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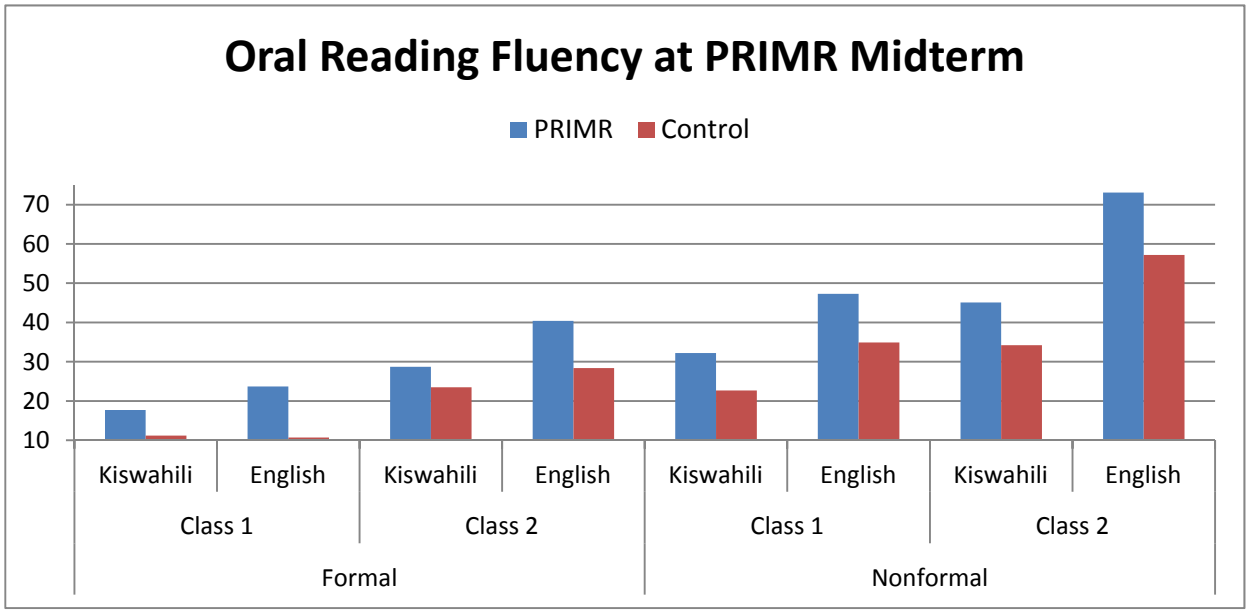
The Primary Math and Reading (PRIMR) Initiative

Midterm Impact Evaluation



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The Primary Math and Reading (PRIMR) Initiative

Midterm Impact Evaluation

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Abbreviations

clpm	correct letters per minute
CSO	civil society organization
cwpm	correct words per minute
DFID	UK Department for International Development
DQASO	District Quality Assurance and Standards Officer
EdData II	USAID Education Data for Decision Making II project
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
FPE	Free Primary Education
HALI	Health and Literacy Intervention
ICT	information and communication technology
IRB	Institutional Review Board
KCPE	Kenya Certificate of Primary Education
KEMI	Kenya Education Management Institute
KESSP	Kenya Education Sector Support Programme
KICD	Kenya Institute of Curriculum Development
KISE	Kenya Institute of Special Education
KNBS	Kenya National Bureau of Statistics
KNEC	Kenya National Examinations Council
LTTP2	Liberia Teacher Training Program, phase 2
MDG	Millennium Development Goal
MGCA	Ministry of Gender and Children's Affairs
MOE	Ministry of Education
NASMLA	National Assessment Systems for Monitoring Learner Achievement
NCST	National Council of Science and Technology
NGO	nongovernmental organization
OTL	opportunity to learn
PDIT	Program Development and Implementation Team
PRIMR	Primary Math and Reading Initiative
RTI	RTI International (trade name of Research Triangle Institute)
SD	standard deviation
SSME	Snapshot of School Management Effectiveness
TAC	Teacher Advisory Centre
TSC	Teachers' Service Commission
US	United States
USAID	United States Agency for International Development

Executive Summary

This midterm evaluation report focuses on the impact of the Primary Math and Reading (PRIMR) Initiative on pupil outcomes in Classes (grades) 1 and 2. PRIMR, a task order under the USAID Education Data for Decision Making (EdData II) project, is a randomized controlled trial that operates as a collaboration between the Kenyan Ministry of Education (MOE) and USAID/Kenya, with technical inputs from RTI International. PRIMR is supporting 502 schools in three cohorts from 2011 to 2014; this report compares the impact of PRIMR in 126 Cohort 1 schools (60 nonformal [private slum] schools, and 66 public schools) against the Cohort 3 (control) schools. Teachers and head teachers in Cohort 1 of PRIMR were given training on reading (Kiswahili and English) in January 2012, combined with full sets of lesson plans and school materials. Final sets of reading books were provided to schools in March 2012. After a slight delay in the development of materials, the same educators were trained on math books and lesson plans in July 2012.

This summary analyzes the causal effects of PRIMR between the baseline evaluation in January 2012 and the midterm evaluation in October 2012. At both time points, student performance was gauged using a combined Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA), which allow rapid oral assessment of foundational skills in these two subject areas. The school and classroom learning environments were evaluated using the Snapshot of School Management Effectiveness (SSME), consisting of checklists, observation tools, and brief interviews. All tools were adapted specifically for Kenya and the PRIMR Initiative. (Appendix A contains all of the midterm instruments and protocols.)

PRIMR is designed to be a cost-effective and simple intervention focused primarily on ensuring take-up by teachers of a new instructional approach. The key elements of the PRIMR intervention are the following:

- **Low-cost books provided for every pupil.** Unlike the existing instructional model in Kenya, where relatively generous textbook funds only achieve a 1:1 book-pupil ratio, PRIMR spends significantly less money on books to achieve a 1:1 book-pupil ratio, while increasing the length of the books by nearly 100%.
- **Targeted lesson plans.** Each teacher receives a set of lesson plans for English, Kiswahili, and mathematics. These lesson plans were designed, along with the MOE, to be correlated directly with the pupil books and to help pupils progress from initial reading skills to full reading fluency and comprehension within one year. During the 2012 academic year under evaluation here, Class 1 and 2 teachers used only the Class 1 materials. The lesson plans were buttressed by modest instructional aids, including pocket charts and flashcards.
- **Focused training on lesson delivery.** In a departure from the typical professional development program in Kenya, PRIMR's training provides teachers with quite a bit of practice on how to implement improved instruction. Brief introductions to new

substantive topics are followed by modeling and then practice by teachers. In 2012, teachers and head teachers received 10 days of training, to ensure take-up.

- **Ongoing instructional support.** PRIMR invests time and resources into helping the Kenyan system improve the quality of instructional support that teachers receive. This means that Teacher Advisory Centre (TAC) tutors, each responsible for a set of 8 to 20 schools in the public sector; and instructional Coaches, responsible for 10 or 15 schools in the nonformal settlements, were heavily trained. They received nearly 20 days of direct training, and were given a key mandate to observe teachers' instruction, provide reflection sessions, and be the actual implementers of the training above. PRIMR provided transport reimbursements that were slightly less than the official budget for transport for TAC tutors. PRIMR believes strongly that helping TAC tutors to support instruction is the key element to a sustainable instructional improvement program in reading, math, or any other subject. More work is necessary to retrain TAC tutors in technical areas important for improving outcomes.
- **Low-cost inputs.** Given PRIMR's mandate to help the MOE plan for and implement a national reading program, PRIMR decided to test the impact of a low-cost program. This means that the investments—from the TAC tutors' support, to the training of all key actors, instructional materials, 1:1 textbook ratios, and ongoing instructional support—cost less than US$2 per subject per pupil. The costs would be even lower if the existing pupil book allotment were to be spent on PRIMR books instead of books in the market.

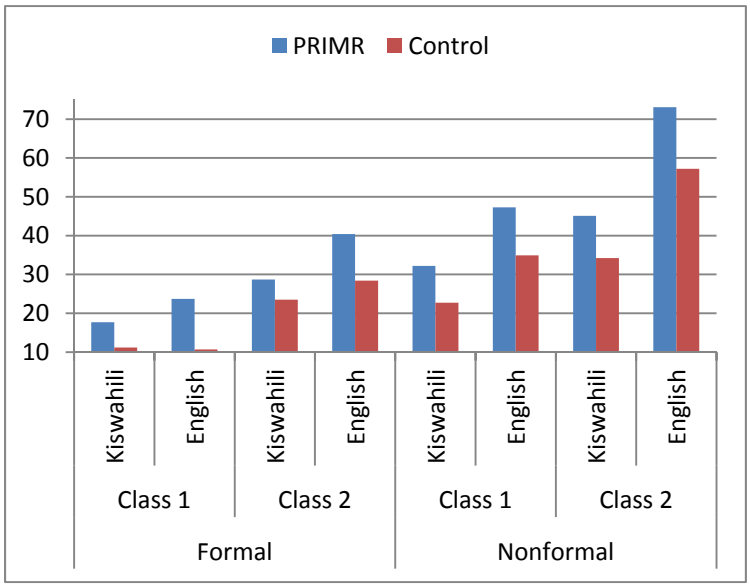
PRIMR faced several key challenges during the 2012 academic year. First, the delayed award of the PRIMR task order meant that the MOE and PRIMR team tasked with developing materials did not have sufficient time to write lesson plans and books before the start of the 2012 academic year. With hard work, a very good set of reading materials was in the schools in January 2012 (lesson plans) and March 2012 (pupil books). For math, the books and lesson plans were delivered in July 2012, allowing just a few weeks of intervention before the midterm data collection. The resistance of some Class 2 teachers and parents to using Class 1 materials—even though the rationale for this decision had been carefully considered by the PRIMR team—was also a significant challenge. The project team will be able to determine (at the end of 2013) whether this was the correct decision when comparing the results of the "PRIMR Rural Expansion" program (funded by the UK Department for International Development [DFID] beginning in December 2012) with the USAID PRIMR program in Year 2.

The largest challenge to the successful implementation of PRIMR was a teachers' strike during Term 3. This strike lasted three weeks and meant that the public schools had no implementation of PRIMR before the midterm data collection took place. Nonformal schools involved in the initiative proceeded normally. There is some evidence from PRIMR's own internal assessments that outcomes in public schools declined slightly between the July and October 2012 data collection, and that the most likely cause was the month-long term break followed immediately by the strike.

With those caveats, the PRIMR midterm evaluation shows that PRIMR increased pupil outcomes in reading to a meaningful level. ***Exhibit 1*** shows the average oral reading fluency rates of pupils

in PRIMR and control schools for English and Kiswahili, in public and nonformal schools, in both Class 1 and Class 2. The exhibit shows that in every combination, midterm scores were significantly higher in PRIMR schools than non-PRIMR schools. In fact, for nonformal schools in Class 2, the mean fluency rates of 45.1 wpm for Kiswahili and 73.1 for English mean that the average rates of fluency in PRIMR nonformal schools were above the MOE's benchmark for Class 2.

Exhibit 1. Average fluency rates at midterm for PRIMR and control schools, by public/nonformal, class and language



Given the modest differences in outcomes between treatment groups at the baseline (January 2012), the PRIMR identification strategy is not simply to depend on the randomized assignment of clusters of schools to treatment groups, but also to utilize a differences-in-differences model. This model accounts for any differences in outcomes at the baseline prior to the PRIMR intervention. The differences-in-differences estimator is fit using Ordinary Least Squares regression models with and without background variables for continuous outcome variables (such as oral reading fluency and reading comprehension), and logistic regression models with and without background variables for dichotomous outcome variables (such as whether the pupil reached the MOE's benchmarks for reading).

This report is primarily interested in whether PRIMR increased pupil achievement. It did. In Class 1, for both public and nonformal schools, PRIMR had a statistically significant impact on all reading-related subtasks (letter sounds, nonword decoding, connected text fluency, reading comprehension) for both Kiswahili and English. In Class 2, PRIMR effects were significant for all reading measures in nonformal schools, and about half of the measures for public schools. This is expressed numerically in ***Exhibit 2.***

Exhibit 2. PRIMR effects on performance on EGRA subtasks, by Class and school type.

EGRA subtask	Language	Metric	Class 1		Class 2	
			Formal	Nonformal	Formal	Nonformal
Letter-sound fluency	English	clpm	11.89***	30.38***	13.33***	32.88***
	Kiswahili	clpm	15.78***	23.41***	14.89***	29.83***
Nonword decoding fluency	English	cwpm	4.40**	10.76***	-0.79	8.19**
	Kiswahili	cwpm	3.01*	6.11***	-0.86	6.98**
Connected-text fluency	English	cwpm	8.74**	14.05***	2.62	16.21***
	Kiswahili	cwpm	3.31*	10.97***	0.77	12.88***

Reading comprehension	English	%	3.07~	3.15~	-4.87	9.06*
	Kiswahili	%	5.81*	12.00***	1.56	9.64*
Listening comprehension	Kiswahili	%	12.97**	-4.93	7.90~	-3.22
Proportion of fluent readers	English	%	4.78~	10.16***	12.09*	21.07**
	Kiswahili	%	7.21**	15.49***	8.25*	17.34**

clpm = correct letters per minute
cwpm = correct words per minute
~$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$

For math, the impacts were much more modest, as was expected with the very time-limited program implementation that took place during 2012. Statistically significant impacts were found in Class 1 on the EGMA subtasks for addition fluency, number identification, and word problems. For Class 2, significant impacts were found in number identification, missing numbers, and word problems. A statistically significant negative impact was found for subtraction level 2. These findings are explained in more detail in the body of the report.

PRIMR's explicit focus is on improving the likelihood that pupils will be able to read at the MOE's benchmarks, which were set in July 2012 for both Kiswahili and English. ***Exhibit 3*** shows that PRIMR was able to do that, quite remarkably. For Class 1 and 2, and in both English and Kiswahili, pupils in PRIMR schools were between 1.9 and 27.9 times more likely to read at the MOE's fluent-reader benchmark than those in control schools. All of these analyses were statistically significant, and they suggest that PRIMR has made it at least two times more likely that pupils can read at the benchmark across the two years, two languages, and two school settings.

Exhibit 3. Logistic regression models estimating the odds ratio of reading fluently at midterm in PRIMR schools, by Class and nonformal vs. public

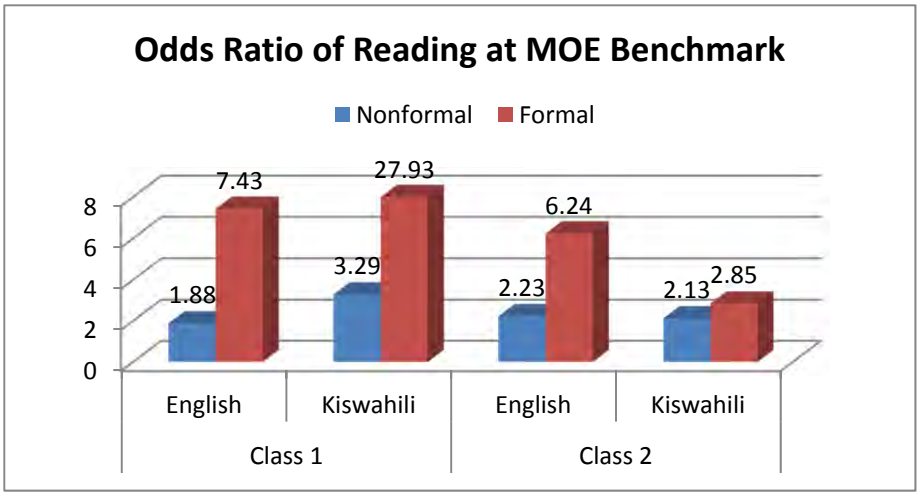


Exhibit 4. Growth trajectory for performance of pupils in PRIMR and non-PRIMR classrooms

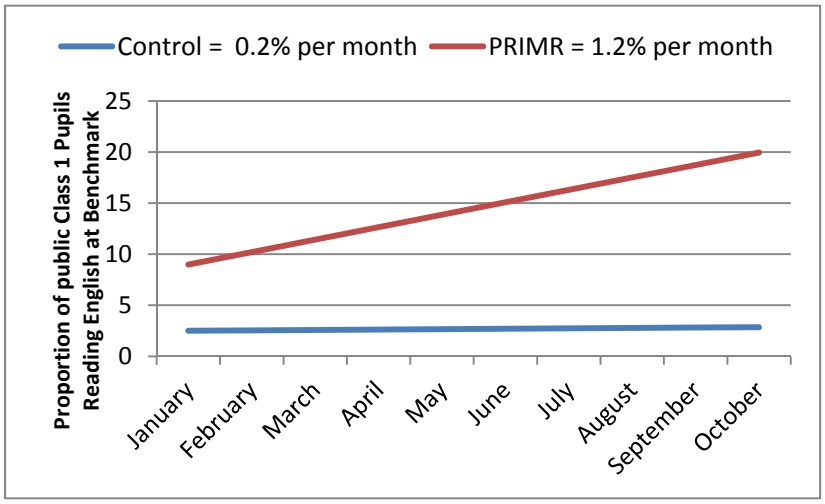


Exhibit 4 presents the impact of PRIMR in a different way. Given the focus on rapidly increasing the percentage of pupils who can read in both languages, the exhibit presents the growth trajectory for pupils in PRIMR and non-PRIMR classrooms. It shows that PRIMR has been able to rapidly increase the percentage of pupils who can read. This is necessary given the very slow growth trajectory of the control schools. At an increase of 0.2% per month, it will take several years for most of the pupils in Kenya's public and nonformal schools to learn to read. These results show that PRIMR is able to quickly increase the proportion of pupils able to read with fluency and comprehension.

These PRIMR results suggest several recommendations for Kenya and the Initiative.

- **Revise the Kenyan books policy.** Kenya made a decision in 2002 to cede technical development of textbooks to publishers, with KICD serving as the vetter. The vetting guidelines focus much more on layout and topical issues than on what research says about how pupils learn how to read. The vetting guidelines should therefore be changed based on research. Even more importantly, while Kenya has a relatively generous per-pupil allotment for book purchases, the cost of books on the market is very high. Adapting PRIMR-type texts even with higher-quality print production, and in color, could guarantee a 1:1 book-pupil ratio; and no additional money would have to be spent from the Treasury.
- **Revise the syllabus to include the key elements of reading.** The KICD syllabus includes the four components of literacy, namely listening, speaking, reading and writing. Research shows that the entry point to improving outcomes across the literacy area is focusing on reading and writing. The syllabus should therefore be revised to include more emphasis on reading and the technical components necessary to achieve outcomes.
- **Focus on low-cost interventions.** The PRIMR Initiative midterm impact evaluation suggests that some relatively low-cost interventions can drive improvements in learning outcomes. This includes a budget-neutral move to a one-to-one ratio between pupils and textbooks, and a budget for transport and classroom materials that falls within the government's guidelines.

