get if you choose COMPETE and lose?

|__|

Log Number: |___| |___| |___| |___| |___|

If the subject gets any of the above questions wrong: tell them the right answer, repeat the instructions and ask the questions again. If the subject also makes a mistake after hearing the instructions for a second time, indicate below that the subject did not understand the instructions, and proceed.

Did the subject understand the instructions? (1=Yes, 2=No)

|___|

10.1 Game Play

10.1.2 Children's choice

1. Do you want to do the task for ALONE or COMPETE?

(1= ALONE pay, 2= COMPETE, 99= Does not want to play the game) |___|

If ALONE: Let's do the task for ALONE. **Allow 5 throws.**

If COMPETE: Let's do the task for COMPETE. **Allow 5 throws.**

Record number of successful hits:

|___|

You have now completed the task and you had X successful hits.

2. Relative to other children, do you think that you are better or worse at this task? **Use the scale from 1-5 to illustrate the range of answers.**

(1= Much worse, 2= Worse, 3= About the same, 4= Better, 5= Much better) |___|

3. Please tell me, in general, do you like to do activities where there is a chance that things will go well, but also a chance that things will not go well? **Use the scale from 1-5 to illustrate the range of answers.**

(1= Very much dislike, 2= Dislike, 3= Neither dislike or like, 4= Like, 5= Very much like)
|___|

If chose ALONE: You have earned 1 star.

If chose COMPETE: Your competitor got X hits.

If won: You have won, and earned 2 stars.

If lost: You have lost to your competitor and therefore did not earn any stars on this task.

Log Number: |__| |__| |__| |__| |__|

10.1.2 Parents' choice

Do NOT inform the child that this is the choice of the parent.

You will now do the task for a second time. This time you will do it for ALONE (COMPETE).

If ALONE: Let's do the task for ALONE. **Allow 5 throws.**

If COMPETE: Let's do the task for COMPETE. **Allow 5 throws.**

Record number of successful hits:

|__|

If chose ALONE: You have earned 1 star.

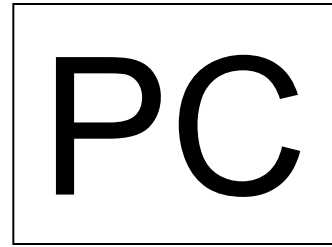
If chose COMPETE: Your competitor got X hits.

If won: You have won, and earned 2 stars.

If lost: You have lost to your competitor and therefore did not earn any stars on this task.

Child get to exchange stars for school supplies. Note, child should have stars from first task, second task, plus one star which was given to start with.

Log Number: | | | | |



KLPS-KIDS PC-MODULE

VERSION: OCTOBER 24, 2018 — ENGLISH

CHILD ID									
							--		

This survey should be administered to the PRIMARY CAREGIVER of the child identified above. Note that for a caregiver with multiple children in our sample, a separate PC Module should be filled out for each child.

SECTION 1. Pre-Interview Information and Consent

READ: We would like to consult the child's health card during the interview in order to record information on birthdate, weight, and/or vaccinations. Could you get that card, or the birth certificate, before we begin?

If PC hesitates to produce health card, read: Please be assured that any information you share with me will be held as confidential as possible. You do not have to answer any question or provide me with the health card if you do not want to.

Note: Child can play during PC.

Fill in this information before the interview from IDENTITY SECTION of TRACKING SHEET:

1. KLPS Adult ID:
2. KLPS Adult Family Name:
3. KLPS Adult (a) Name 1 / (b) Name 2: (a) / (b)
4. KLPS Adult Gender: (1=Male, 2=Female)
5. KLPS Adult Baseline School ID / Name: /

Fill in this information before the interview from PARTICIPATING CHILD INFO SHEET:

6. Child First Name:
7. Child ID: --
- 8a. Caregiver Family Name:
- 8b. Caregiver Name1 / Name2: /

- 9a. Date of interview: (DD/MM/YYYY) / /
- 9b. Time start interview: (24 hr clock) :
- 10a. Interviewer ID:
- 10b. Interviewer name: (first) / (surname)
- 11a. **Do you have access to the child's health card or birth certificate?** (1=Yes, 2=No)

11b. **If YES, record birthdate from the health card or birth certificate. If NO, ask FR:** Can you tell me the child's date of birth?

(DD/MM/YYYY) / /

If the birth date given is different than that collected in the I-module and included on the tracking sheet, probe to get the most accurate birthdate.

11c. **Are you confident that the birthdate recorded above is correct?**

(1=Very confident, 2=Somewhat confident, 3=No, not confident)

If 2 or 3, continue. Otherwise, skip to question 11e.