- **Expand PRIMR to rural areas.** While the USAID-funded portion of PRIMR is being undertaken in peri-urban schools, an expansion of PRIMR is necessary to determine the effect of PRIMR in rural areas. The DFID-funded rural expansion of PRIMR in an additional 800 schools should be able to help disentangle these issues.
- **Focus on TAC tutors and their support**. The PRIMR experience shows that the TSC Staffing Officer's decisions on how to use the TAC tutors matters, and that where the TSC can allow the TAC tutor to support instruction, outcomes are likely to change substantially. The existing corps of TAC tutors should therefore be provided ongoing technical training to support their ability to help teachers improve instruction.
- **Increase instructional time and variety.** In a typical classroom, pupils spend quite a bit of time practicing a single topic; by contrast, in PRIMR, teachers spend much more time actually teaching, and a variety of instructional topics are addressed within a lesson. We recommend increasing the amount of time spent in literacy and numeracy to 45 minutes per day, and expecting teachers to teach for that entire period.
- **Focus on letters, phonological awareness, and decoding.** PRIMR's current and ongoing work to develop training strategies for teachers not using PRIMR lesson plans has reinforced the important contribution of PRIMR on focusing on letters, phonological awareness, and decoding skills. The existing books in the market ignore the important skills of phonological awareness and alphabetic principle. Books used in primary schools should focus pupils on the basic skills of reading across languages. Given that teachers have limited training in these areas, in-service and pre-service programs should include training on these key building blocks of reading.
- **Improve the teaching of comprehension.** Learners in the average Kenyan classroom spend quite a bit of time asking questions about stories read by teachers, but those questions predominately involve factual recall. PRIMR's expanded comprehension strategies are essential to this objective. This should be expanded to the country, with teachers trained on how to use simple strategies to improve comprehension outcomes.

1. Introduction

1.1 Background on the PRIMR Initiative

Borne of the interest to improve the quality of reading and numeracy in early grades in Kenya, the Ministry of Education (MOE) and the United States Agency for International Development (USAID) designed the Primary Mathematics and Reading (PRIMR) initiative. PRIMR focuses on improving numeracy and reading outcomes in Classes (grades) 1 and 2 using a data-driven strategy, and is implemented by RTI International. The PRIMR approach helps teachers instruct students in the fundamental skills in reading that are necessary for improving oral reading fluency and comprehension. The initiative also aims to increase mathematics skills that are critical for improved number sense, computational fluency, and problem solving.

PRIMR—a task order under USAID's Education Data for Decision Making (EdData II) project—started on August 15, 2011. The initiative is uniquely focused on outcomes in reading and math for Classes 1 and 2. According to the PRIMR Results Framework, the initiative is designed to achieve the following strategic objectives:

- Grade-appropriate reading fluency and comprehension increased for children in Classes 1 and 2;
- Grade-appropriate mathematical abilities increased for children in Classes 1 and 2;
- Ministry of Education equipped and prepared to scale up successful features and approaches from the Early Grade Reading and Mathematics Assessments (EGRA/EGMA).

Although the expected results may seem ambitious, there is evidence to suggest that the results are achievable through the combined efforts of the MOE, teachers and head teachers, pupils, and civil society. PRIMR has also involved other key stakeholders in education. For example, during the first year of PRIMR, RTI International worked closely with the Kenya Institute of Curriculum Development (KICD), Kenya National Examinations Council (KNEC), Kenya Education Management Institute (KEMI), Kenya Institute of Special Education (KISE), and Teachers' Service Commission (TSC) to design and implement PRIMR activities.

1.2 Program Components

PRIMR uses a randomized controlled trial design with various treatment groups to meet its objectives of providing research actionable advice for the MOE. The first part of PRIMR's activities focuses on building the capacity of the teachers in the intervention schools to deliver high-quality instruction in reading and math. This support includes (1) training teachers in effective instructional strategies, (2) having Coaches and Teacher Advisory Centre (TAC) Tutors give ongoing instructional support and follow-up, (3) providing monthly observational feedback, and (4) leading cluster-based reflection activities to foster teaching improvement. The second part comprises providing educational materials for teachers and students, including reading

materials in Kiswahili and English; math materials for classroom support; directed lesson plans for pedagogical delivery; and continuous assessment activities to monitor progress.

The following is a summary of the core PRIMR activities:

- Develop an experimental design that comprises a baseline, midterm, and endline evaluation with randomly assigned treatment groups.
- Design a scope and sequence of curriculum-based content in Kiswahili, English, and mathematics.
- Prepare 150 lesson plans for Kiswahili, English, and mathematics for Classes 1 and 2.
- Train teachers and head teachers to implement lessons.
- Arrange for regular supervision and monitoring of teachers by Coaches and TAC tutors.
- Provide reading and math materials for student use, integrated with teacher lesson plans.
- Train teachers to employ continuous assessment methods, integrated into core content.
- Use EGRA and EGMA results to revise and update program materials.
- Carry out a policy study to inform MOE on issues related to education policy and the revisions needed to improve student outcomes in early primary levels across Kenya.

1.3. Overall PRIMR Implementation Design

PRIMR is organized to test a cost-effective and scalable model's ability to improve learning outcomes in Kenya. As noted above, PRIMR is a partnership among USAID/Kenya and the Ministry of Education, with technical implementation by RTI. The decisions and direction of PRIMR are determined primarily by a Program Development and Implementation Team (PDIT), led by Mrs. Margaret Murage of the MOE, and including key experts from TSC, KISE, Kenya Institute of Curriculum Development (KICD), KNEC, and KEMI. The design has the following elements.

- **Inexpensive books:** The project team made several decisions that would ensure savings on book purchases. For example, all elements of the reading program—which for English and Kiswahili include phonics activities, illustrations, and daily primer stories—are embedded in one book. The book has attractive illustrations, but without color. The book could have been printed in color, but the decision was to test the effectiveness of black and white at a lower pupil-to-book ratio. The per-book cost of the most recent versions, with 152 pages of text, was approximately US$0.75.
- **Limited instructional aids:** While PRIMR encourages teachers to create additional instructional aids, it is not a core part of the program. The project team made explicit decisions not to emphasize wall charts, big books, or other short-term-use but expensive materials. The aids provided to teachers are an A3-sized pocket chart with three pockets, a set of laminated letter flashcards in business card size, and a set of number flashcards laminated in business card size. There are a few other aids, such as a stopwatch, laminated pages for tracking pupil progress on reading, and simple cutout mathematics materials.

- **Self-contained lesson plans:** While some successful programs have several resources for the teacher, PRIMR wanted to maximize the average teacher's comfort with the program. Therefore, all of the lesson plan materials are embedded in one document. The math resources, therefore, come in one volume, but for English and Kiswahili, the lesson plan document consists of two volumes (starting in the 2013 academic year). Teachers are also given an assessment manual of less than 30 pages, a sheet of training tips, and a two-page document to track pupil progress; and pupils are given a single B5 sheet to track reading at home.
- **Supplementary readers:** PRIMR provides a single set of 15 supplementary readers. They accompany a document with instructional activities for each book and are there for pupils to read alone or for teachers to read aloud.
- **Modest training:** PRIMR decided to invest proportionally more training money in follow-up and observation than in other activities, so the entire year of training is 10 days for the three subjects. This is organized by five days at the beginning of Term 1, three days at the beginning of Term 2, and two days at the beginning of Term 3.
- **Focused observations:** Much of PRIMR's attention and energy is spent in supporting TAC tutors and instructional Coaches to visit schools and observe classrooms. Project funds reimburse Coaches' and tutors' travel based on the proportion of teachers observed twice per month, to ensure that coaches and tutors have a reason to provide equal support, even to faraway schools. The reimbursements are based on detailed observation forms which give PRIMR the information needed to make course corrections, matched with school logs signed by the head teacher. Like District Quality Assurance and Standards Officers (DQASOs), PRIMR's technical team spends time accompanying tutors and Coaches on their visits.
- **Ongoing assessment:** During 2012, PRIMR began supporting zones and clusters by organizing groups to design PRIMR assessments. This is critical because it allows the focus of the teacher to be on the lessons upon which the assessment is built, not on the less-than-ideal structures in the existing examinations on the market. In addition, all PRIMR-supported schools have school report cards that are used to track progress towards goals for fluency and comprehension. This means that the tutor or Coach visits each school each term to track average performance.

These design elements are purposefully targeted and are not flashy. The key elements at every level are:

- Pupils reading books
- Teachers teaching lessons
- TAC tutors/Coaches observing lessons and giving feedback
- PRIMR/DQASOs supporting tutors and coaches.

If those elements work, PRIMR's theory of change suggests that program success is likely. If those elements are relatively inexpensive, then the theory of change still holds, and the PRIMR

team will be able to argue that success is not expensive when it comes to instructional improvement. This midterm report evaluates that theory of change.

1.4 Implementation in 2012

This section highlights specific aspects of program implementation during 2012 that had a bearing on the midterm evaluation.

A core technical team comprising international and primarily Kenyan PRIMR staff and consultants developed lesson plans for Kiswahili, English, and math. The documents took into account the findings from scope-and-sequence workshops that had taken place earlier, and also involved regular consultations with KICD and the PDIT, with members from the key MOE directorates and the Semi-Autonomous Government Agencies such as KICD, KNEC, KISE, and TSC. The lesson plans for English and Kiswahili were printed and distributed to schools and were ready for use in the intervention schools by January 2012.

The technical team that was working on math lesson plans drew on inputs from additional experts who were working on the Liberia Teacher Training Program 2 (LTTP2), as well as materials developers contracted to LTTP2. Hence, both PRIMR and LTTP2 used the Kenya scope and sequence to prepare their materials. The materials were vetted by the RTI international consultants and the Kenyan math experts on a continual basis. PRIMR began implementing the mathematics lesson plans in the latter part of Term 2 of 2012. This allowed the teachers to become acclimated to the PRIMR methods using the English and Kiswahili plans first, without being overwhelmed by content. Due to a teacher strike during the third term, however, the math lesson plans had been implemented for less than a full month when the midterm data collection teams entered schools.

Based on experiences and comments received from treatment schools, a planned revision of teacher and pupil materials in all three subjects started during September 2012. The PDIT was heavily involved, as were teachers active in the PRIMR initiative. The revised materials were ready for use at the beginning of the 2013 academic year and thus did not affect the pupils' performance at the time of the midterm evaluation.

The Coaches' and TAC tutors' trainings in English and Kiswahili implementation were held in January 2012, followed by teacher trainings at the cluster and zonal level. Given the complexity of the Kiswahili and English teacher training that took place in January, and the need to follow up on English and math in the second training in April, the trainings in math took place in June and the teachers started using math lesson plans at the end of the second term. The Coaches and TAC tutors continued to support the teachers at the school level and collected observation data, which was keyed in at RTI's Nairobi office. Each Coach or TAC tutor was required to visit each teacher twice a month and observe a lesson in reading or math. The observation would be followed by a reflection discussion with the teacher on what went well and what could be improved. If necessary, the Coaches or TAC tutors were expected to model instructional methods for the teachers in areas that they found difficult. The observation data informed the PRIMR staff, Coaches, and TAC tutors on issues and areas that need follow up among the

teachers, and improved the precision of quantitative analysis as the project team measured the relationships between visits and pupil outcomes.

Draft EGRA and EGMA tools were ready for piloting in November 2011, and a baseline study was conducted in January 2012. Based on the results of the pilot test, the tools were revised and piloted a second time. The PRIMR technical team then finalized the EGRA (Kiswahili and English) and the EGMA tools for the baseline, midterm, and endline. At the baseline, a total of 4,385 pupils (2,199 girls and 2186 boys) randomly selected from 230 schools were assessed in EGRA (English and Kiswahili) and EGMA. The design has a nested longitudinal sample of approximately 950 pupils, as discussed later.

Preparations for the PRIMR midterm evaluation started in August 2012. PRIMR equated the EGRA baseline, midterm, and endline stories and comprehension items to ensure comparability over time, using linear equating methods. PRIMR faced a serious challenge in its midterm data collection due to the teacher strike, although the timing was such that data could be collected during the expected October 2012 time period. Many public schools did not have any instruction in Term 3 prior to data collection, so this might have had a negative impact on learning outcomes; but in nonformal schools, learning continued without interruptions.

1.5 EGRA and EGMA Tools

1.5.1 Early Grade Reading Assessment

EGRA is a tool for measuring learners' fundamental prereading and reading skills. The test is administered orally to pupils one on one, and takes approximately 15 minutes per child. Since EGRA was first piloted in 2007, RTI International, funding agencies, and experts in the field of early reading have conducted assessments using EGRA in more than 60 countries and in 100 languages. In the PRIMR studies, EGRA measures the following elements of reading acquisition:

- Letter sound naming fluency: ability to identify the sounds of the letters fluently.
- Nonword fluency: ability to decode new words fluently.
- Timed oral reading (connected-text) fluency: ability to read a story fluently, timed to one minute
- Untimed oral reading (connected-text) fluency: ability to read a story fluently, giving up to 3 minutes (baseline only)
- Reading comprehension: ability to comprehend reading passages, associated with a timed reading assessment
- Reading comprehension: ability to comprehend reading passages, associated with an untimed reading assessment
- Listening comprehension: ability to understand a simple oral story
- Maze: ability to determine which of three words best fits as the missing word (midterm evaluation only).

1.5.2 Early Grade Mathematics Assessment

The EGMA focuses on measuring basic mathematical skills. "Mathematics" here is taken to be broader than arithmetic; it also encompasses non-operations number concepts (see subtasks indicated below). That is, instilling mathematical skills early in the learning process helps children develop concepts in identification, organization, cohesion, and then representation of information.[1] Introducing these concepts in the early years helps learners to build a base for learning more complex computational skills in the years that follow. The following are the basic subtasks within the EGMA as implemented by PRIMR:

- Number identification – ability to fluently identify numbers
- Quantity discrimination – ability to fluently determine which of two numbers are larger, testing place value and number sense
- Missing number – ability to identify missing numbers using knowledge and application of number pattern skills
- Addition – ability to add simple sums fluently, at different levels of complexity
- Subtraction – ability to subtract simple differences fluently, at different levels of complexity
- Word problems – ability to solve basic word problems.

Instructional leadership and pedagogical quality also were assessed using a revised version of the Snapshot of School Management Effectiveness (SSME) tool. The SSME is an observation checklist that collects information such as the languages used by the teacher during instruction (Kiswahili or English lesson, plus a math lesson) and the teacher's interaction with students (e.g., is the teacher speaking to the entire class, a group, or a single student?). These data were supplemented with information collected through interviews with head teachers and classroom teachers, as well as inventories of classroom and school physical features. Results for all of these variables were merged with the pupil outcome data to estimate the relationship between these school and classroom factors with pupil achievement and to determine whether those factors attenuated the relationship between the PRIMR intervention and pupil learning gains.

2. Research Design

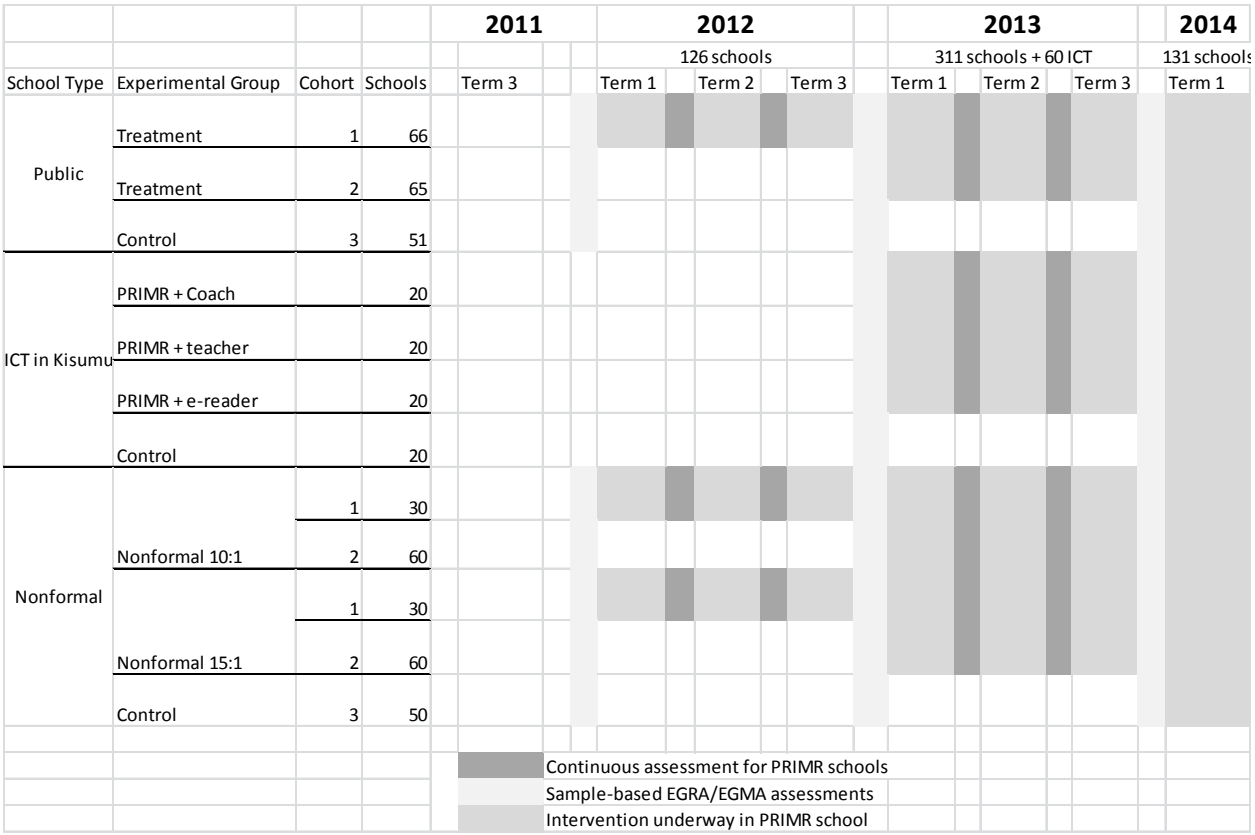
2.1 Overall Design

PRIMR is designed to evaluate a variety of research questions of interest to the Kenyan MOE in preparation for a national reading improvement program. ***Exhibit 5*** presents the research design. As stated above, there are three cohorts of schools: those that started the intervention in January 2012, those that started in January 2013, and those that will start in January 2014, after the

[1] Clements, D. H. (2004). Geometric and spatial thinking in early childhood education. In D. H. Clements & J. Sarama (Eds.), *Engaging young children in mathematics: Standards for early childhood mathematics education* (pp. 267–297). Mahwah, New Jersey: Lawrence Erlbaum Associates.