11d. Why are you not very confident? (1=Parent does not seem sure, 2=Parents/caregivers disagree about age, 3=Child looks to be a different age, 4=Other(specify))

11e. **From what source did you record the child's birth date?** (1=Health Card, 2= Birth certificate, 3=Parent's or caregiver's memory, 4=Tracking sheet, 5=Other(specify))

12. **Do not ask the following question. Simply record your response.** Has a separate PC Module already been filled out for this caregiver, with regard to a different child with the same KLPS Parent? (1=Yes, 2=No) ☐

If YES, continue. If NO, skip to question 13.

12a. **List the identification number for that other child's PC Module here. Make sure to record the other child's ID number carefully and correctly.**

--

Skip to Question 6 of Section 2.

13. Is this interview with the KLPS adult respondent specified on the tracking sheet?

(1=Yes, 2=No) ☐

If YES, continue. If NO, skip to CONSENT.

Hello, I am [name] from IPA, in [Busia Town / Nairobi]. IPA is an organization that was established by the research team who formerly worked with ICS on health and education projects in Kenya.

We spoke with you recently to invite you to participate in a new research study. For the present study, we are interested in children who were born between March 1, 2010 and March 1, 2016. If you have multiple children in this age range, then we have randomly selected which children we would like to participate. We would like to speak to you about [name(s) of child(ren) to be assessed today] and your interactions with him/her (them).

To participate in this study, we will ask you to do three things. First, we would like to briefly interview you. Second, we will ask this child (these children) to participate in a series of child assessment exercises. Most of these exercises will be described as "games" to the child(ren). To put the children at ease, you and/or another caregiver may sit with them during any of the activities, but you are free to stop the assessments at any time. Finally, we will ask you to be around while we take height measurements of the child (these children). To thank you for your participation, we will offer you a small gift following the interview.

Skip to question 14.

CONSENT

Hello, I am [name] from IPA, in [Busia Town / Nairobi]. IPA is an organization that was established by the research team who formerly worked with ICS on health and education projects in Kenya. I work with a research team from the University of California, Berkeley, in the United States. We would like to invite you to participate in a new research study.

We are studying the effectiveness of health and training programs administered by ICS and IPA over many years. We are contacting many individuals who were participants in or applicants to these programs. We hope to better understand the long-term effects of these programs on health and employment, and in particular, we are interested in how these effects may impact the biological children of individuals who participated in those programs. For the present study, we are interested in children who were born between March 1, 2010 and March 1, 2016. If you have multiple children in this age range, then we have randomly selected which children we would like to participate.

We are speaking with you because you are the guardian or caregiver a child of one of the individuals who participated in or applied to these ICS and IPA programs. That parent, [name of KLPS Adult], has told us that you are the primary caregiver for one or more of

their own children who was born between March 1, 2010 and March 1, 2016. That parent has already given us permission to perform some assessments on their child(ren). We would also like to speak to you about this child (these children), and your interactions with him/her (them).

To participate in this study, we will ask you to do three things. First, we would like to briefly interview you. We will ask questions about this child (these children) under your care, the child's (children's) home environment, and your personal well-being. Second, we will ask you to be nearby while this child (these children) to participate in a series of child assessment exercises. Most of these exercises will be described as "games" to the child(ren). If you are not present, we may ask another caregiver to be present if it will make the children feel more at ease. Finally, we will ask you to be around while we take height measurements of the child (these children).

The length of the interview will depend on the number of children that participate in these assessments, but in general we expect it to range between one and two and half hours. We may additionally come back some time in the future to ask you more questions about these children or other children of **[KLPS Adult's name]**, but you may choose to discontinue participation at any time.

There is no benefit to you or the child(ren) personally for taking part in this interview. However, your responses will help us to determine the impact of deworming treatment programs on the outcomes of beneficiaries' children, and the cost-effectiveness of such programs. There will be no cost to you for participating in this study, and you will not be paid for taking part in this study.

Some of the research questions may make you uncomfortable or upset. You are free to decline to answer any questions you don't wish to, or to stop the interview at any time. The children may get stressed or tired during the assessments, and some children find the height measurements to be uncomfortable. To put the children at ease, you and/or another caregiver may sit with them during any of the activities, but you are free to stop the assessments at any time.

We will keep your and the children's study data as confidential as possible. If we publish or present results of this study, we will not use individual names or other personally identifiable information. To help protect confidentiality, any information that identifies you will be separated from your other answers. Your identifying information will be replaced with a code, so that only our researchers will be able to track your answers back to you. We plan to keep this identifying information for the foreseeable future, in case we want to conduct future studies, but we will follow the same steps we just described to keep it as confidential as possible.

Participation in research is completely voluntary. You have the right to decline to participate or to withdraw at any point in this study without penalty. To thank you for your participation, we will offer you and the participating children a gift following the interview.

If you have any questions or concerns you may ask me now, or you can contact Esther Isokat at the IPA office in Busia Town at 0707096220 / 0721990839. She is the Project Manager for this study, and can put you in touch with Edward Miguel at the University of California, who is in charge of the research project. I will also give you a business card at the end of this interview with Esther's contact information.