PRIMR endline assessment. The data presented in this report measure the change in outcomes for treatment (Cohort 1) and control (Cohort 3) schools. Cohort 2 schools are not part of this analysis since gains in Cohort 2 will be measured in October 2013. The October 2013 endline assessment will also provide data to evaluate the impact of an information and communication technology (ICT) intervention. This ICT assessment will investigate the relative effectiveness and cost-effectiveness of three ICT models: (1) PRIMR + tablets for TAC tutors, (2) PRIMR + tablets for teachers to do multimedia lesson plans, and (3) PRIMR + e-readers for pupils. (This report does not deal with the ICT mini-study.) In addition to describing the overall impact of PRIMR, this report also presents findings on the relative impact of PRIMR in public vs. nonformal schools, plus the relative effectiveness of 10:1 and 15:1 school-to-Coach ratios in nonformal settings.

Exhibit 5. Diagram of the PRIMR research design



2.2 Treatment Groups

The PRIMR initiative is supporting 502 schools from 2011 to 2014. These schools were randomly selected and assigned as follows. In the first sampling stage, zones were selected from counties, stratified by district. These zones were then randomly assigned to treatment groups. For the impact evaluation, for all selected zones, schools were randomly selected from within the selected zones for the assessments. The third sampling stage involved systematic sampling of Class 1 and 2 pupils in the selected schools, stratified by gender and Class.

The nonformal schools were divided into two categories. Half of the randomly selected schools were assigned to clusters with a school-to-Coach ratio of 10:1 and the other half were assigned to clusters with a school-to-Coach ratio of 15:1. Hence, in 2012, three treatment clusters had a school-to-Coach ratio of 10:1 and two clusters had a school-to-Coach ratio of 15:1. Comparing the outcomes of pupils in these two groups will help PRIMR advise the MOE on the most cost-effective school/TAC tutor ratio that would significantly improve learners' outcomes in reading and math.

A key component of the overall PRIMR design is the ICT-based intervention in Kisumu. This design uses a randomized controlled trial to compare the effectiveness and cost-effectiveness of three different ICT interventions. The Kisumu program started with a baseline survey undertaken in January 2013. Since no assessments were conducted in 2012 at the baseline or midterm, the results of the program are not discussed in this midterm evaluation. It is worth noting that the selection and assignment of zones followed generally the same procedure as it did for the public schools in the basic PRIMR model. Stratifying by urban and rural, zones were randomly selected and then assigned to the three ICT treatment conditions (pupils with an e-reader, teachers with a tablet, TAC tutors with a tablet).

PRIMR's design uses control schools in an ethical way. A control group of 51 government schools in Nairobi, Nakuru, and Kiambu counties was selected as well as a control group of 50 nonformal schools. To meet established research ethical standards, all schools selected for the control groups at each intervention level will receive the appropriate PRIMR activities after the endline data are collected during the final year of the project. For the midterm evaluation and endline evaluation, these schools serve as comparison schools.

2.3 Formal and Nonformal Schools

Formal schools in Kenya are supported by the government through provision of learning materials, teachers, and infrastructure. In each district within a county, schools fall within zones. The TAC tutor system that PRIMR mimics was established as a support system for teachers within each zone. The TAC tutors exist to provide instructional support to teachers, to improve the quality of instruction at the classroom level. The number of schools in each zone for which an individual tutor is responsible ranges from about 8 to 20 schools. The distances between most of the schools in rural areas are great, and with limited resources, the TAC tutor system struggles to be utilized at full capacity. PRIMR works through this TAC tutor system to determine whether and how it can focus on instruction, and to determine the impact on instruction of individuals already within the public system.

A critical issue is the lack of resources within the public sector to provide education for school-age children. The private sector has therefore supplemented the government's efforts through private schools, but the cost of education in private institutions is too high for the majority of Kenyans. This has led to the mushrooming of nonformal schools, especially in urban informal settlements. Generally, nonformal schools target primary school-age children, using the KICD curriculum with the support of nongovernmental organizations (NGOs), communities, faith-based organizations, and individual investors. These schools are characterized by relatively low

tuition, poor infrastructure, frequent transfer of pupils from one school to another, lack of adequately trained staff, and high teacher turnover. The managerial operations of these schools are not standardized by any government policy or agency. Nevertheless, the data from this evaluation showed that nonformal schools in Nairobi were performing at the same level as, if not better than, public schools. Learning is more focused in these schools despite deplorable conditions, and in recent times, the poor often have chosen these schools over public schools.

2.4 Sample Sizes

As noted above, PRIMR uses a randomized control design with assessments at baseline, midterm, and endline. At baseline, zones and clusters were randomly selected from the counties or regions that were agreed upon among the MOE, RTI, and USAID. The selected zones and clusters were randomly assigned to treatment groups and the control group. In each zone or cluster, approximately 50 percent of the schools were randomly selected for assessment.

The PRIMR design also incorporates a longitudinal component (see next section) that is intended to capture data at baseline, midterm, and endline for approximately 1,000 Class 1 pupils. Thus, while the total number of schools assessed at baseline was 230, it was necessary to include as part of the midterm sample all schools in Cohorts 1 and 3, or a total of 117 schools. At midterm, resampling was only done for the Cohort 2 schools, and 93 schools were sampled. Therefore the total number of schools assessed during the midterm was 210 schools. In all, 4,166 pupils were assessed at midterm, compared with 4,385 pupils at baseline. Based on PRIMR's power calculations, this sample size should be able to detect an impact of 0.20 standard deviations (SD) or more.

2.5 Longitudinal Study

The longitudinal study will follow a group of children over a period of two years and three assessment points. This component strengthens the PRIMR design and is appropriate for various reasons. Perhaps the key point is that reading growth among children is nonlinear, and the literature is limited on how the acquisition of learning outcomes changes over time and across languages. Development of foundational skills in early grades is best assessed with a series of interrelated measures of foundational skills that document the development of these skills and predict the acquisition of later skills.

Once foundational skills are established, oral reading fluency and comprehension measures can then be used to assess improved reading. There is a lack of research based in sub-Saharan Africa that examines the progression of these skills over time and across languages. A longitudinal study that follows and monitors students' reading development is therefore the best way of establishing reading trajectories for groups of children. The logic of including a longitudinal component in PRIMR is to allow a thorough understanding of how children transfer reading skills across languages, as well as to provide the MOE with benchmarking information, since the levels of successful Class 3 readers at final assessment can be compared with where they started in Classes 1 and 2.

All Class 1 pupils in Cohort 1 (treatment) and 3 (control) schools that had been selected and measured at baseline were included in the longitudinal study. During the baseline assessment, the names of all Class 1 pupils assessed were recorded and securely stored by the PRIMR Chief of Party according to established ethical etiquette related to confidentiality and anonymity of information collected from human subjects, as detailed in the next paragraph. As stated earlier, the target was to follow 1,000 pupils, but some pupils included in the longitudinal study left the schools for various reasons and therefore could not be assessed. The number of pupils still in the longitudinal study after the midterm was therefore 910. Further work will examine how those pupils who were no longer in the longitudinal study differed from those who remained. The remaining pupils will be assessed at endline in October 2013 for the third time, and at that time PRIMR will work to find and follow those pupils to be sure to evaluate their learning.

Only Class 1 pupils who had been sampled for the baseline assessment are participating in the longitudinal study. The lists of pupils' names in the selected schools are kept in a locked cupboard at RTI's Nairobi office. Before the midterm data collection exercise, PRIMR obtained written consent from the parents or guardians of the participating pupils. The head teachers of the sampled schools in the longitudinal study requested the parents or guardians of the pupils to attend a meeting at the school, during which they explained the purpose of the study and the need for the parents' or guardian's' consent on behalf of the pupils. The parents or guardians were then requested to sign two copies of the consent form. One copy of the signed form was returned to RTI safekeeping.

During the midterm data collection exercise, the supervisor of each team was given the list of Class 1 pupils in each of the 117 schools participating in the longitudinal study. In these schools, the supervisors picked the same Class 1 pupils. Where a Class 1 pupil was missing or had left the school, another pupil was selected but not included in the longitudinal study. In this case the pupil was considered to have dropped out of the study (attrition).

3. Reliability Estimates

A reliability analysis was conducted to determine the appropriateness of the subtasks in the EGMA and EGRA tools. Pearson correlation coefficients were computed among the subtasks in each tool, as discussed in the sections that follow. Ideally, strong correlations among subtasks are preferred because they indicate consistency in the performance of the sampled learners across the subtasks.

3.1 Mathematics Tool Analysis

Recall that the EGMA tool had six subtasks: number identification, number discrimination, missing number, addition levels 1 and 2, subtraction levels 1 and 2, and word problems. The pairwise correlations among all the subtasks were statistically significant ($p < 0.05$), as shown in ***Exhibit 6.*** Number identification was strongly correlated with number discrimination but moderately correlated with the other subtasks. Similarly, quantity discrimination was somewhat strongly correlated with missing number discrimination but moderately correlated with the other subtasks. These results may imply that number identification and quantity discrimination are not

strong predictors of pupils' performance in higher-level subtasks such as addition, subtraction, and word problems. The correlations between word problems and the other subtasks were weak, potentially meaning that word problems require a different skill set from other subtasks. This also applies to the correlations between subtraction level 2 and other subtasks. Subtraction level 1 was moderately correlated with the other subtasks, implying that pupils who could solve subtraction sums at that level could also perform the other subtasks at almost the same level. Addition level 1 was strongly related to addition level 2 and subtraction level 1, which is unsurprising.

Exhibit 6. Pearson correlation for EGMA subtasks

	Number identification	Quantity discrimination	Missing number	Addition level 1	Addition level 2	Subtraction level1	Subtraction level 2	Word problems
Number identification	1.00							
Number discrimination	0.62***	1.00***						
Missing number	0.59***	0.63***	1.00					
Addition level 1	0.58***	0.57***	0.56***	1.00				
Addition level 2	0.45***	0.47***	0.49***	0.62***	1.00			
Subtraction level 1	0.53***	0.55***	0.55***	0.72***	0.57***	1.00		
Subtraction level 2	0.35***	0.37***	0.41***	0.40***	0.58***	0.47***	1.00	
Word problems	0.35***	0.40***	0.42***	0.40***	0.41***	0.42***	0.39***	1.00

*p < .05, **p < 0.01, ***p <.001

The Cronbach's alpha coefficients for the various mathematics subtasks ranged between 0.86 and 0.89, as shown in ***Exhibit 7.*** The overall alpha coefficient for the EGMA tool was 0.89. Alpha coefficients that fall within this range are considered high and indicate consistency among the items in the subtasks. This means that the items within each subtask were able to effectively discriminate high-performing pupils from low-poor performing pupils with regard to their numeracy and computational skills.

Exhibit 7. Cronbach's alpha for EGMA subtasks

Subtask	Item-test correlation	Item-rest correlation	Alpha
Number identification	0.75	0.66	0.87
Number discrimination	0.77	0.69	0.87
Missing number	0.78	0.70	0.87
Addition level 1	0.81	0.74	0.86
Addition level 2	0.77	0.68	0.87
Subtraction level 1	0.80	0.73	0.87
Subtraction level 2	0.66	0.52	0.88
Word problems	0.64	0.52	0.86
Totals			0.89

3.2 English Tool Analysis

Exhibit 8 presents pairwise correlations for the subtasks in the English EGRA. All the correlations were statistically significant ($p < 0.05$). However, it is interesting to note that the correlations between the Maze and all other subtasks were low. This indicates that the Maze subtask (a two- to three-paragraph story with about 18 sets of word choices) was assessing a skill set different from the other subtasks. There was a moderate correlation between letter sounds and invented words. The results show relatively strong correlations between invented words and oral reading; invented words and reading comprehension; and oral reading and reading comprehension, which is logical given their design. These results are evidence that those pupils who were able to read invented words also were able to read English passages and comprehend to a reasonable degree.

Exhibit 8. Pearson correlations for EGRA subtasks in English

	Letter-sound fluency	Invented word	Oral reading	Reading compre-hension	Maze
Letter-sound fluency	1.00				
Invented words	0.61***	1.00			
Oral reading fluency	0.54***	0.88***	1.00		
Reading comprehension	0.45***	0.63***	0.72***	1.00	
Maze	0.07***	0.17***	0.23***	0.23***	1.00

*$p < .05$, **$p < .01$, ***$p < .001$

The internal consistency of items within each subtask in the English EGRA was assessed using Cronbach's alpha as shown in ***Exhibit 9.*** Except for invented words and reading fluency, the other subtasks had coefficients higher than 0.60, which is considered reasonable. These subtasks were able to discriminate between poor-performing and high-performing learners to a high degree. The overall Cronbach's alpha for the EGRA (English) tool was 0.80. If this analysis is done without the Maze subtask, the outcomes are much higher.

Exhibit 9. Cronbach's alpha for the English EGRA subtasks

Subtask	Item-test correlation	Item-rest correlation	Alpha
Letter-sound fluency	0.72	0.54	0.77
Invented words	0.88	0.79	0.69
Oral reading fluency	0.90	0.83	0.68
Reading comprehension	0.79	0.65	0.74
Maze	0.44	0.19	0.88
Total			0.80

3.3 Kiswahili Tool Analysis

In Kiswahili, only three subtasks were strongly correlated, as shown in ***Exhibit 10.*** These were invented words, oral reading fluency, and reading comprehension. This pattern is very similar to that found for the English EGRA. The Maze was relatively strongly correlated with invented words and oral reading. These results were completely opposite of the results obtained in English, where the Maze was poorly correlated with all the subtasks. The differential relationship is likely due to the difficulty pupils had in comprehending English, as compared to Kiswahili.

Exhibit 10. Pearson correlations for Kiswahili EGRA subtasks

	Letter-naming fluency	Invented words	Oral reading	Reading compre-hension	Listening compre-hension	Maze
Letter-naming fluency	1.00					
Invented words	0.62***	1.00				
Oral reading fluency	0.62***	0.90***	1.00			
Reading comprehension	0.55***	0.76***	0.83***	1.00		
Listening comprehension	0.31***	0.37***	0.42***	0.51***	1.00	
Maze	0.31***	0.49***	0.53***	0.46***	0.26***	1.00

*p < .05, **p < .01, ***p < .001

The Cronbach's alpha coefficients for the Kiswahili EGRA subtasks are shown in ***Exhibit 11.*** All the coefficients are above 0.8, which is considered high. The overall coefficient for the Kiswahili tool is 0.87. These results indicate high consistency across items.

Exhibit 11. Cronbach's alpha for the Kiswahili EGRA subtasks

Subtask	Item-test correlation	Item-rest correlation	Alpha
Letter-naming fluency	0.73	0.60	0.86
Invented words	0.89	0.89	0.82
Oral reading	0.92	0.92	0.81
Reading comprehension	0.88	0.88	0.82
Listening comprehension	0.61	0.62	0.89
Maze	0.66	0.66	0.88
Total			0.87

3.4 Equating

As indicated, the initial EGRA and EGMA were discussed with the MOE and piloted in November 2011. The tools were revised based on the results of the pilot tests. Eventually, PRIMR selected three forms of EGRA for both English and Kiswahili (that is, six forms in total).

Vigorous evaluation of the items in the tools was conducted using a Rasch model. The objective was to assess the difficulty level of the stories and the comprehension questions in relation to the

ability levels of the pupils in Classes 1 and 2. The ideal situation in a Rasch model is to have a normal distribution, with the set of items able to differentiate pupils at differing levels of ability.

The results from the Rasch analyses were discussed during a one-day workshop with four members of the PDIT and other stakeholders, and the stories were revised to achieve a more appropriate level of difficulty for Class 1 and 2 pupils. The team also evaluated the midterm EGMA instrument. Based on the discussions from the workshop, the midterm EGRA (Kiswahili and English) stories as well as the EGMA tool were finalized. The midterm assessment results in this report are presented in terms of the equated scores.

During the preparations for the midterm assessment in August and September 2012, it was decided that the EGRA (Kiswahili and English) stories initially selected for the baseline, midterm, and endline assessments should be equated. The stories used for the Maze (English and Kiswahili) were also piloted, since this EGRA subtask had not been employed in the field before. Eight experienced research assistants were trained for half a day on how to administer the EGRA (English and Kiswahili) stories and the Maze. In total, 100 pupils from three different schools were assessed and the data entered for analysis. The linear equating formula made it possible to correct the midterm scores so that the scores on baseline and midterm are comparable.

4. Findings

4.1 Challenges of PRIMR Implementation

This report presents the causal results of PRIMR implementation on outcomes between January and October 2012. For context, it is important to note that the PRIMR implementers faced several challenges during the 2012 academic year that might have adversely affected implementation and take-up.

- **Local leadership challenges.** Kenya is currently implementing its new Constitution, which takes power away from provinces and districts and shifts it to a new level of government, the counties. It is also transforming the role of teaching and teaching supervision and putting that squarely in the purview of the TSC, including the TAC tutors who are supposed to support teachers, but have heretofore spent the majority of their time effectively as DQASOs. These changes have been difficult, contradictory, and slow. For PRIMR, it made the 2012 academic year implementation more daunting, as the management of teachers and teaching was in flux, and it was only at the beginning of 2013 that the county offices of education and county TSC officers became fully in charge.
- **Formal schools' take-up hesitancy in Class 2.** PRIMR made the decision to use the Class 1 materials for both Classes 1 and 2, as the Class 2 pupils started the year at a low level and would not be ready for the complexity demanded by the Class 2 PRIMR materials. This is also the current plan of USAID and the MOE for rollout of the upcoming national reading program. In practice, however, many Class 2 teachers failed to buy into this choice, and the resistance was echoed by some parents. In many contexts it required that the MOE and/or PRIMR visit the zone or district to explain why the

decision was made to use Class 1 materials in Class 2. For 2013, PRIMR has a natural experiment to determine whether that decision was the right one. In the USAID schools, the initiative will use Class 1 materials in Class 2, but in schools participating in the "PRIMR Rural Expansion" program funded by the UK Department for International Development (DFID), Class 2 materials will be used in Class 2. The project team should know by the end of 2013 how this difference affects outcomes. It seems clear that this decision depressed take-up, although it is unclear whether that is more or less important than targeting the difficulty of the materials at the actual learning levels of pupils.

- **Term 3 teacher strike.** As noted earlier, the public sector's teachers struck for the first three weeks of the third term, due to unresolved salary demands. This was remarkably bad timing for PRIMR, as the midterm evaluation began the week after schools opened up again. This meant that "term loss"—somewhat like summer loss in the United States—is likely to have depressed some of the improvements in the public sector. Moreover, pupils are likely to not have spent time reading for the two months prior to the midterm assessment, as the Term 3 strike came immediately after the end of the month-long term holiday. The strike was at the absolute worst time for outcomes, and it showed. Based on internal assessments, at least two public zones had significantly worse outcomes in the final assessment used in this report than they did in July, before the term break and the strike.

Given these challenges, it can be argued that the 2012 October results were lower than they otherwise would have been. These sorts of barriers are common in randomized controlled trials, so this report faithfully presents the actual status of learning outcomes in Kenya at this time, with hopes that dramatic improvements can be made in the 2013 academic year.

4.2 Impacts of PRIMR

4.2.1 Descriptive Statistics at Midterm by Treatment and Control Schools

The key research question driving this midterm evaluation report is whether PRIMR had any effect on reading and math outcomes in Kenya. ***Exhibit 12*** presents the findings at midterm of the outcomes for each reading subtask, disaggregated by grade, by public or nonformal, and by Class. These results are culled from simple svy: mean commands in Stata, and therefore are not from fitted regression models and do not have any control variables. While the standard errors are included for each item for each treatment group, the standard deviations also are presented for the outcome measures at the midterm data collection period. This makes it possible to estimate the effect sizes from each measured program effect.

Note that this exhibit (as well as the associated analysis) does not account for any statistically significant differences at the baseline. It shows that for Kiswahili, effect sizes were as follows: between .79 and .93 for letter sounds, .22 and .45 for nonword decoding, .35 and.46 for oral reading fluency, .21 and .50 for reading comprehension, −.17 and.48 for listening comprehension, −.12 and.22 for Maze, and .28 and .42 for the proportion of pupils at benchmark (see Section 4.2.6 for benchmark details). These effects are moderate to large (except for

listening and Maze), and are somewhat larger than the results of other reading programs in sub-Saharan Africa after less than one year of program implementation.

English effect sizes were moderate to large for all tasks, save Maze comprehension. The effects were between .83 and .90 for letter sounds, .29 and.51 for nonwords, .34 and .58 for oral reading fluency, −.03 and.45 for reading comprehension, −.12 and.23 for Maze score, and.21 and .56 for the proportion of pupils at benchmark. Effects were larger for tasks that required letter- or word-level skills (letter sounds, nonword decoding, oral reading fluency) than for comprehension (listening, Maze, reading comprehension).

Substantively, it is worth noting that pupils in PRIMR schools read far more fluently than those in other schools. This allows PRIMR to have at least moderate causal treatment effects after one year of implementation. More importantly, these effects are meaningful. Pupils in nonformal PRIMR schools read at 45.1 cwpm in Kiswahili and 73.1 cwpm in English in Class 2. The average fluency rates exceeded the MOE's benchmarks for Class 2. Public-school pupils were not as fluent, but average fluency rates in public schools in English (40.4 cwpm) exceeded those in Grade 2 in Liberia, after 2 years of implementation, when English is treated as a second language in the Kenyan PRIMR program. Encouragingly, comprehension rates reached 50.0% in PRIMR nonformal schools in Class 2. This shows that, while PRIMR's program can and should improve in 2013, the impact of PRIMR is significant not only statistically, but also provide meaningful improvements for pupils.

Exhibit 12. Simple comparisons at midterm—Program effects and effect sizes

Subtask	Language	Formal or nonformal	Class	Control		Treatment		Program Impact		
				Mean	Standard error	Mean	Standard error	Standard deviation	Program effect	Effect size
Letter sound fluency (clpm)	Kiswahili	Formal	1	20.77	1.28	40.04	1.59	21.13	19.27	0.91
			2	26.5	1.62	44.17	1.52	19.04	17.67	0.93
		Nonformal	1	36.13	1.98	60.82	2.05	31.32	24.69	0.79
			2	36.49	1.79	66.65	2.68	35.26	30.16	0.86
	English	Formal	1	15.92	1.15	36.05	1.69	22.32	20.13	0.90
			2	21.2	1.56	37.73	1.8	20.01	16.53	0.83
		Nonformal	1	28.16	2.13	57.95	2.07	35.59	29.79	0.84
			2	28.22	2.06	62.46	2.74	39.20	34.24	0.87
Nonword decoding fluency	Kiswahili	Formal	1	6.53	0.7	11.21	0.89	10.45	4.68	0.45
			2	14.67	0.86	16.97	0.93	10.56	2.30	0.22
		Nonformal	1	14.97	0.86	20.1	0.80	16.33	5.13	0.31
			2	20.98	0.97	26.8	1.48	19.15	5.82	0.30
	English	Formal	1	10.27	0.84	17.57	1.32	14.40	7.30	0.51
			2	19.25	0.87	23.08	1.28	13.20	3.83	0.29
		Nonformal	1	21.53	1.02	30.96	1.30	20.43	9.43	0.46
			2	29.48	1.46	37.35	1.76	24.10	7.87	0.33
Oral reading fluency (cwpm)	Kiswahili	Formal	1	11.24	0.90	17.70	1.31	14.18	6.46	0.46
			2	23.45	1.17	28.72	1.31	14.96	5.27	0.35
		Nonformal	1	22.66	1.07	32.17	1.33	21.23	9.51	0.45
			2	34.18	1.34	45.13	1.98	26.48	10.95	0.41
	English	Formal	1	10.70	1.37	23.66	2.45	22.47	12.96	0.58
			2	28.42	1.57	40.35	2.51	24.65	11.93	0.48
		Nonformal	1	34.85	1.74	47.27	2.21	34.74	12.42	0.36

Subtask	Language	Formal or nonformal	Class	Control		Treatment		Program Impact		
				Mean	Standard error	Mean	Standard error	Standard deviation	Program effect	Effect size
			2	57.17	2.72	73.14	3.72	46.72	15.97	0.34
Reading comprehension (Percentage correct)	Kiswahili	Formal	1	9.01	1.25	18.55	1.57	19.08	9.54	0.50
			2	26.16	1.64	33.36	1.61	20.36	7.20	0.35
		Nonformal	1	29.80	1.61	39.24	1.94	28.69	9.44	0.33
			2	43.68	1.69	50.00	2.53	30.79	6.32	0.21
	English	Formal	1	4.29	0.67	10.31	1.39	13.34	6.02	0.45
			2	11.52	0.98	16.52	1.33	14.21	5.00	0.35
		Nonformal	1	19.06	1.55	18.37	1.18	20.88	-0.69	-0.03
			2	25.91	2.09	29.17	1.51	23.87	3.26	0.14
Listening compre-hension (percentage correct)	Kiswahili	Formal	1	23.70	2.22	37.31	2.84	28.45	13.61	0.48
			2	38.51	2.45	49.89	2.74	27.28	11.38	0.42
		Nonformal	1	49.57	2.46	43.41	2.73	35.77	-6.16	-0.17
			2	58.33	2.41	52.70	2.90	37.18	-5.63	-0.15
Maze score (percentage correct)	Kiswahili	Formal	1	15.48	0.88	14.33	0.72	10.06	-1.15	-0.11
			2	19.05	0.78	21.38	1.14	10.40	2.33	0.22
		Nonformal	1	17.39	0.68	19.15	0.71	12.89	1.76	0.14
			2	25.66	0.89	28.80	1.62	19.20	3.14	0.16
	English	Formal	1	11.51	0.85	10.51	0.66	8.64	-1.00	-0.12
			2	10.90	0.64	12.44	0.56	6.66	1.54	0.23
		Nonformal	1	11.03	0.59	11.22	0.40	9.00	0.19	0.02
			2	13.87	0.44	15.28	0.73	10.39	1.41	0.14
Proportion of fluent readers (percentage of popula-tion)	Kiswahili	Formal	1	0.35	0.33	9.15	2.05	20.94	8.80	0.42
			2	8.19	1.86	20.57	2.56	30.34	12.38	0.41
		Nonformal	1	9.17	1.94	24.01	3.15	45.66	14.84	0.33
			2	30.33	3.43	48.00	4.01	62.25	17.67	0.28
	English	Formal	1	1.07	0.70	7.66	2.14	20.14	6.59	0.33
			2	3.93	1.36	19.94	2.92	28.82	16.01	0.56
		Nonformal	1	14.04	1.98	24.19	3.33	48.08	10.15	0.21
			2	38.90	3.74	57.62	4.3	63.51	18.72	0.29

4.2.2 Impact of PRIMR on Reading Outcomes

Exhibit 13 presents the treatment effect for each of the outcome variables of interest in PRIMR. The treatment effect results presented are from fitted models, using a differences-in-differences estimator, that address the slight differences that existed in outcomes at the January 2012 baseline. The models were fit using the svy: reg command in Stata, and included control variables for pupil sex, a measure of the number of wealth items that each pupil had in his or her household, and a dichotomous variable differentiating those pupils who had reading materials at home and those who did not. The treatment effect in this design, then, is simply the additional causal effect of being in a PRIMR school, above the normal learning growth of pupils in control schools. It should be noted that pupils in Kenyan schools, both public and nonformal, do learn something. As a comparison, the typical grade level growth identified in EGRA studies is between 12 cwpm and 14 cwpm per year in English, and less than that for Bantu agglutinating languages like Kiswahili in Kenya. The control schools in the PRIMR sample increased by up to 28 cwpm for English in nonformal schools and more than 15 cwpm for English in public schools. In other words, in order to show a statistically significant impact on pupil outcomes using a differences-in-differences model, PRIMR has to be very successful.

Exhibit 13. PRIMR effects on performance on EGRA subtasks, Class 1 compared to Class 2 and public vs. nonformal schools

Subtask	Language	Metric	Class 1		Class 2	
			Formal	Nonformal	Formal	Nonformal
Letter-sound fluency	English	clpm	11.89***	30.38***	13.33***	32.88***
	Kiswahili	clpm	15.78***	23.41***	14.89***	29.83***
Nonword decoding fluency	English	cwpm	4.40**	10.76***	-0.79	8.19**
	Kiswahili	cwpm	3.01*	6.11***	-0.86	6.98**
Connected-text fluency	English	cwpm	8.74**	14.05***	2.62	16.21***
	Kiswahili	cwpm	3.31*	10.97***	0.77	12.88***
Reading comprehension	English	%	3.07~	3.15~	-4.87	9.06*
	Kiswahili	%	5.81*	12.00***	1.56	9.64*
Listening comprehension	Kiswahili	%	12.97**	-4.93	7.90~	-3.22
Proportion of fluent readers	English	%	4.78~	10.16***	12.09*	21.07**
	Kiswahili	%	7.21**	15.49***	8.25*	17.34**

clpm = correct letters per minute
cwpm = correct words per minute
~p<.10, *p < .05, **p < .01, ***p < .001

The results presented in Exhibit 13 show that the impact of PRIMR varied by public and nonformal, by Class, and by subtask. public schools showed a much larger impact in Class 1 than Class 2, with insignificant effects of PRIMR in nonword fluency, connected-text fluency, and reading comprehension in Class 2. For Class 1 public schools, all subtasks for both languages were significant at the .10 level. For Class 2, letter-sound fluency had a significant impact for both Kiswahili and English, as did the key variable—the percentage of pupils able to read with fluency and comprehension—for both languages. Listening comprehension effects were significant at the .10 level. On the other hand, PRIMR increased outcomes for all subtasks in both Class and Class 2, except for listening comprehension. English comprehension for Class 1 had a small effect at the .10 level.

With respect to language comparisons within subtasks, the only interesting difference was that reading comprehension effects were smaller (or nonexistent) in English than in comprehension. This makes sense, given the emphasis in PRIMR on learning to read and comprehend in Kiswahili, a language closer to everyday usage than English; and on the specific focus on transitioning skills from oral to written English later in the Class 1 year.

Exhibit 13 also shows that the relative effectiveness of PRIMR differed by subtask. Statistically significant impacts were found for all combinations of Classes and public/nonformal for letter-sound fluency and connected-text fluency. Nonword decoding fluency and connected-text fluency were statistically significant for every group except Class 2 public schools. Reading comprehension had fewer effects that were significant at the .10 level. Somewhat surprisingly, listening comprehension was significant only in public schools, not in nonformal schools. In an absolute sense, listening comprehension was higher in nonformal schools, for both treatment and control schools. This is a difficult comparison because the nonformal schools were fully urban so that they did not have the problem of having Kiswahili as a so-called foreign language.

4.2.3 Impact of PRIMR on Math Outcomes

USAID, the MOE, and RTI also were interested in whether PRIMR would have any impacts on math. Unfortunately, due to slight delays in the timeline of developing the materials, PRIMR teachers were not trained on PRIMR mathematics methods until July 2013. They implemented the PRIMR math lessons in July 2013, for around two weeks before the end of the second term. Most of August was a school holiday. September was affected by the teacher strike in the public schools, and the PRIMR midterm assessment was undertaken in early October. In short, there was somewhere between 2 and 6 weeks' worth of PRIMR math implementation, not enough to actually assess the impact of the program. However, the results appear below in the interest of full transparency. Note that these results are causal treatment effects from fitted models using a differences-in-differences methodology and key control variables for pupil sex, pupil wealth, and the existence of reading materials at home.

The data analysis team was somewhat surprised to see as many statistically significant impacts of PRIMR on math outcomes as emerged ***(Exhibit 14).*** Class 1 public saw impacts only on word problems, Class 1 nonformal saw impacts on number identification and missing number, and Class 2 public saw impacts on missing number and word problems. Class 2 nonformal had more effects—on addition fluency, subtraction fluency, number identification, and missing number. Overall, it appears that PRIMR improved number identification, missing-number skills, and word problems, with a potentially negative effect on two-digit subtraction.

Exhibit 14. PRIMR effects on performance on EGMA subtasks, Class 1 compared to Class 2 and public vs. nonformal schools

Task	Metric	Class		Class 1		Class 2	
		1	2	Formal	Nonformal	Formal	Nonformal
Addition	Items correct per minute (cpm)	0.72~	0.23	0.73	0.75	-0.36	1.76*
Subtraction	Items cpm	0.42	0.45	0.43	0.45	-0.00	1.39*
Number identification	Items cpm	1.66*	1.73~	0.53	3.74**	1.16	3.18~
Quantity comparison	% correct	0.22	2.56	-1.20	3.23	2.66	2.06
Missing number	% correct	1.82	5.05*	1.51	3.03~	5.11*	5.25~
Word problems	% correct	3.35~	8.67*	4.46~	3.03	10.61*	5.65
Addition level 2	Items cpm	-0.01	-2.03	-1.86	2.21	-3.82	2.18
Subtraction level 2	Items cpm	-0.01	-6.61*	0.01	-2.18	-7.70	-3.81

clpm = correct letters per minute
cwpm = correct words per minute
~$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$

The causal mechanism for this modest improvement in outcomes is difficult to identify. On the one hand, having an effect of any magnitude in math is impressive given the limited time frame for implementation. But the mechanism for the effect is still unclear, as one of at least two pathways are likely responsible: either the improvements in reading that the PRIMR program

effected are spilling over into math (as was the case in Liberia[2]), or the PRIMR math program is able to quickly improve outcomes. There is some evidence for both explanations.

From the vantage point of the PRIMR math program actually improving math outcomes, the effects make some sense, as word problems, missing numbers, and number identification are areas that the PRIMR methods emphasize over the computational practice prevalent in Kenyan schools. Note that the one area with an apparent negative effect (i.e., students in PRIMR schools had worse scores than those in control schools) was subtraction level 2, which is not an emphasis at all in PRIMR math methods. Another reason that the effect might actually have come from the PRIMR methods is that there were more substantial and consistent math effects in nonformal schools, which had the benefit of the PRIMR program for a greater period of time during the 2012 academic year, as they were not affected by the teacher strike (except for the increased enrollment of pupils coming from the striking public schools).

On the other hand, there is some evidence that the causal mechanism for change in math scores was improved reading skills rather than actual learning in math. First, take-up of the math program was not as quick as it was in Kiswahili and English due to the late start-up of the math program. Second, effects in word problems, missing numbers, and number identification could plausibly come from an increased attention to comprehension and ability to read accurately.

The 2013 assessment has the potential to determine which causal pathway best explains the findings from the full implementation of PRIMR.

4.2.4 Impact of PRIMR on Likelihood of Child's Ability to Read

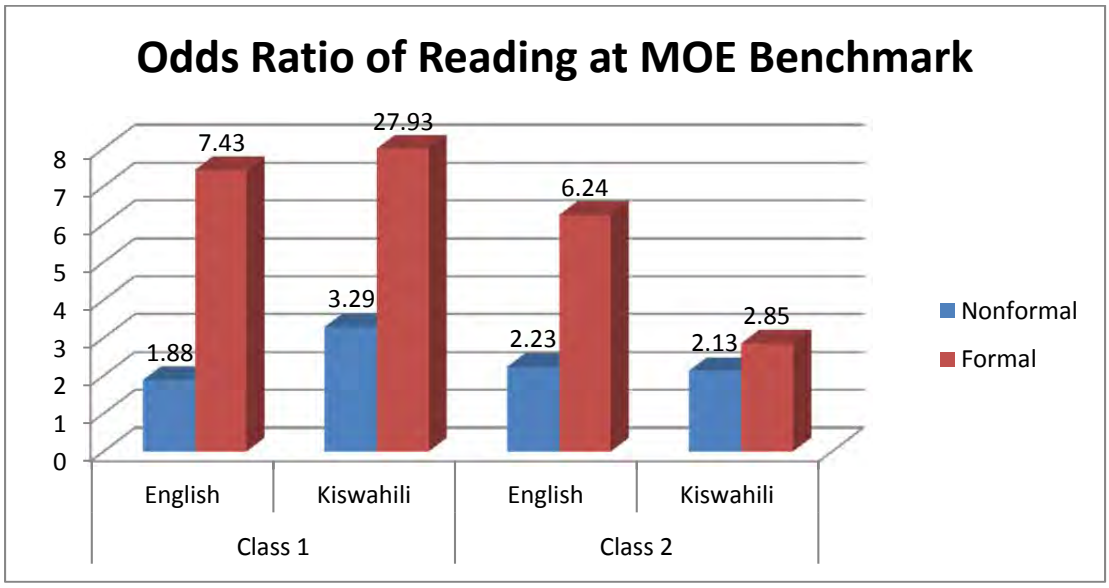
As noted in the Introduction, this PRIMR midterm report is primarily concerned with answering the question of whether PRIMR had an impact on pupil outcomes. While the sections that follow investigate that question in depth, with analysis on a variety of indicators of interest, this section presents the findings with respect to the PRIMR impact on the percentage of pupils able to read at the MOE's set benchmark levels. In order to avoid presenting spurious correlations, the analysis team included several key control variables in the models fit to measure the impact of PRIMR on outcomes. They undertook analyses of dozens of predictors that were correlated with reading outcomes, and included the three most correlated variables that were non-collinear statistically and substantively. The three variables were pupil sex, student wealth (a variable that indicates the number of items that pupils confirmed that their family possessed and that were related to family and student wealth), and reading materials (a dummy variable differentiating those pupils who had any other reading materials at home and those who did not). These variables appear in the key models and did not significantly influence the size of the PRIMR effect.