14. Will you participate in the interview? (1=Yes-Caregiver agrees to participate; 2=No- Caregiver refuses to participate; 3=No- Caregiver does not refuse but is unable to participate) ☐

If YES, skip to question 16. If NO, continue.

15. **Describe your impressions of the refusal / inability to participate. Do not ask.** ☐

- 1 = Wants to reschedule (**skip to “Rescheduling instructions” below**) – **Choose this option if the caregiver wants to speak to the child’s parent before proceeding, and you are unable to get that parent on the phone at that time.**
- 2 = Refusal for this round only (**skip to question 15a**)
- 3 = Refusal for this round and any future rounds (**skip to question 15b**)
- 4 = Unable to survey – someone else refuses on caregiver’s behalf (**skip to “Closing Interview Statement A”**)
- 6 = Unable to survey – in prison (**skip to “Closing Interview Statement A”**)
- 7 = Unable to survey – mental illness / disability (**skip to “Closing Interview Statement A”**)
- 10 = Unable to survey – other (**skip to question 15c**)

Rescheduling instructions: Please ask the caregiver when they are next available, and then call your team lead (or other senior team member) to confirm this day and time. If you are unable to confirm this day and time, make a tentative appointment with the caregiver. Then, let the caregiver know that you will contact them to confirm when you will return. Record this information and the current time on the tracking sheet now. End the interview.

☐/☐/☐ Other: _____
Skip to “Closing Interview Statement C”.

15a. **Record your impressions of why the caregiver refuses to participate during this survey round. If you feel comfortable doing so, you may ask them why:** Why don’t you want to participate? **Choose up to 3 reasons.**

- | | |
|--|--|
| 1 = Survey is too long | 6 = Caregiver hasn’t received assistance from IPA |
| 2 = Caregiver has caregiving duties | 7 = Caregiver just doesn’t want to / no reason given |
| 3 = Caregiver has to work | 10 = Other (specify) |
| 4 = Caregiver does not want to disclose personal information | |
| 5 = Caregiver is suspicious of IPA | |

15b. **Record your impressions of why the caregiver refuses to participate during this round and any future rounds. If you feel comfortable doing so, you may ask the caregiver why:** Why don’t you want to participate?

Choose up to 3 reasons.

- | | |
|--|--|
| 1 = Survey is too long | 6 = Caregiver hasn’t received assistance from IPA |
| 2 = Caregiver has caregiving duties | 7 = Caregiver just doesn’t want to / no reason given |
| 3 = Caregiver has to work | 10 = Other (specify) |
| 4 = Caregiver does not want to disclose personal information | |
| 5 = Caregiver is suspicious of IPA | |

Skip to “Closing Interview Statement B.”

15c. **Record your impressions of why we are unable to survey the caregiver during this round.** _____
(skip to "Closing Interview Statement B")

Closing Interview Statement A: Read: Thank you very much for your time. **End interview here.**
Note on the tracking sheet that we should try to find an alternate caregiver to interview, if possible.

Closing Interview Statement B. Read: Thank you very much for your time. If you change your mind and would like to participate in the interview, please contact us at the IPA office. **End interview here. Note on the tracking sheet that we should try to find an alternate caregiver to interview, if possible.**

Closing Interview Statement C: Read: Thank you very much for your time. **End interview here.**

16. **Do not read the following question aloud.** Is there another IPA FO present at this interview, who will be conducting the child assessments? (1=Yes, 2=No) ☐
If YES, continue. If NO, skip to Section 2.

While I continue to talk to you, my colleague **[FO name]** would like to begin interviewing the child. The interview will consist of a series of games for the child. Most children find these games fun to play. Some games will be a bit hard for the child, and some will be easy for the child. If you feel more comfortable, you are welcome to sit here with the child while we play these games. However, we kindly ask that you do not tell the child what to do, laugh or comment on the child's behavior. We want to learn how the child can play these games on their own, without any help or comment from you. Do you understand? **Answer any questions the caregiver may have about the games.**

17. For now we will continue our conversation here while my colleague introduces these games to the child just over there. Is that okay? (1=Yes, 2=No) ☐
If the caregiver allows this, second FO may begin the child assessments with the child nearby. If the caregiver seems reluctant, probe gently to explain that this speeds up the interview process. If they would prefer to be sitting with the child during the assessments, complete the PC Module first, and then move on to the assessments.

SECTION 2. Caregiver Information

Read: Before I collect some information from you about the child(ren), I would like to ask you just a few questions about yourself.

0a. What is your relationship with the child? **Use G4 codes.**

0b. Next I would like to learn whether the child lives in your household. By your household, I mean the place where you usually sleep, not necessarily your ancestral lands or family home. Please consider the child to be part of your household if you “eat from the same pot” as the child and if the child spends 4 nights or more in an average week sleeping in your home.

Does the child “eat from the same pot” and spend 4 nights or more in an average week sleeping in your home?

(1=Yes, 2=No, 99=DK)

If this interview is with the KLPS adult respondent listed on the tracking sheet, OR if the answer to Section 1, Q12 is YES, SKIP TO QUESTION 6. Otherwise, continue.

0c. What is your relationship with the parent of the child, **[name of KLPS Adult]**?

Use G4 codes.

0d. Next I would like to learn whether the parent of the child, **[name of KLPS Adult]** lives in your household. By your household, I mean the place where you usually sleep, not necessarily your ancestral lands or family home. Please consider the parent to be part of your household if you “eat from the same pot” as the parent and if the parent spends 4 nights or more in an average week sleeping in your home.

Does the parent of the child, **[name of KLPS Adult]** “eat from the same pot” and spend 4 nights or more in an average week sleeping in your home?

(1=Yes, 2=No, 99=DK)

1. ***Do not ask the following question.*** What is the caregiver's gender?

(1=Male, 2=Female)

2. What is your current age, in years? ***Probe if the caregiver says they don't know. Try to get them to estimate year of birth, and calculate age from that.*** (99=DK)

3. What is the highest level of education you received? **Use G6 codes.**

4. What is your current occupation? **Use G9 codes.**

5. What is your tribe (or mother tongue)? **Use G10 codes. Females should NOT give the tribe of their husband. If caregiver is LUHYA, press for subtribe.** _____

Answer question 6 even if FR is KLPS FR.

6. What language do you speak most often with the child?

Use G13 codes. _____

6a. Are there other languages you speak often with the child? (1=Yes, 2=No, 99=DK)

If YES, continue. If NO or DK, skip to question 7.

6b. Which other languages? **List up to three. Use G13 codes.**

Other, Specify _____

If this interview is with the KLPS parent respondent listed on the tracking sheet, OR if the answer to Section 1, Q12 is YES, SKIP TO SECTION 3. Otherwise, continue.

7. CESD

Read: I will read out a list of some of the ways you may feel or behave. Please indicate how often you have felt this way during the past week, using the following scale.

- 1= Rarely or none of the time
- 2= Some or a little of the time
- 3= Occasionally or a moderate amount of time
- 4= All of the time

Show the respondent scale D. Demonstrate that they should select their response using the scale. Note: For the rest of the questions in this section, read the questions exactly as written. You may repeat any questions as many times as you'd like, but do not rephrase any question or add additional comments or explanations. If the FR has trouble understanding the statement, please re-read but do not try to explain the questions in a different manner.

- | | |
|---|------|
| 7a. In the past week, I was bothered by things that usually don't bother me | ____ |
| 7b. In the past week, I had a problem in concentration on what I was doing | ____ |
| 7c. In the past week, I felt depressed and troubled in my mind | ____ |
| 7d. In the past week, I felt that everything that I did took up all my energy | ____ |
| 7e. In the past week, I felt hopeful about the future | ____ |
| 7f. In the past week, I felt afraid | ____ |
| 7g. In the past week, I had difficulty in sleeping peacefully | ____ |
| 7h. In the past week, I was happy | ____ |
| 7i. In the past week, I felt lonely | ____ |
| 7j. In the past week, I lacked the motivation to do anything | ____ |

SECTION 3. Child Health and Development

Read: Thank you. Now I would like to ask you some questions about the health of [child]. You may not know the answers to some of these questions, and that is fine. Please try to answer to the best of your knowledge.

1. ***Is the caregiver being interviewed here the child's biological parent? If you are unsure, you may ask.*** Are you the biological parent of the child? (1=Yes, 2=No)
2. ***If you can see the health card, record the following information without asking. Otherwise, ask:*** What was the weight of [child] at birth? (9.9 = Weight not measured at birth, 99.0 = Weight measured but caregiver doesn't know it, or caregiver doesn't know if weight was taken at birth)

. kg

- 2a. ***Was information on birth weight recorded from the health card?*** (1=Yes, 2=No)

Note: *If you can see the health card, record responses to questions 3-3f using the health card. If no health card is available or if a vaccine is not indicated, ask the respondent.*

3. Has [child] ever received any vaccinations to prevent him/her from getting diseases? (1=Yes, 2=No, 99=DK)

If YES, continue. Otherwise, skip to question 4.