Exhibit 15 shows the results of logistic regression models estimating the odds ratio of reading fluently in treatment and control schools at midterm. Since few pupils were reading fluently at

[2] Piper, B., & Korda, M. (2011, January). *EGRA Plus: Liberia—Program evaluation report.* Report prepared under the USAID EdData II project, Task 6, Contract No. EHC-E-06-04-00004-00. Research Triangle Park, NC: RTI International.

baseline, this analysis was limited to midterm. Exhibit 15 presents the odds ratio for reading fluently in PRIMR schools compared with control schools, disaggregated by Class, nonformal vs. public, and English and Kiswahili. This shows that being in a PRIMR school dramatically increased the likelihood of a pupil reading at the MOE benchmarks. In nonformal schools this meant that being in a PRIMR school made it between 1.9 and 3.3 times more likely that pupils would be reading fluently, depending on Class and language. For public schools, the odds ratio was even higher, with being in a PRIMR school making it between 2.9 and 27.9 times more likely that they would read fluently. One should not read this graph to mean that the public schools were doing better than the nonformal schools, however. Quite the contrary: The impact on the target end of the PRIMR initiative—getting pupils to read with fluency and comprehension—was quite successful regardless of which subgroup was evaluated.

Exhibit 15. Logistic regression models estimating the odds ratio of reading fluently in nonformal and public schools at midterm, Classes 1 and 2



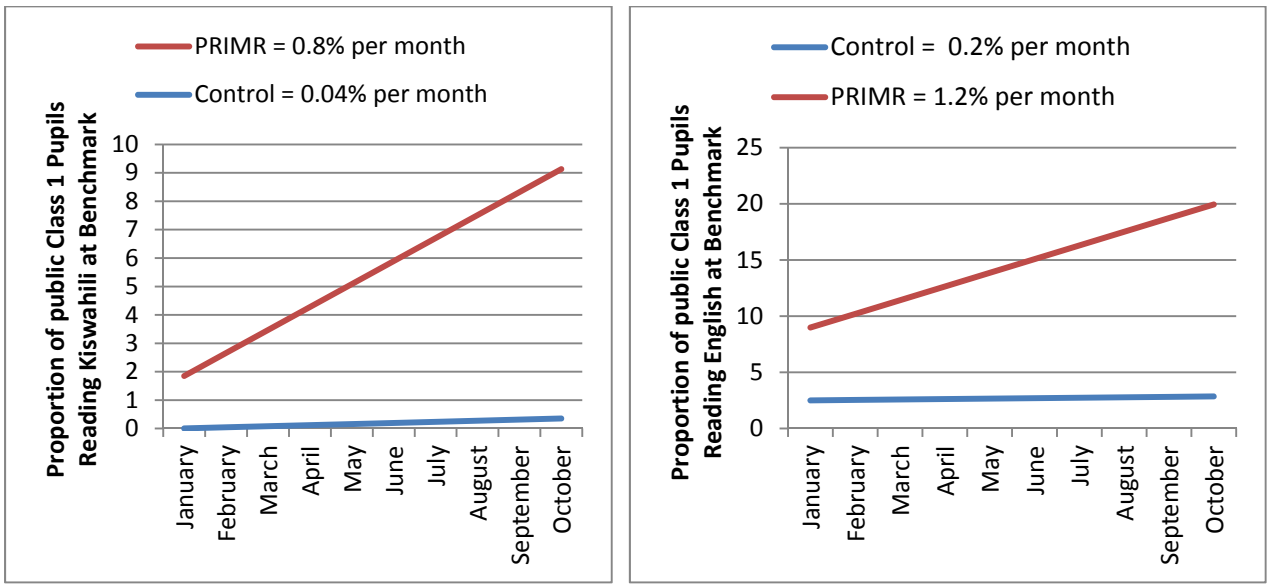
4.2.5 Impact of PRIMR on Rate of Improvement

Previous studies[3] in Kenya have shown high percentages of pupils unable to read with fluency and comprehension. Many programs purport to have improved the situation, yet given how far away real success is in many parts of Kenya, it is worth examining whether PRIMR is able not only to increase the percentage of pupils who can read, but also to do that at a fast enough rate to

[3] See, for example: **(1)** National Assessment Centre. (2010). *Monitoring of Learning Achievement for Class 3 in Literacy and Numeracy in Kenya.* Nairobi, Kenya: Kenya National Examinations Centre. **(2)** Piper, B. (2010). *Kenya Early Grade Reading Assessment findings report.* Prepared for the William & Flora Hewlett Foundation. Research Triangle Park, North Carolina: RTI International and East African Development Consultants. Available from https://www.eddataglobal.org/countries/index.cfm?fuseaction=pubDetail&ID=275 **(3)** Piper, B., & Mugenda, A. (2012). *The Primary Math and Reading (PRIMR) Initiative baseline report.* Prepared for USAID/Kenya. Research Triangle Park, North Carolina: RTI International. **(4)** Uwezo. (2011). *Are our children learning? Annual learning assessment report, Kenya, 2011.* Nairobi: Uwezo.

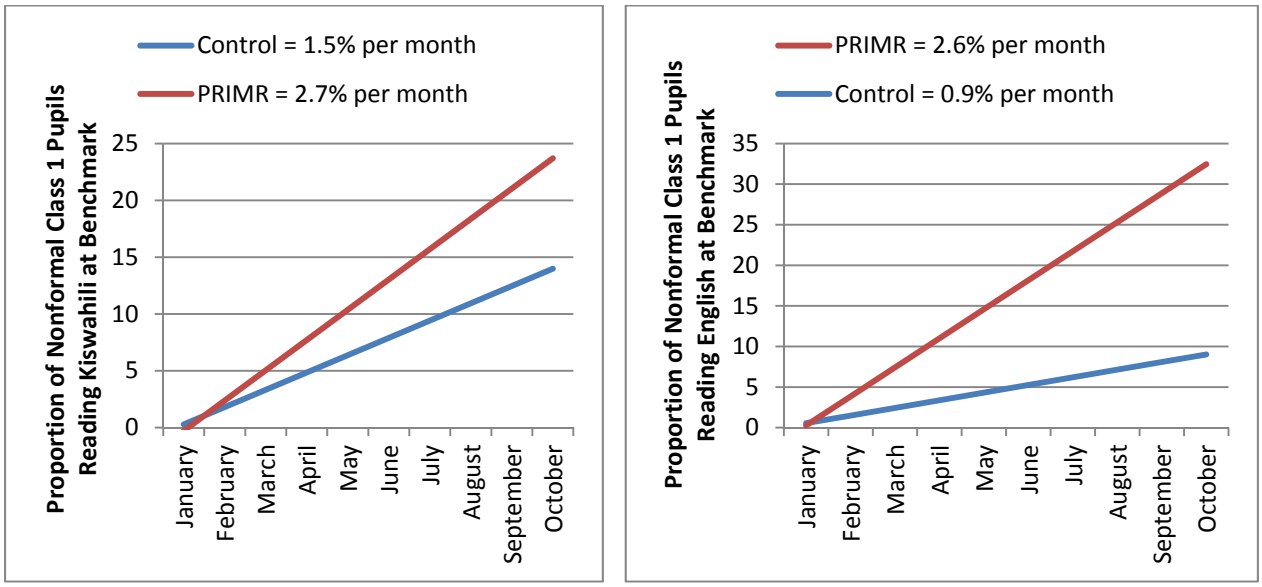
make a dent in this national problem. ***Exhibit 16*** shows the rate of growth in the proportion of pupils able to read at the MOE's Class 2 fluent-reader benchmark for those in Class 1 in public control and PRIMR schools, for both Kiswahili and English. The rate of growth was many times higher in PRIMR schools, as the graphs show. Note that no monthly data are available to indicate whether the growth rates are linear, so these graphs are illustrative based on the baseline and midterm results.

Exhibit 16. Proportions of public schools' Class 1 pupils reaching fluent-reader benchmark, Kiswahili and English



In nonformal schools as well ***(Exhibit 17),*** PRIMR was teaching pupils how to read at a much more rapid pace, and improving outcomes for pupils much earlier than otherwise in control schools. In both Kiswahili and English, 2.6% of pupils reached the fluent-reader threshold per month. Further research (including from the PRIMR endline assessment) is necessary to determine whether these rates shift or change over time, but the midterm results are encouraging.

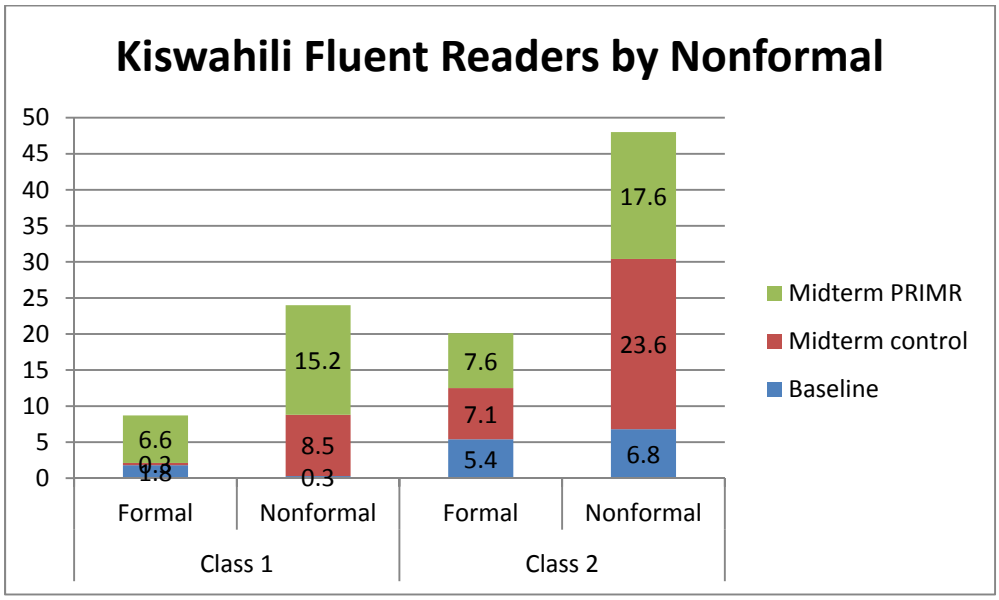
Exhibit 17. Proportions of nonformal schools' Class 1 pupils reaching fluent-reader benchmark, Kiswahili and English



4.2.6 Impact of PRIMR on MOE Benchmarks

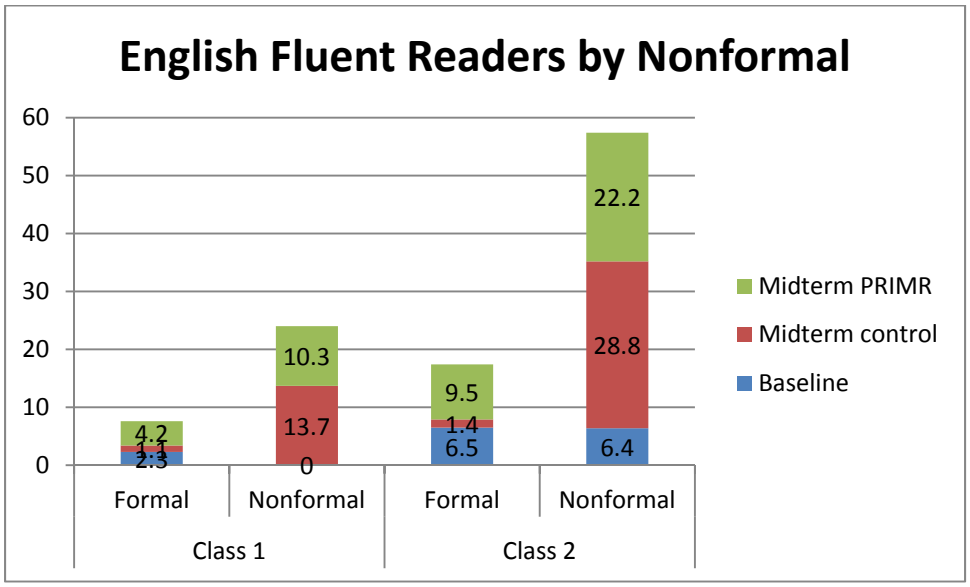
Exhibit 18 shows this impact more specifically; it is derived from the proportion of pupils reaching the MOE benchmarks in Class 1 and 2 in public and nonformal settings. Exhibit 18 is organized as follows. The bottom (blue) segments of the bars indicate the proportion of pupils who met the benchmark at the baseline; these figures are very small in each case. The next (red) segments are the additional percentage of pupils, on top of those at baseline, who learned to read at the MOE benchmark by the October 2012 assessment period, as identified in control schools. Gains were modest in Class 1 control schools, with 8.5% more pupils in nonformal schools and 0.3% more in public schools able to read fluently. In Class 2, a substantial 23.6% of pupils learned to read fluently in control nonformal schools during 2012, with 7.1% learning in control public schools. The larger changes came in PRIMR schools, as evident by the top (green) bars. They show that, in addition to the proportion of pupils who could read fluently at baseline and in the control schools, the PRIMR effect was worth between 6.6% and 17.6% of an increase in the proportion who could read Kiswahili. This was substantial, and represented a large proportional increase compared to the normal gain in control schools. Effect sizes for this effect were moderate, averaging around 0.3 SD.

Exhibit 18. Kiswahili fluent readers at baseline and midterm, Classes 1 and 2, public and nonformal schools



For English, the effects were similarly large. ***Exhibit 19*** shows, in the bottom (blue) segment of each bar, the proportion of pupils at baseline who were reading with enough fluency to comprehend. The percentages were very low, with basically none of the pupils reading fluently in Class 1 and around 6% in both public and nonformal schools in Class 2. The gain in the public control schools was small (middle or red segments), with only statistically insignificant negative changes in the proportion of pupils who could read fluently. In the nonformal schools, on the other hand, the gains over baseline were substantial, at 13.7% in Class 1 and 28.8% in Class 2. This was the explicit focus of much of the instruction we found in nonformal control schools, so it was not very surprising. The PRIMR effect on fluency was positive and significant (top or green segments), even in the nonformal schools, as Exhibit 19 shows. In nonformal schools, this meant that 57.4% of pupils could read with fluency in Class 2 PRIMR schools, a causal gain of 22.2%. Gains were also large in public schools, at 10.3%; and even in Class 1, the PRIMR intervention increased those who could read by 9.5% in Class 2 and 4.2% in Class 1.

Exhibit 19. Change in percentage of English fluent readers between baseline and midterm



In the section that follows, we present outcomes from PRIMR on the achievement of the benchmarks set by the MOE. In August 2012, based on findings from the PRIMR baseline study, the MOE convened a panel including assessment experts from KNEC, donors, and the NGO community, and led by senior members of the MOE, including the Directors of Basic Education and Quality Assurance and Standards. The panel had the task of using baseline data in English and Kiswahili to set standards for reading for Class 2, with particular emphasis on coming up with benchmarks for fluent and emergent readers. The emergent reader benchmark was not defined as "emergent" is sometimes used; instead, it was designed to identify readers with some basic decoding and initial comprehension skills. The benchmarks were organized to identify when pupils would reach particular levels of comprehension, such that although the results are expressed in fluency rates (correct words per minute), the fluency is secondary to the comprehension. The benchmarks are:

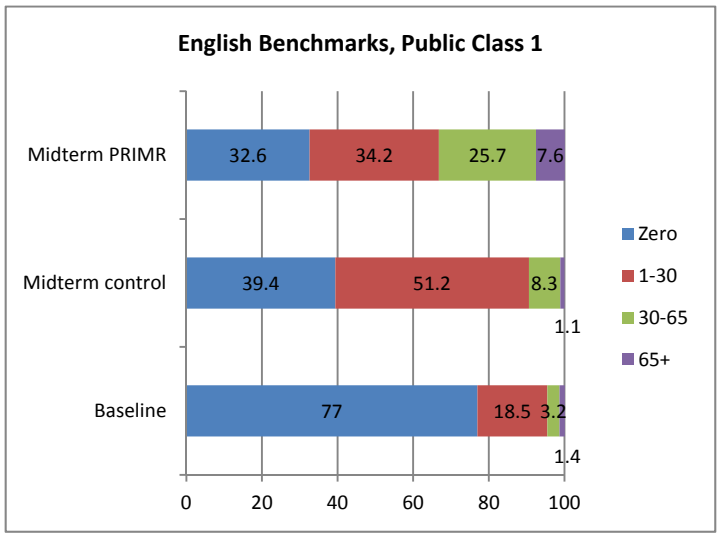
- Kiswahili
  - Emergent Reader: 17 cwpm
  - Fluent Reader: 45 cwpm
- English
  - Emergent Reader: 30 cwpm
  - Fluent Reader: 65 cwpm

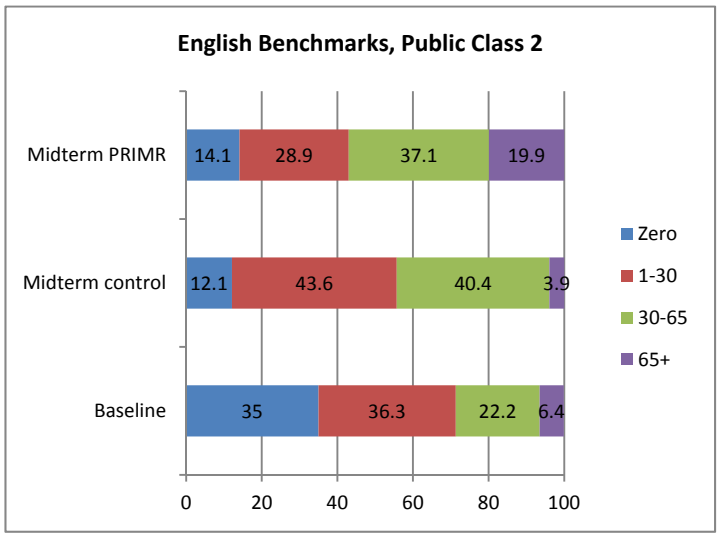
These benchmarks are the primary method of determining program success in PRIMR, and they likely will serve as the basis for measuring effectiveness in the national program anticipated to follow.

Exhibit 20 presents the change in the proportion of pupils reading at the emergent and fluent levels (and below those levels) for particular subpopulations within PRIMR. As is the case

throughout this section, these results are from unfitted models. The two far-right segments (green and purple) of each bar show increases between baseline and midterm in the proportion of pupils reaching the fluent and emergent levels in English, even in Class 1, although Class 1 reading in English is not the explicit goal of PRIMR. Both PRIMR and control schools showed increases in the number of pupils at the emergent level or above in Class 1 English (33.3% and 9.4% as opposed to 4.6% at baseline). For Class 2, the gains were most pronounced in the proportion of pupils who read at the fluent-reader benchmark levels (19.9% for PRIMR schools and 3.9% for control schools, versus 6.4% at baseline). Note, however, that there remained a modest amount of pupils who were unable to identify a word in the public Class 2 schools, and that number was slightly higher in PRIMR schools (14.1% and 12.1%).

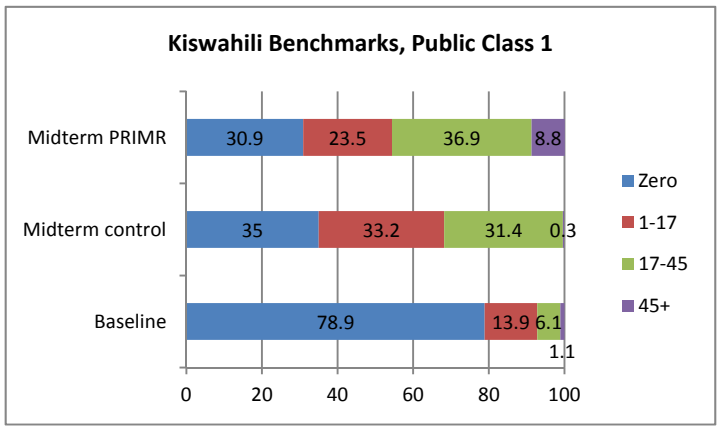
Exhibit 20. Progress against English benchmarks, public schools, Classes 1 and 2

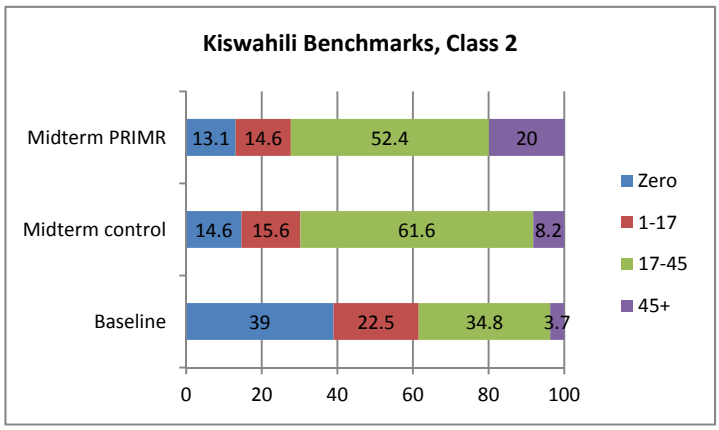




Formal schools also saw a large increase in the proportion of pupils who could read Kiswahili. ***Exhibit 21*** shows that, in public schools in Class 1, there was a large decline in the proportion of pupils not reading at all (30.9% in PRIMR schools and 35.0% in controls, vs. 78.9% at baseline). Encouragingly, the proportion who could read with fluency in PRIMR schools at midterm was 8.8% (rather than 0.3% in control schools). The combined proportion in PRIMR schools who could be identified as emergent or fluent readers was 45.7%, and in control schools 31.7%, both vast improvements over the baseline combined rate of 7.2%. Class 2 changes were most striking in the fluent-reader benchmark category, with 20.0% of midterm PRIMR readers meeting the fluent benchmark, as opposed to 8.2% in control schools. Interestingly, the proportion of Class 2 pupils reading at the emergent benchmark was smaller in PRIMR schools than in non-PRIMR schools at midterm, because of the larger number of PRIMR school pupils who were able to read with fluency and comprehension.

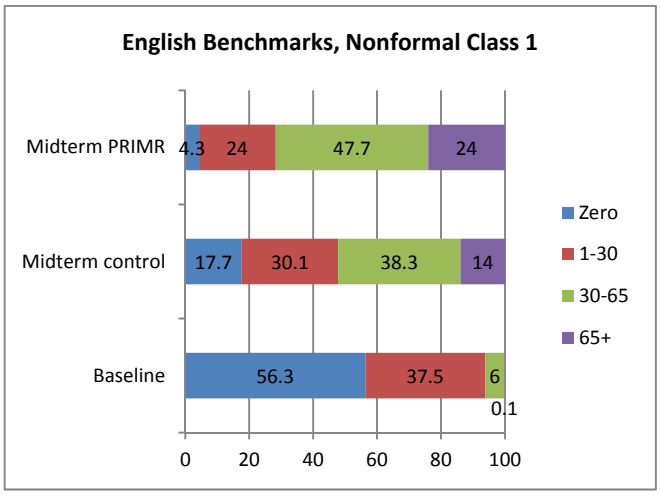
Exhibit 21. Progress against Kiswahili benchmarks, public schools, Classes 1 and 2

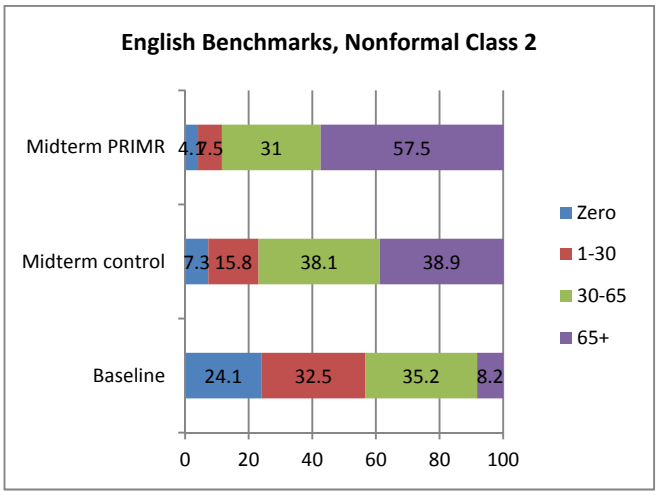




The relationships were similar for nonformal schools, although the impact was slightly more pronounced. ***Exhibit 22*** shows the change in the proportions of pupils who were reading at zero words per minute, below the emergent benchmark, at the emergent benchmark, and above the fluent benchmark, by grade. For both the control and PRIMR schools, the midterm changes in the proportion not reading any words were more pronounced in these nonformal schools than they were in the public school discussion above. In Class 1, while 17.7% of pupils were reading 0 cwpm at the midterm in control schools, only 4.3% were in PRIMR schools. Gains were significant in the emergent reader area, with 47.7% of the PRIMR population at emergent reader level, compared to 38.3% in control schools and 6.0% at baseline. The proportion that read at the fluent-reader benchmark in Class 1 in control schools was 14.0%, much less than the 24.0% in PRIMR schools but still significantly better than the 0.1% found at baseline. The effect was even more obvious in the fluent-reader benchmarks for Class 2, with 57.5% of the PRIMR participants able to read with fluency, as opposed to 38.9% in control schools. Substantively, this is a very big effect, particularly because the growth in control schools was also quite impressive over the 8.2% seen at baseline.

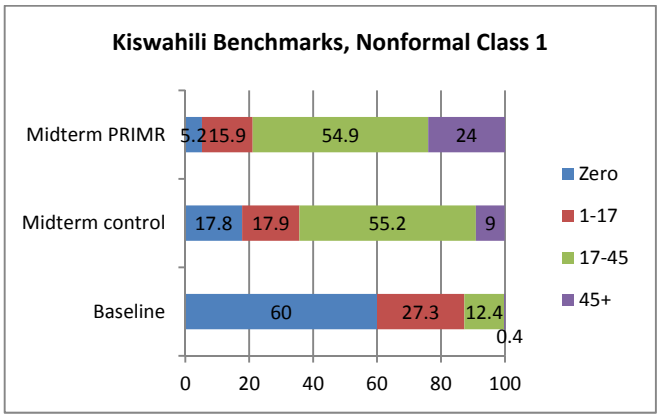
Exhibit 22. Progress against English benchmarks, nonformal schools, Classes 1 and 2

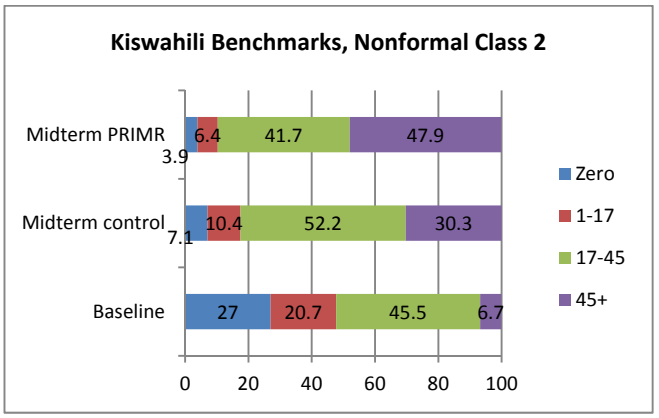




The Kiswahili gains were highest for nonformal schools, and quite similar to the gains for English ***(Exhibit 23).*** This is potentially because the Kiswahili benchmarks were set somewhat harder to reach than the English benchmarks. In any case, the gain in fluent readers for Kiswahili Class 1 was substantial, with 24.0% of Class 1 PRIMR nonformal pupils reading at the benchmark, and 9.0% of control school pupils, compared to 0.4% at baseline. In Class 2, the percentage increase was similar, with 47.9% at the benchmark in PRIMR schools, compared with 30.3% in control schools and 6.7% at baseline. On the other end of the distribution, while control schools showed dramatic decreases in the proportion of pupils who read zero words a minute (60.0% to 17.8% in Class 1, 27.0% to 7.1% in Class 2), the PRIMR schools further cut this percentage significantly. Only 5.2% of Kiswahili Class 1 pupils in PRIMR nonformal schools read 0 cwpm, and 3.6% in Class 2.

Exhibit 23. Progress against Kiswahili benchmarks, nonformal schools, Classes 1 and 2



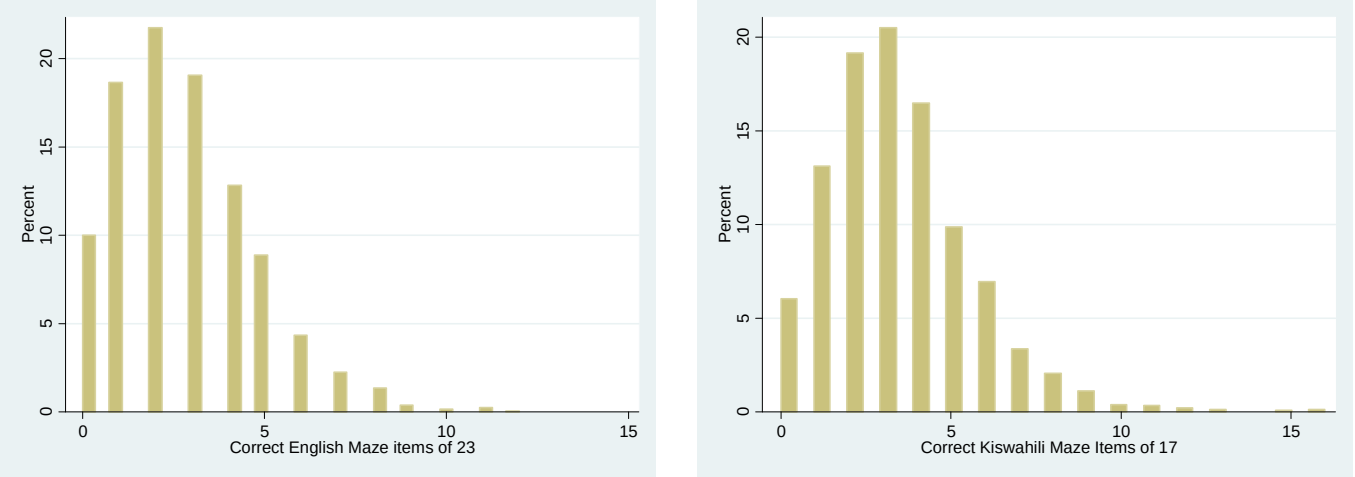


4.3 Implementation of Maze Assessment

In order to improve on PRIMR's ability to assess reading comprehension adequately, the midterm PRIMR EGRA included a Maze subtask (the tools are presented in Appendix A). Maze is often used with slightly older pupils to estimate their ability to comprehend what they read. The PRIMR team wanted to determine whether the EGRA was providing enough variation to be able to measure outcomes adequately, and whether the Maze subtask outcomes in Kiswahili and English would differ dramatically. Note that, in English, every seventh word was removed from a brief story so that the pupil had to choose the appropriate word from a list of three. One of the words was the correct one, one was incorrect but of the same part of speech (similar distractor), and one was incorrect but a different part of speech (dissimilar distractor). This would permit differentiation among the types of mistakes that pupils made, and determine whether treatment pupils were performing better overall, but also with the advantage of being able to analyze their mistakes. In Kiswahili, the Maze tool did not remove every seventh word, as each Kiswahili word embeds much more information than English words, such that a single word can contain a sentence worth of information. Moreover, as Kiswahili is an agglutinating language, particular words can carry grammatical markers that would change the entire meaning of a sentence when eliminated. Instead, the Kiswahili Maze removed words that could be guessed by learners who understood the story.

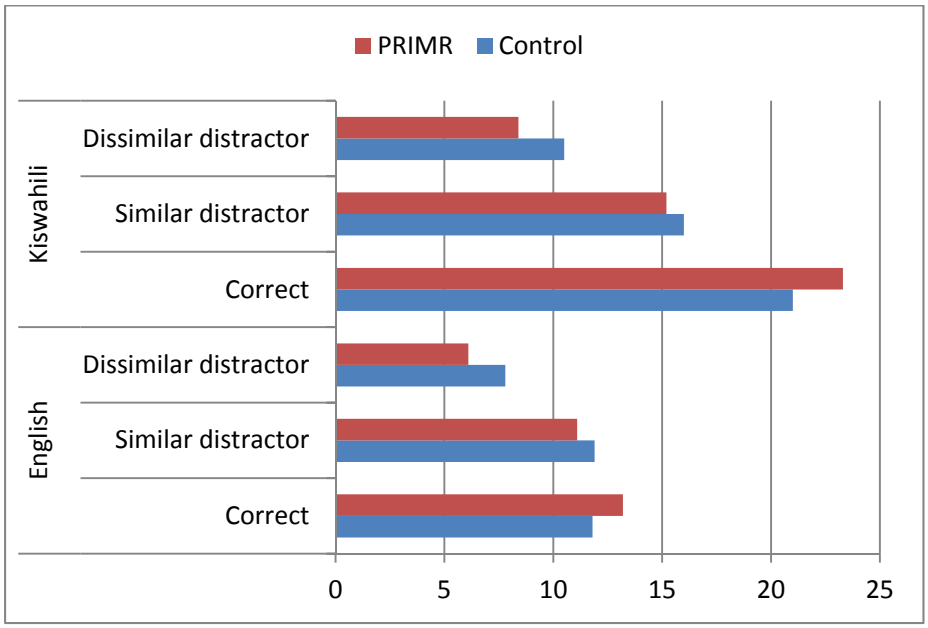
Histograms of the Maze subtask results appear in ***Exhibit 24.*** For English, the subtask required that pupils silently read 180 words in 3 minutes; 23 items each had 3 options. As they read silently, the pupils were to circle the correct word of three options at every seventh word. Mean scores were low, with the average pupil answering 11.8% correctly, and 27.3% of the items that they attempted. This is actually less than guessing level, meaning that many pupils would try to read words but were unable to absorb enough meaning to take an educated guess. In Kiswahili, the pupils silently read 147 words in 3 minutes; 17 subtask items each had 3 options. The mean scores were also low, with pupils answering 19.3% of the items correctly, on average, which amounted to 47.8% of attempted items correct. As Exhibit 24 reveals, the largest proportions of pupils answered between 2 and 4 items correct on English and 3 and 5 items correct on Kiswahili. It should be noted that a possible explanation for the very low findings is that pupils are seldom asked to read silently in school, and that they have not been asked to do this type of task very often. Even though Maze examples were given to the pupils in the assessment instructions, it is plausible that pupils struggled with the combination of reading silently, doing a new task, and continually understanding what they read.

Exhibit 24. Maze subtask results, English and Kiswahili



While average performance could only be described as dismal, it was feasible to further examine the items to determine whether there were any differences between control and PRIMR schools, not only on the number correct, but on the types of errors that were made. We would expect that pupils in PRIMR-supported schools would perform better, such that they would have a higher percentage of correct items, and a lower percentage of both similar distractors and dissimilar distractors. This is exactly what happened, as ***Exhibit 25*** shows. Note that the PRIMR bars are longer for the "correct" row, and shorter for the similar distractor and dissimilar distractor. Encouragingly for the behavior of the tool, the gap between correct and similar distractor was larger in Kiswahili than in English, which shows that pupils were more likely to be able to identify the actual correct word than just the correct part of speech in a language that they knew. Note that the percentage of items correct and the percentage of items with a similar distractor were exactly the same for control schools in English, suggesting that a great deal of work needs to be done on comprehension to prepare pupils to understand.

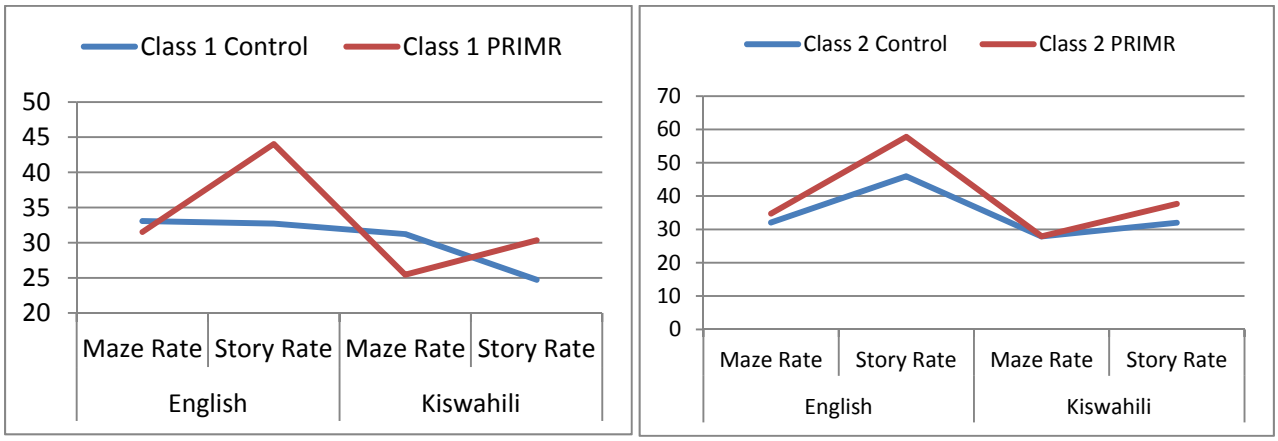
Exhibit 25. Differences in Maze performance between PRIMR and control respondents, by type of error



The Maze tool, which is a silent reading subtask, also makes it possible to compare the reading rates of pupils doing silent and oral reading. This is not a completely pure comparison because while the pupils were told to do the Maze reading silently, many read aloud. The assessors did not have the power to force pupils to read silently, but did remind them. In fact, probably more than half of the pupils still read aloud after being asked to read silently.