- 3a. Has [child] received a BCG vaccination against tuberculosis, that is an injection in the left arm that usually causes a scar? (1=Yes, on health card, 2=No, 3=Don't know what the vaccine is, 4=Yes, not on health card but PC confirms, 99=Don't know whether child has received vaccine)
- 3b. Has [child] received a Polio vaccine, that is drops in the mouth? (1=Yes, on health card, 2=No, 3=Don't know what the vaccine is, 4=Yes, not on health card but PC confirms, 99=Don't know whether child has received vaccine)
- 3c. Has [child] received a DPT vaccination, that is an injection in the thigh, sometimes at the same time as the polio drops? (1=Yes, on health card, 2=No, 3=Don't know what the vaccine is, 4=Yes, not on health card but PC confirms, 99=Don't know whether child has received vaccine)
- 3d. Has [child] received a measles (or MMR or MR) vaccination, that is an injection in the arm at the age of 9 months or older, to prevent him/her from getting the measles? (1=Yes, on health card, 2=No, 3=Don't know what the vaccine is, 4=Yes, not on health card but PC confirms, 99=Don't know whether child has received vaccine)
- 3e. Has [child] received a yellow fever vaccination, that is an injection in the arm at the age of 9 months or older, to prevent yellow fever? (1=Yes, on health card, 2=No, 3=Don't know what the vaccine is, 4=Yes, not on health card but PC confirms, 99=Don't know whether child has received vaccine)
- 3f. Has [child] received any other vaccination?
(1= Yes (specify), 2= No, 99=DK)

4. Last night, did [child] sleep under a bed net? (1= Yes, 2= No, 99=DK)

5. Have any drugs for worm infections or schistosomiasis been given to [child] in the last 12 months? (1= Yes, 2= No, 99=DK)

6. During the past seven days, has **[child]** experienced any of the following: (1=Yes, 2=No, 99=DK)
- a. Fever / malaria?
 - b. Vomiting?
 - c. Cough?
 - d. Diarrhea?
 - e. Any other infection? **If Yes, Specify:** _____

7. Overall, would you say **[child]**'s health is very good, good, fair, poor, or very poor?
(5=Very good; 4=good; 3=fair; 2=poor; 1=very poor; 99=DK)

8. Has **[child]** experienced any major health problems since or at birth? By this I mean serious illnesses or injuries, whether they required hospitalization or not, such as cerebral malaria, pneumonia, tuberculosis, asthma, malnutrition, anemia or a broken arm or leg, or any other diagnosis of chronic or acute problems? (1=Yes, 2=No, 99=DK)

8a. **If yes:** Describe.

9. How old (in months) was **[child]** when he/she began walking?
 months (99=DK)

If DK, continue. Else skip to question 10.

- 9a. Was the child older or younger than 2 years old when he / she began walking?
(1=Older, 2=Younger, 99=DK)

10. Compared with other children, does **[child]** have difficulty seeing, either in the daytime or at night? (1=Yes, 2=No, 99=DK)

11. Does **[child]** appear to have difficulty hearing? (1=Yes, 2=No, 99=DK)

12. When you tell **[child]** to do something, does he/she seem to understand what you are saying? (1=Yes, 2=No, 99=DK)

13. Does **[child]** have difficulty in walking or moving his/her arms or does he/she have weakness and/or stiffness in the arms or legs? (1=Yes, 2=No, 99=DK)

14. Does **[child]** sometimes have seizures, become rigid, or lose consciousness? (1=Yes, 2=No, 99=DK)

15. Does **[child]** learn to do things like other children his/her age? (1=Yes, 2=No, 99=DK)

16. Does **[child]** speak at all (can he/she make himself/herself understood in words; can he/she say any recognizable words)? (1=Yes, 2=No, 99=DK)

17. Is **[child]**'s speech in any way different from normal? (1=Yes, 2=No, 99=DK)

18. Compared with other children of his/her age, does **[child]** appear in any way cognitively delayed, or delayed in language? **Note: If parent's do not understand, probe if child was speaking or saying words by age 2. If not speaking, please select YES.**

(1=Yes, 2=No, 99=DK)

SECTION 4. Sleep Patterns: Children

Read: Now I would like to ask you some questions about [child]'s sleep.

1. What time did [CHILD'S NAME] go to bed last night? : (99 = DK)
(hour) (min)

1a. Was that earlier than, later than, or the same as [CHILD'S NAME]'s typical bedtime?
(1=Earlier; 2=Later; 3=Same; 99=DK)

If SAME, skip to question 2. Otherwise continue.

1b. Over the last month what was [CHILD'S NAME]'s usual bedtime?
 : (99=DK)
(hour) (min)

2. How long did it take [CHILD'S NAME] to fall asleep last night? : (99 = DK)
(hour) (min)

3. After falling asleep, how many times did [CHILD'S NAME] wake up during the night, not counting his or her final awakening? (99=DK)

If 1 or more times, continue to 3a. Otherwise, skip to 4.

3a. If [CHILD'S NAME] woke up during the night, how long was he or she awake during the night in total? **Minutes:** (99=DK)

4. What time did [CHILD'S NAME] wake up this morning? : (99 = DK)
(hour) (min)

4a. Was that earlier than, later than, or the same as [CHILD'S NAME]'s typical wake up time? (1=Earlier; 2=Later; 3=Same; 99=DK)

If SAME, skip to question 5. Otherwise continue.