Research from outside of sub-Saharan Africa suggests that pupils read faster silently than they do orally as long as they are fluent readers. The midterm evaluation was able to test that hypothesis in Kenya. ***Exhibit 26*** shows reading rates for Classes 1 and 2 for control and PRIMR-supported pupils. The "Maze rate" reflects silent reading, while the "story rate" came from the connected-text passage used for the oral reading fluency measures. Note that neither set of results reflects reading *fluency*, which measures accuracy; but *rate*, which is simply the number of words attempted in one minute. Contrary to previous research, in English, reading rates in both Class 1 and 2 were faster in the oral story reading than in the silent story. This was more pronounced in the PRIMR classrooms than in control classrooms. More research is necessary to better understand why this finding differs from the established literature. In the March 2013 baseline evaluation for the DFID-supported PRIMR counties, Machakos and Bungoma, the assessors gave each child two equated stories of approximately 60 words, with instructions to read the first story aloud and the second one silently. The data analysts will compare the word-per-minute results with performance on the comprehension items associated with the subtask. This approach will facilitate comparisons between the outcomes on oral and silent reading, with respect to both rate and how rate influences comprehension.

Exhibit 26. Maze and story reading rates for Classes 1 and 2, control and PRIMR schools



4.4 Use of Time in PRIMR Classrooms

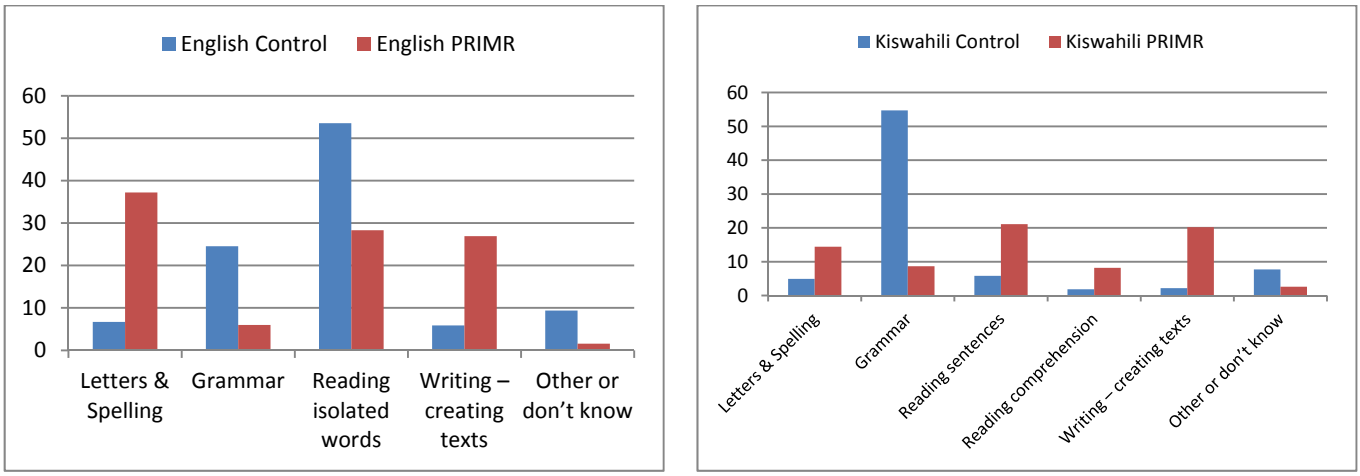
The PRIMR team is heavily influenced and convinced by the Opportunity to Learn (OTL) literature, which is being expanded in interesting ways in the international education sector by colleagues at Save the Children and FHI360. Most critical from that literature is the idea that with the current amountof classroom time pupils typically spend on actual learning, they will not be able to learn to the level needed. PRIMR has addressed this issue through scripted lesson plans, which require a full 30 minutes of actual instruction in all three subjects. Another convincing portion of the OTL literature is the difficulty required to change how time is spent. This is not a new area of research, but it is a frustrating one. Getting actual time usage to shift significantly is extremely difficult, and in-service intervention after in-service intervention has failed to do so. PRIMR's strategy is simple: Encourage teachers to follow a lesson plan, and within the lesson plan, fundamentally change how time is spent. However, it is difficult to create tools that adequately measure the changed behavior in classrooms. Inspired by the work of Dubeck and Jukes[4] in the Health and Literacy Intervention (HALI) work on the coast of Kenya, the PRIMR team used the SSME to examine teacher usage of lesson time very closely. This time-sampled Stallings-type observational instrument measures the amount of time spent on particular classroom activities. Findings for English and Kiswahili instructional content are below.

Exhibit 27 shows that in control schools, the primary activities in English classrooms were reading isolated words and grammar. PRIMR schools dramatically decreased the amount of time on grammar, and increased the amount of time on letters/spelling and writing–creating texts. This created a classroom with a fundamentally different focus of instruction than what normally happens currently in English. The changes were of a similar magnitude, but with a different emphasis, in Kiswahili. In the control classrooms, more than 50% of instructional time was focused on content related to grammar. The next highest proportion was "other or don't know."

[4] Dubeck, M., & Jukes, M. (2012). *HALI project: Literacy intervention in coastal Kenya using text messages and a teacher manual to support teachers.* Paper presented at the 56th Annual Conference of the Comparative and International Education Society (CIES), Caribe Hilton, San Juan, Puerto Rico.

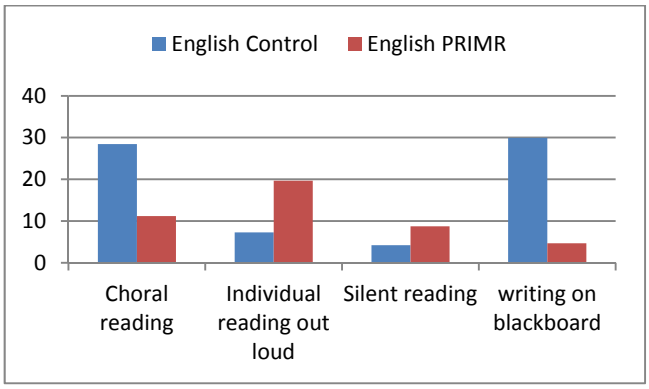
PRIMR reduced the time spent on grammar to below 10%, and increased the emphasis on letters and spelling, reading sentences, reading comprehension, and writing–creating texts. The PRIMR arrangement is a more balanced approach to teaching reading and presents a more diverse set of activities within classrooms.

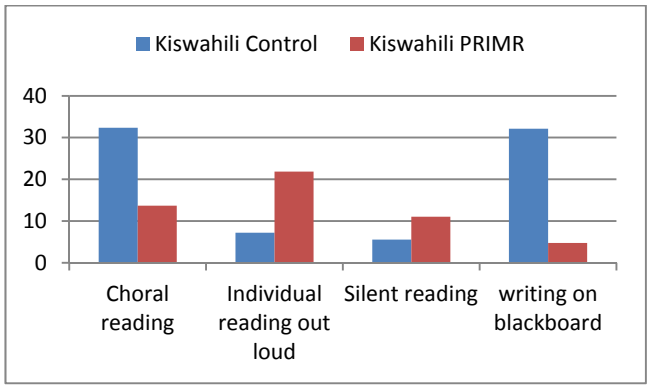
Exhibit 27. SSME results for proportion of classroom time spent on various subtasks, English and Kiswahili



The discussion above focused on how time was spent across instructional content. The SSME measures also made it feasible to examine how pupils were spending their time—i.e., what activities they were undertaking. ***Exhibit 28*** presents those activities for English and Kiswahili. They show, very clearly, that the primarily activities for pupils in both Kiswahili and English were choral reading and writing on the blackboard. Choral reading is not necessarily a bad thing, but from PRIMR's point of view, 30% of the time is too much for that activity. The same is true for writing on the blackboard, since when one pupil writes on the board, the rest of the pupils are idle. In PRIMR classrooms, time was spent differently. Very little time was spent writing on the blackboard, and about 10% of time in choral reading. More time was spent on individuals reading aloud, by a factor of 3 times more, and silent reading also doubled. Most marked was the dramatically smaller amount of time spent writing on the blackboard, as most of the written activities in PRIMR schools occur in the pupils' exercise book or at home. This is a way to increase the amount of teaching time and thereby impact OTL.

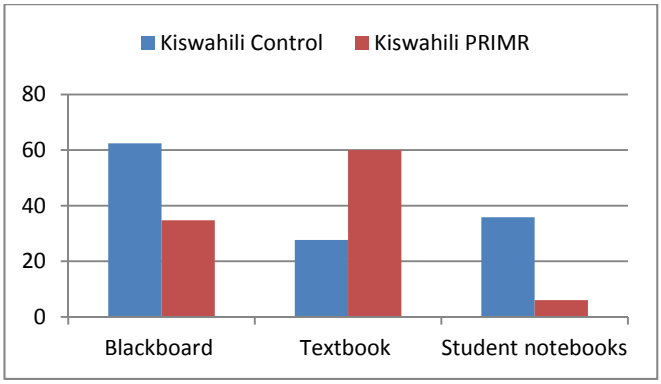
Exhibit 28. SSME results for activities on which pupils spent their time, English and Kiswahili





For the midterm assessment, the PRIMR team also was interested to see whether the project intervention was changing what materials were used in classrooms. ***Exhibit 29*** shows that the blackboard was the predominant instructional material in Kiswahili classrooms in control schools, with exercise books being used more than one third of the time, and textbooks at just over 20%. In comparisons between blackboard and textbook usage, PRIMR's view is that while blackboard usage is important—and the project approach actually encourages it—pupils having their own individual textbook, where they themselves can track letters and words, is the ideal way for pupils to increase their exposure to text. In PRIMR classrooms, the amount of time using the board was halved, and textbooks were used 60% of the time, nearly three times as much. Exercise books were used almost not at all, which was deliberate, given the PRIMR perspective that much of what is being done in exercise books at school in the control scenario should actually be done at home as homework or supplementary work.

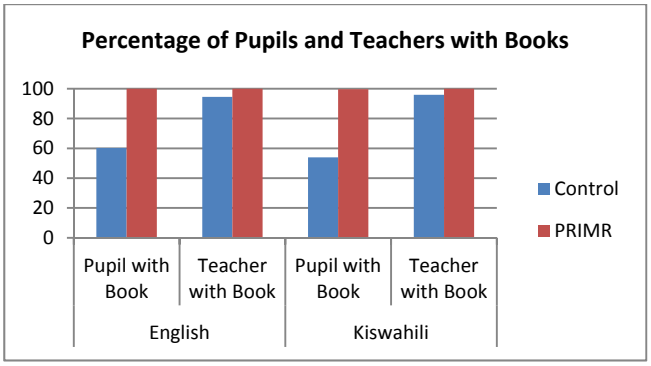
Exhibit 29. SSME results for instructional materials used in Kiswahili classrooms



The PRIMR midterm evaluation team also was interested in using the SSME tool to determine what proportion of PRIMR-supported schools, teachers, and pupils actually had books compared with those in the control schools. ***Exhibit 30*** shows the comparison. The key difference was that just over 50% of pupils had books in Kiswahili and 60% in English in control schools. In PRIMR schools, 100% of the pupils could be identified with a PRIMR book. This is an essential part of the PRIMR intervention, and while it is not a costly part of the intervention (recall that the books cost approximately US$0.75 apiece), it is critical to the philosophical and practical point of view of the PRIMR intervention. These data show that PRIMR not only was able to provide the

materials at a 1:1 ratio, but also—and more importantly—they were being *used* at a 1:1 ratio in classrooms.

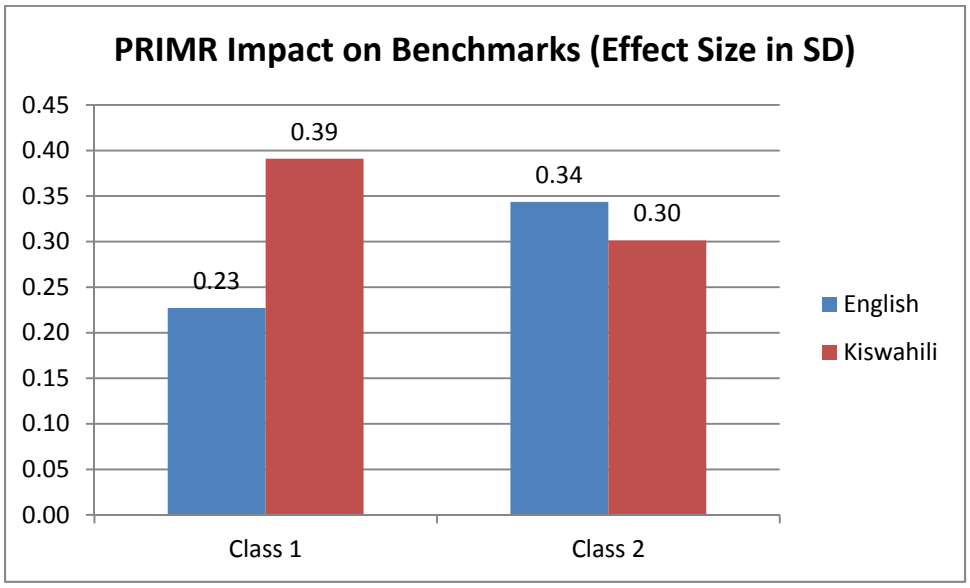
Exhibit 30. SSME results for percentage of pupils and teachers with books, control and PRIMR schools



4.5 PRIMR Effect Size in Reading

This section presents the impact of PRIMR in terms of effect sizes so that it can be compared against other, similar, programs to determine effectiveness and cost-effectiveness decisions. ***Exhibit 31*** shows the size of the PRIMR effect on the increase in the percentage of pupils reading fluently, as derived from fitted differences-in-differences models. This calculation does not differentiate by public and nonformal. It shows that the effect in Class 1 was larger on Kiswahili than English (0.39 SD against 0.23 SD). This makes sense, as PRIMR is designed to increase pupil outcomes on Kiswahili reading in Class 1, with much of Class 1 English focused on oral language development. Any impact on English reading in Class 1 is therefore a bonus. The effect size in Class 2 was similar between the languages, with both just over 0.3 standard deviations. PRIMR's top-level impact, then, was at 0.3 SD for the first year (or slightly less) of implementation, ignoring the differences between public and nonformal schools (and actually weighting public a bit higher, as the calculation is not a simple average).

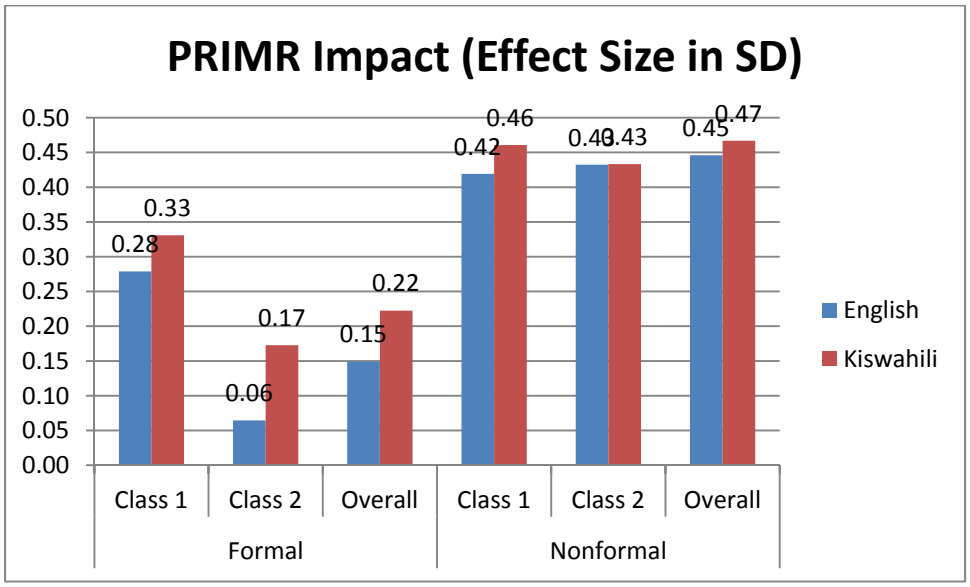
Exhibit 31. PRIMR effect sizes based on percentage of pupils reading fluently



The effect size in ***Exhibit 32*** was calculated differently. It represents an average effect size of the variables assessed in PRIMR, namely letter-sound fluency, decoding or nonword fluency, connected text fluency, reading comprehension, and the proportion of pupils reading with fluency and comprehension. The effect sizes were calculated separately for public and nonformal schools, as the standard deviations were quite different (nonformal standard deviations were much higher). If the effect sizes had not been calculated separately, the effect would have looked much higher in nonformal schools (0.6 or 0.7 SD) and slightly lower in public schools. The midterm analysis team determined this to be the most accurate method of assessing effect size in this population.

Exhibit 32 shows that the effect size of PRIMR in Class 1 in public schools was approximately 0.3 standard deviations, with small language differences. For Class 2 public schools, the effect size for Kiswahili was 0.17 and for English 0.06 standard deviations. English Class 2 was the subject for which PRIMR had the most difficulty ensuring adherence to standard implementation in public schools, and it appears that many teachers did not use the materials in Class 2, as they thought that the Class 1 materials were too easy for their pupils. This resistance may change during the 2013 academic year; if so, the October 2013 endline assessment should capture any differences. For nonformal schools, the effect was steady at just over 0.4 standard deviations, for both Class 1 and 2 and for both English and Kiswahili.

Exhibit 32. PRIMR average effect sizes by Class, type of school, and subject, based on EGRA subtasks



4.6 Disaggregated Impact Evaluation Results

The richness of the PRIMR data set permits estimation of the effectiveness of PRIMR by several key variables. ***Exhibit 33*** presents the impact of PRIMR, using the same models as discussed before, but disaggregated by school type, Class, and pupil sex. Given the wide differences in school type and class, nearly all of the results in this report are presented by those two variables together. However, for the purposes of reporting on the items in our PMP, Exhibit 33 gives the basic information about whether PRIMR was working in each of these categories. Looking at the "proportion of fluent readers" row at the bottom of the table, the percentage of pupils who read with fluency and comprehension, statistically significant positive results emerge for each variable, for both types of schools, for both classes, and for both sexes. At the variable level, there were some differences. As shown above, PRIMR was somewhat more effective in nonformal schools than public ones. Much of this effect was driven by the difficult time that public Class 2 teachers had in implementing the PRIMR 2012 curriculum, which was designed for Class 1 pupils. The project team had good reasons for using those lesson plans and books in Class 2 (the Class 2 pupils themselves were struggling; they were really at a Class 1 level; expectations of Class 2 PRIMR books were too high for Class 2; the team wanted to test the potential success of using Class 1 materials for Class 2 in a national reading program; etc.). This also shows up when the analysis differentiates outcomes by Class: There were fewer statistically significant outcomes for Class 2 than Class 1, where all items were statistically significant. On the other hand, the impact on the percentage of fluent readers (the key variable) was larger in Class 2. This may have been because this benchmark was only reasonably accessible by Class 2 pupils. Finally, when comparing by sex, the table shows that females had a few more statistically significant gains than boys, with larger impacts in nonword decoding fluency and letter-sound fluency. Interestingly, the gains for girls were smaller for the proportion of pupils who could read, in part because more girls could read at baseline. Exhibit 33 fundamentally shows that

PRIMR was working for most pupils, with Class 2 public schools being the largest area of focus for 2013.