4b. Over the last month what was [CHILD'S NAME]'s usual wake up time?
 : (99=DK)
(hour) (min)

5. How alert or energetic is [CHILD'S NAME] today compared to how they normally are? (1=More Alert; 2 = Same Level of Alertness; 3=Less Alert) (99=DK)

6. Did [CHILD'S NAME] nap yesterday? (1 = Yes; 2 = No; 99 = DK)

If YES, continue to 6a. If NO, skip to 7.

6a. How many daytime naps did [CHILD'S NAME] take yesterday? (99=DK)

6b. In total, how long did [CHILD'S NAME] nap yesterday? : (99=DK)
(hour) (min)

6c. Tell me start-time and end times of any daytime naps you had yesterday

Use 24 hour clock:

START : END :

START : END :

START : END :

START : END :

Read: Now think about the night before last.

7. What time did [CHILD'S NAME] go to bed the night before last? : (99 = DK)
(hour) (min)

8. What time did [CHILD'S NAME] wake up yesterday morning? : (99 = DK)

SECTION 5. Home Environment Information

Read: Thank you. Now I would like to ask you some questions about the daily life of **[child]**.

1. Now I'd like to ask about things that are in the home where the child lives.

1a. Is there a music player or radio that **[child]** can listen to at home?
(1=Yes, 2=No, 99=DK)

1b. Is there something **[child]** uses to make music at home such as a drum, horn, kayamba, or guitar? (1=Yes, 2=No, 99=DK)

1c. About how many books are there in **[child]**'s home (including the Bible or other religious book, dictionary, textbooks, children's books and picture books)? (99=DK)

1di. About how many storybooks or picture books are in **[child]**'s home? (99=DK)

1diii. What language(s) are these storybooks in? **Please select all that apply** (1=English, 2=Kiswahili, 3=Luo, 4=Luhya, 5=Other (specify), 9=DK)

Specify: _____ -

1dii. About how many children's textbooks are in **[child]**'s home? (99=DK)

1div. What language(s) are these textbooks in? **Please select all that apply** (1=English, 2=Kiswahili, 3=Luo, 4=Luhya, 5=Other (specify), 9=DK)

Specify: _____ -

Number of children's books and number of textbooks should not exceed total number of books (question 1c).

1e. Is there any other reading material in **[child]**'s home, such as newspapers, magazines, pamphlets, or brochures?
(1=Yes, 2=No, 99=DK)

1f. Are there any pictures, posters, calendars, or other type of art work on the walls at **[child]**'s home?
(1=Yes, 2=No, 99=DK)

1g. Does **[child]** have paper and pencil, pen or art supplies (such as crayons or paints) to write or draw with at home?
(1=Yes, 2=No, 99=DK)

1h. Does **[child]** make his/her own toys to play with, such as a football or dolls?
(1=Yes, 2=No, 99=DK)

1i. Does **[child]** play any games of strategy such as ludo game, draught (checkers), chess, or strategy video/phone games?
(1=Yes, 2=No, 99=DK)

1j. In the last year, how often has a family member taken **[child]** to travel to another region or city?

If Busia-based FR Read: By another region, we mean a trip of 30km or more. 30km is about the distance from Busia Town to Sega or Malaba.

If Nairobi-based FR Read: By another region, we mean a trip of 30km or more. 30km is about the distance from Nairobi Town to Kitengela or Ruiru

Enter number of times in the last year.

(99=DK) times

2. I am interested in learning about the things that **[child]** plays with when he/she is at home. Does he/she play with:

- 2a. Homemade toys (such as dolls, cars, or other toys made at home)? (1=Yes, 2=No, 99=DK)
- 2b. Toys from a shop or manufactured toys? (1=Yes, 2=No, 99=DK)

Note: In the following questions, please round to the nearest hour.

3.

- a. How many hours did **[child]** spend at school, pre-school or daycare during the last day **[child]** attended school? (99=DK)
- b. How long does it take **[child]** to get to and from school? (99=DK)

From 6am yesterday morning to 6am this morning...

- c. How many hours did **[child]** spend doing structured activity outside of school or daycare, for example, a dancing/music/drama club, an environmental club, a scouts club, not including religious activities or sports? (99=DK)
- d. How many hours did **[child]** spend doing prayers, bible study, religious study or other religious activities? (99=DK)
- e. How many hours did **[child]** spend playing formal sports with a team? (99=DK)
- f. How many hours did **[child]** spend playing with friends (such as rukaruka, playing football with friends, or other games), not including formal sports? (99=DK)
- g. How many hours did **[child]** spend doing chores, such as fetching water, washing, cooking, caring for other siblings, etc (not including agricultural activities or taking care of chicken, livestock or other animals)? (99=DK)
- h. How many hours did **[child]** spend on the family business, family farm, or agricultural activities including taking care of chicken, livestock, or other animals? (99=DK)
- i. How many hours did **[child]** spend reading, doing homework, or studying for school? (99=DK)
- j. How many hours did **[child]** spend watching television, listening to the radio, playing video games, or playing with a phone, tablet, or computer? (99=DK)
- k. Is there another activity, beside sleep, that the child did for more than 2 hours? **If yes**, what is the activity, and how many hours did **[child]** do this activity?

(99 = Don't know)

Other, specify: _____

4. In the past 7 days, did you or any other person over the age of 15 in the child's household:

(1=Yes, 2=No, 99=DK).

If yes, ask who performed this activity with child. (1=mother; 2=father, 3=mother and father, 4=PC module respondent (if not a parent), 5=siblings, 6=other adult relative, 7=other adult non-relative)

4a. Read books to or look at books with **[child]**? relation: /

4b. Tell stories to **[child]**? relation: /

4c. Sing songs or play musical instrument with **[child]**? ☐ relation: ☐/☐

4d. Play with **[child]**? ☐ relation: ☐/☐

4e. Construct objects or art from paper, wire, mud, sticks, etc with **[child]**?
☐ relation: ☐/☐

4f. Name, count, or draw things for or with **[child]** for instance, letters, numbers, shapes, colors, plants, animals, etc? ☐ relation: ☐/☐

4g. Help **[child]** with homework? (88=Not in school) ☐ relation: ☐/☐

4h. Talk about what **[child]** is learning in school? (88=Not in school)
☐ relation: ☐/☐

4i. Teach vocabulary words in Swahili or English? ☐ relation: ☐/☐

4j. Teach vocabulary words in local language? ☐ relation: ☐/☐

4k. Play sports or games or other physical activity, such as football, rukaruka, swimming, etc?
☐ relation: ☐/☐

4l. Take **[child]** on a fun outing, such as a football match, other sports event, religious services or event, hotel, restaurant, or to a local event? ☐ relation: ☐/☐

5. Read: Adults use certain ways to teach children the right behavior or to address a behavior problem. I will read various methods that are used and I want you to tell me if you or anyone else in the child's household has used this method with **[child]** in the past month.

5a. Took away privileges, forbade something **[child]** liked or did not allow him/her to leave the house/compound. (1=Yes, 2=No, 99=DK) ☐

5b. Explained why **[child]**'s behavior was wrong. (1=Yes, 2=No, 99=DK) ☐

5c. Shouted, yelled at or screamed at him/her. (1=Yes, 2=No, 99=DK) ☐

5d. Gave him/her something else to do. (1=Yes, 2=No, 99=DK) ☐

5e. Called him/her dumb, lazy, or another name like that. (1=Yes, 2=No, 99=DK) ☐

5f. Physically punish, for example caning, slapping etc. (1=Yes, 2=No, 99=DK) ☐
(1=Yes, 2=No, 99=DK) ☐

6. Is **[child]** currently enrolled in school, including ECD, pre-school, primary school, or another school? (1=Yes, 2=No, 99=DK) ☐

If YES, continue to 7a. If NO or DK, skip to question 8.

7a. In which class / grade is **[child]** currently enrolled? (99=DK) ☐

7b. Is the school that **[child]** is enrolled in public or private? (1=Public, 2=Private, 99=DK) ☐

7c. Is the school that **[child]** is enrolled in a boarding school or day school?
(1=Day school, 2=Boarding, 99=DK) ☐

7d. Did **[child]** attend school last week? *If it is currently a holiday from school, ask about the last week before the holiday started.* (1=Yes, 2=No, 99=DK)

|____|

7di. How many days did **[child]** attend last week?

(1=Yes, 2=No, 99=DK)

|____|

7ei. How much was your household asked to pay for school fees for **[child]** in the last month? *If paid on a term or annual basis, calculate monthly amount asked to pay.* (KSH)

|____|

7eii. How much did your household actually pay in school fees for **[child]** in the last month? (KSH) |____|

Skip to Question 9.

8. Why is **[child]** not enrolled in any type of ECD or schooling program?

1=Child is too young

2=Child would not do well / is not smart

3=There is not enough money to pay for it / those programs are too expensive

4=Distance/too far away

5=Program is not available

6=Child refuses/doesn't want to

7= Child helps with work around the house/ takes care of other children

8=Dropped out

9=Other (specify)

9. Is **[child]** currently enrolled in a daycare?

(1=Yes, 2=No, 99=DK)

|____|

If NO, skip to Section 6. If YES, continue.

9a. How much did your household pay for this daycare for **[child]** in the last month? (KSH)

|____| (99=DK)

SECTION 6. Strengths and Difficulties Questionnaire

0. **Do not ask the following question.** Indicate the age of child in years, from **Section 1**.
 _____ years

Read: Now I would like to read some different descriptions of child behavior. Please consider [child]'s behavior over the last six months, and let me know whether each description that I read is not true, somewhat true, or certainly true for this child. Please answer as best as you can, even if you are not absolutely certain.

For the following table, use the response codes. If PC says "True", repeat choices 0-2.

0= Not True

1= Somewhat True

2= Certainly True

8= Not applicable

9= Don't know

1. Considerate of other people's feelings	_____
2. Restless, overactive, cannot stay still for long	_____
3. Often complains of headaches, stomach-aches or sickness	_____
4. Shares readily with other children, for example toys, treats, pencils	_____
5. Often loses temper	_____
6. Rather solitary, prefers to play alone	_____
7. Generally well behaved, usually does what adults request	_____
8. Many worries or often seems worried	_____
9. Helpful if someone is hurt, upset or feeling ill	_____
10. Constantly fidgeting or squirming	_____
11. Has at least one good friend	_____
12. Often fights with other children or bullies them	_____
13. Often unhappy, depressed or tearful	_____
14. Generally liked by other children	_____
15. Easily distracted, concentration wanders	_____
16. Nervous or clingy in new situations, easily loses confidence	_____
17. Kind to younger children	_____
If child is age 3 or younger, read: Often argumentative with adults	
18. If child is age 4 or older, read: Often lies or cheats	_____
19. Picked on or bullied by other children	_____
20. Often offers to help others (parents, teachers, other children)	_____
If child is age 3 or younger, read: Can stop and think things out before acting	
21. If child is age 4 or older, read: Thinks things out before acting	_____
If child is age 3 or younger, read: Can be spiteful to others	
22. If child is age 4 or older, read: Steals from home, school or elsewhere	_____
23. Gets along better with adults than with other children	_____
24. Many fears, easily scared	_____
25. Good attention span, sees work through to the end	_____

26. Do you have any other comments or concerns regarding [child]'s behavior? (1=Yes, 2=No) ☐

26a. **If yes:** What are they? _____

SECTION 7. Conclusion of Module

Read: These are all of the questions I have for you regarding [name of child] and yourself.

Do not read the questions in the remainder of this section aloud.

1. Did the caregiver terminate the survey module early? (1=Yes, 2=No) ☐

If YES, continue. If NO, skip to question 2.

1a. Why did the respondent terminate the survey early? ☐ _____

1 = Temporary stop only – Wishes to continue survey at a later time. See “Temporary Stop Instructions” below.

2 = Tired

3 = Too busy, does not have time

4 = Offended at question

5 = Suspicious of FO / survey intent / IPA

6 = Does not feel like continuing survey

7 = Other (specify)

1b. **If “4”:** Can you guess at which question or set of questions offended the caregiver?

Temporary Stop Instructions: You have indicated that the caregiver wishes to continue the survey in the future. Please ask the caregiver when they are next available, and then call your team lead (or other senior team member) to confirm this day and time. If you are unable to confirm this day and time, make a tentative appointment with the caregiver. Then, let the caregiver know that you will contact them to confirm when you will return. Record this information and the current time on the tracking sheet now.

2. Time end survey module: (24 hr clock) ☐☐ : ☐☐

3. How was the respondent's skill in speaking and understanding Kiswahili? ☐

(1 = Displayed no problems speaking or understanding Kiswahili

2 = Displayed a little difficulty speaking or understanding Kiswahili

3 = Displayed moderate difficulty speaking or understanding Kiswahili

4 = Displayed serious problems speaking or understanding Kiswahili)

4. Were any people present during all or part of this interview (other than the respondent, IPA staff, and the other children to be assessed)? (1 = Yes, 2 = No) ☐

4a. **If YES:** What is their relationship to the caregiver?

Use G4 codes, list up to 4.

☐☐☐☐ Other: _____

5. Are you very confident, somewhat confident or not very confident in the overall quality and truthfulness of this respondent's responses?

(1=Very confident, 2=Somewhat confident, 3=Not confident)

☐

5a. **If SOMEWHAT or NOT CONFIDENT:** Why? _____

-
6. Were the child assessments started by another FO while the I-module or this PC module were in progress? (1=Yes, 2=No)

If yes, stop here. Say: Thank you for your time. ***Otherwise, continue.***

Read: I would now like to begin interviewing the child. The interview will consist of a series of games for the child. Most children find these games fun to play. Some games will be a bit hard for the child, and some will be easy for the child. If you feel more comfortable, you are welcome to sit here with the child while we play these games. However, we kindly ask that you do not tell the child what to do, laugh or comment on the child's behavior. We want to learn how the child can play these games on their own, without any help or comment from you. Do you understand? ***Answer any questions the caregiver may have about the games. Once the caregiver is comfortable, proceed to child assessments.***