Exhibit 33. Impact of PRIMR disaggregated by school type, Class, and pupil sex

Subtask	Language	Metric	School Type		Class		Pupil Sex	
			Formal	Non-formal	Class 1	Class 2	Male	Female
Letter-sound fluency	English	clpm	12.9***	31.6***	18.0***	18.7***	14.6***	22.6***
	Kiswahili	clpm	15.5***	26.4***	17.8***	19.1***	16.6***	20.6***
Nonword decoding fluency	English	cwpm	1.8	9.6***	6.1***	1.7	3.1~	4.8**
	Kiswahili	cwpm	1.1	6.6***	3.8***	1.4	1.8	3.5**
Connected-text fluency	English	cwpm	5.7~	15.4***	9.4***	6.2~	7.7*	8.2**
	Kiswahili	cwpm	2.2	12.0***	5.3***	4.2~	4.5*	5.3**
Reading comprehension	English	%	-1.1	5.9*	2.6~	0.4	1.8	0.2
	Kiswahili	%	3.8~	11.0***	7.1***	3.9	6.6*	4.5~
Listening comprehension	Kiswahili	%	10.6**	-4.1	6.9*	5.1	8.3*	4.0
Proportion of fluent readers	English	%	8.8**	16.0***	5.7**	13.9**	11.1***	9.1**
	Kiswahili	%	7.9**	17.0***	9.3***	10.3**	10.7***	7.5***

clpm = correct letters per minute
cwpm = correct words per minute
~$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$

5. Lessons Learned

The PRIMR initiative midterm report was designed primarily to provide the PRIMR technical team with feedback on the program design and structure. The findings yielded the following lessons learned.

- **Revision time is necessary.** The PRIMR technical materials development team is a highly skilled group with expertise in early literacy and math instruction in bilingual and multilingual settings. They were given very limited time to develop the materials for the 2012 academic year. The results, given that limited timeline, are quite impressive. The initial design for PRIMR gave the technical team eight months to design and revise the PRIMR materials, but in reality, the PRIMR team had two months to create both the lesson plans and learner books. The time allocated at the end of the 2012 year for the technical team, the PDIT, and teachers and head teachers to revise and update the materials was critical, as the take-up and response to the 2013 materials has been much better. The lesson learned, therefore, is that technical managers should be given enough time to create materials, pilot them, and revise them before implementing in classrooms.
- **Nonformal school impacts are higher.** As discussed above, the analysis team attributes this unexpected finding to a faster and fuller take-up of the PRIMR initiative by nonformal school teachers. These teachers were much more likely to use the lessons, partly because of their lack of much formal training. For them, PRIMR was a welcome

professional development exercise. The positive results of the program drove the schools' decision to continually use the method. In public schools, particularly urban ones in Nairobi, implementation was more difficult, primarily due to the perceived extra work of the PRIMR program and the limited transport reimbursements given to TAC tutors. PRIMR maintained a low cost implementation schedule to avoid introducing costs higher than the MOE could later afford.

- **Implementation effectiveness.** There is some evidence that the PRIMR program was relatively successful in 2012 because of the explicit efforts to influence take-up. Arguments focused on simplicity—such as the MOE's decision not to require teachers using PRIMR to do schemes of work or lesson plans, and the relative simplicity of the plans when teachers had the opportunity to practice. Decisions not to have wall charts or big books or the like were made with take-up in mind. However, take-up was much higher for Class 1 than Class 2. This situation linked to the decision to use Class 1 materials in Class 2, which was difficult for some Class 2 teachers (and parents) to agree to.
- **Technical precision matters.** The PRIMR instructional supervision model depends on the quality of PRIMR lesson plans and books. The supervision focuses on encouraging teachers to use the lesson plans with fidelity. In fact, the PRIMR midterm evaluation showed that teachers who used the lesson plans recorded higher outcomes than those who did not. This result appears to have depended on the structured and sequenced approach to learning that the PRIMR lessons adopted.

6. Recommendations

The relatively successful outcomes from PRIMR in 2012 suggest several recommendations. Some of the recommendations focus on the PRIMR program, and others target the decisions and policy and planning of the MOE and the Government of Kenya.

- **Revise the Kenyan books policy.** Kenya made a decision in 2002 to cede technical development of textbooks to publishers, with KICD serving as the vetter. The vetting guidelines focus much more on layout and topical issues than on what research says about how pupils learn how to read. Even more importantly, Kenya allocations Ksh 650 ($7.65) per capita for the purchase of instructional materials. The average cost of books existing in the market is Ksh 350 ($4.11). The PRIMR texts—which are much longer than others on the market—can be purchased at US$0.75 apiece (even with a relatively small print run). If PRIMR type textbooks could be adapted, even with higher quality print production and color, Kenya could ensure a 1:1 book-pupil ratio; the pupils could go home with books, even with the faster replenishment ratios needed. This will improve efficiency of FPE grants to schools.
- **Evaluate PRIMR math programs after a full year of implementation.** Given the very limited amount of time for the PRIMR math intervention, the results are encouraging. But

to have a full understanding of the effects of the math intervention, analysis of the October 2013 results will be necessary.

- **Focus on low-cost interventions.** The PRIMR Initiative midterm impact evaluation suggests that some relatively low-cost interventions can drive improvements in learning outcomes. This includes a budget-neutral move to a one-to-one ratio between texbooks and pupils, and a budget for transport and classroom materials that falls within the government's guidelines.
- **Review methods for creating buy-in for Class 2.** Given that many Class 2 classrooms in public schools struggled to take up the PRIMR methodologies, programs in other educationally competitive contexts should reexamine their thinking about what materials to offer Class 2 classrooms during the first year of an intervention. The pros and cons between take-up, implementation, and target level are important to consider in this decision-making process. Even for a potential national program in Kenya, care should be given to the decision on whether Class 1 or Class 2 materials are used.
- **Expand PRIMR to rural areas.** While the USAID-funded portion of PRIMR is being undertaken in peri-urban schools, an expansion of PRIMR is necessary to determine whether some of the initiative's overall success is due to conditions specific to peri-urban Kenya, and whether some of the resistance to implementation by public teachers was limited to the unique characteristics of peri-urban Kenya. The DFID-funded rural expansion of PRIMR in an additional 800 schools should be able to help disentangle these issues.
- **Focus on TAC tutors and their support**. The placing of TAC tutors squarely within the purview of the Teachers' Service Commission and primarily for the improvement of outcomes is a welcome change in the education sector in general, and for improved learning outcomes specifically. The PRIMR experience shows that the TSC County Directors's decisions on how to use the TAC tutors matters quite a lot, and that where the TSC can allow the TAC tutor to support instruction, outcomes are likely to improve substantially. This level of involvement requires not only that the TAC tutors receive training to overcome limits to their technical skills, but also that those tutors' supervisors be given information about why instructional issues are paramount.
- **Effective use of instructional time.** While a great deal of recent research has shown that the amount of time focused on teaching and learning in classrooms should dramatically increase in order to yield improved outcomes, the PRIMR experience goes one step further: Not only should more time be spent, but also the way time is spent should change. This means a more balanced use of time between substantive areas of reading and math, but also a greater variety of instructional topics within a 30-minute period. In a typical classroom, pupils spend quite a lot of time practicing a single topic explained by the teacher; by contrast, in PRIMR, teachers spend much more time actually teaching, and a variety of instructional topics are addressed within a lesson. This pushes the pupils' individual work to homework or at other times, increasing the functional contact time between teachers and pupils without costing any money.

- **Focus on letters, phonological awareness, and decoding.** PRIMR's current and ongoing work to develop training strategies for teachers not using PRIMR lesson plans has reinforced the important contribution of PRIMR on focusing on letters, phonological awareness, and decoding skills. The existing books in the market ignore the important skills of phonological awareness and alphabetic principle. Teachers, if they follow the existing books in the market, are ignoring the key building blocks of reading skills. This is important in general, but specifically for those pupils without exposure to early childhood programs or pre-unit instruction. In other words, these skills will be even more important for young learners as PRIMR and methods like it expand.
- **Improve the teaching of comprehension.** The experience of PRIMR shows that teaching pupils explicit comprehension strategies is a new strategy for teachers. Learners in the average Kenyan classroom spend quite a lot of time asking questions about stories read by teachers, but those questions predominately are factual recall level. This is, on average, better instruction than is found in many neighboring countries, but more is necessary if Kenya is to really see success in comprehension. PRIMR's expanded comprehension strategies are essential to this objective. However, the PRIMR midterm results showed only modest progress in comprehension, meaning that PRIMR's attempts should be improved.
- **Use programs for research.** PRIMR sees itself as a research incubator, organized to evaluate a variety of questions of interest to the MOE. These include the questions from the original design, but also what the appropriate uses of ICT are, how the MOE's own system can be actualized to improve outcomes, and how impacts differ between public and nonformal schools. In addition, PRIMR has adjusted its EGRA and EGMA tools to answer other questions of interest, specifically the relationship between timed and untimed outcomes, whether counting is relevant, and a variety of new comprehension measures. We recommend, therefore, that more investment is made in researching especially how interventions can address the complex issues of improving reading and math quality at scale, in complex multilingual environments, with different incentives for teachers and education officers.

Appendix A: PRIMR Midterm Instruments and Protocols

Protocol for Kiswahili EGRA

Uchunguzi wa Kusoma katika Madarasa ya Chini Nchini Kenya: Fomu ya Majibu ya Mwanafunzi
Maelekezo na Mwongozo wa Mchunguzi, (MidTerm)

KISWAHILI

Maelekezo ya Jumla:

Wakati wa kufanya uchunguzi huu, ni muhimu kuonyesha mwelekeo wa kucheza na kuburudika na wanafunzi kwa kuanza kuzungumza nao juu ya maswala rahisi yatakayowapendeza (tazama mfano ulioko hapa chini). Mwanafunzi anapaswa kuchukulia uchunguzi huu kama mchezo wa kujifurahisha kuliko mtihani wa kuogopewa. Ni muhimu kusoma TU zile sehemu zilizo ndani ya visanduku pole pole na kwa ufasaha.

Hujambo! Jina langu ni ____ na ninaishi _____. Ningependa kukueleza kidogo kunihusu. (Mwambie kwa ufupi kuhusu familia yako, idadi ya watoto wako na umri wao, michezo upendayo, n.k.)

1. Hebu nieleze kwa ufupi kuhusu familia yako. (Ngojea jibu la mwanafunzi kwa muda mfupi. Ukiona kwamba anasita, uliza swali la pili; lakini asiposita, enda kwenye sehemu ya idhini ya Kusemwa.

2. Unapenda kufanya nini wakati haupo shuleni?

Idhini ya Kusemwa

- **Hebu nikueleze sababu za kuja kwangu hapa hivi leo. Ninafanya kazi na Wizara ya Elimu na tunafanya uchunguzi kuhusu jinsi wanafunzi hujifunza kusoma. Ulichaguliwa kushiriki kwa bahati, kama katika mchezo wa bahati nasibu.**
- **Tunakuomba ushirikiane nasi katika shughuli hii. Lakini usishiriki katika shughuli hii iwapo hutaki.**
- **Tutacheza mchezo wa kusoma. Nitakuuliza usome herufi, maneno na hadithi fupi kwa sauti.**
- **Nitatumia hii saa ya kasi ili kupima muda utakaotumia kusoma.**
- **Huu SIO mtihani na alama zako za mitihani shuleni hazitaathirika.**
- **SITAANDIKA jina lako po pote. Kwa hivyo, mtu hawezi kujua kwamba majibu haya ni yako.**
- **Kumbuka kwamba una hiari ya kutoshiriki katika shughuli hii. Vile vile, tutakapoanza shughuli hii, utajibu maswali kwa hiari yako na ni sawa iwapo hutaki kujibu swali.**
- **Je, una swali lo lote? Uko tayari kuanza?**

Tia alama ya sahihi ikiwa mwanafunzi ametoa idhini: ☐ ***NDIO***

(If verbal consent is not obtained, thank the child and move on to the next child, using this same form)

A. Date of Assessment :	Day : _____ Month:_____
B. Enumerator's Name :	
C. School Name :	
D. District :	
E. Zone :	
F. School Shift :	0 = Full day 1 = Morning only 2 = Afternoon only
G. Multigrade Class ? :	0 = No 1 = Yes
H. Order of Assessment :	1 = First 2 = Second 3 = Third

I. Class :	1 = Class One 2 = Class Two
J. Stream Name :	
K. Pupil Unique Code :	
L: (for Class 1 only) Was pupil sampled at Baseline? :	0 = No 1 = Yes
M. Pupil's Age :	
N. Pupil's Gender :	0 = Boy 1 = Girl
O. Time Started :	____ : _____ AM / PM

KISWAHILI: Sehemu ya Kwanza: Ufahamu wa Sauti za Herufi

Mwonyeshe 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 k)* **ni /k/**

Hebu tufanye mazoezi: Nitamkie sauti ya herufi hii ***[****mwonyeshe herufi A]****:***
Iwapo jawabu la mwanafunzi ni sahihi, sema **: Vyema, sauti ya herufi hii ni /a/**
Iwapo jawabu la mwanafunzi sio sahihi, sema: Sauti ya h**erufi hii ni /a/**

Sasa, hebu jaribu herufi nyingine: 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 h**erufi hii ni /m/**

Je, umeelewa unavyopaswa kufanya?
Nikisema "Anza", tafadhali zitamke sauti za herufi hizi haraka iwezekenavyo 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 undelee hadi mwisho wa mstari huo].* **Nitanyamaza nikusikilize. Uko tayari? Anza.**

Anzisha saa ya kupimia kasi pindi mwanafunzi asomapo herufi ya mwanzo. Fuatiliza 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 uendelee. ***Unapaswa kukimya****, isipokuwa wakati unampa mwanafunzi majibu, ifuatavyo: Iwapo mwanafunzi anasita kwa muda wa sekunde 3, mpe jawabu halafu mwelekeze katika herufii 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 herufii ya mwisho aliyosoma.
Kanuni ya kusitisha kusoma mapema: *Iwapo mwanafunzi hatapata jawabu sahihi hata moja katika mstari wote wa juu, hata kwa kujikosoa, sema "****Asante !****"Sitisha shughuli hii, kisha utie alama katika kisanduku kilicho chini ya ukurasa huu na uendelee na shughuli inayofuata.*

Mifano: k A m

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	
Z	u	g	a	m	a	d	M	o	t	*(10)*
S	th	n	N	B	i	R	k	u	T	*(20)*
I	A	h	I	k	a	w	A	O	a	*(30)*
E	f	n	A	l	a	W	K	sh	a	*(40)*
L	o	a	w	gh	m	a	I	h	l	*(50)*
m	e	i	k	n	a	b	ch	y	a	*(60)*
Dh	i	u	a	z	u	S	l	A	V	*(70)*
N	E	i	n	Y	i	e	D	i	a	*(80)*
I	U	t	Ny	a	i	a	u	m	N	*(90)*
Ng'	p	n	g	u	o	A	L	k	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: 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: " ju"

Hebu tufanye mazoezi: tafadhali lisome neno hili *[mwonyeshe neno "huka"]*
[Iwapo mwanafunzi atasema "huka ", mwambie]: **"Vizuri sana : "huka"**
[Iwapo mwanafunzi hakusoma neno "huka" vizuri, mwambie]: **Neno hili la kubuni ni "huka."**

Sasa, hebu jaribu neno lingine la kubuni: Tafadhali soma neno lifuatalo *mwonyeshe neno:* **"fisa**".
*[Iwapo mwanafunzi atasema "*fisa *", mwambie]:* **"Vizuri sana : "fisa"**
[Iwapo mwanafunzi hakusoma neno "fisa" vizuri, mwambie]: **Neno hili la kubuni ni "fisa."**

Nikisema "Anza", yasome maneno haraka iwezekenavyo 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 kisha utie alama ya mkwaju (/) katika kila neno ambalo hakusoma vilivyo. Iwapo, mwanafunzi anajisahihisha, jibu hilo ni sahihi.Iwapo ulikuwa umemkosoa mwanafunzi katika jibu ambapo 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, mpe jawabu halafu 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: ju huka fisa

1	*2*	*3*	*4*	*5*	
ngiso	fipe	mwela	hungu	ndaho	*(5)*
regu	ndise	gazu	vube	nyuza	*(10)*
kabe	nzinga	dhilu	yota	josa	*(15)*
mtozo	vili	bwara	leye	howe	*(20)*
choyu	honzi	chuso	rime	toko	*(25)*
gowe	ripi	nepu	mtofi	shifi	*(30)*
thata	aate	riki	kengu	ngute	*(35)*
nziki	msino	mbeta	sharu	dusu	*(40)*
kenzi	kine	kuvi	vicha	mapa	*(45)*
ndami	chena	owa	ng'ila	zefu	*(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 Tatu (a): Kusoma Hadithi kwa Sauti

Mwonyeshe mwanafunzi hadithi iliyomo katika kijitabu cha mwananfunzi. Halafu sema hivi,

Hii hapa ni hadithi fupi. Ningependa uisome kwa sauti, haraka 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 nikusilikilze. Uko tayari? Anza.

Anzisha saa ya kupimia kasi pindi mwanafunzi asomapo neno la kwanza. Fuatiliza kusoma kwake ukitumia penseli kisha utie alama ya mkwaju (/) katika kila neno ambalo hakusoma vilivyo. Iwapo, mwanafunzi anajisahihisha, jibu hilo ni sahihi.Usiseme cho chote, isipokuwa wakati mwanafunzi atasita kwa muda wa sekunde 3 ambapo sasa utamsomea neno kisha umwonyeshe neno linalofuata na 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 shughuli inayofuata.*

Sehemu ya Tatu (b). Kusoma na Kufahamu

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: MUMO APOTEA		**MASWALI**	**JIBU SAHIHI**	**JIBU LISILOSAHIHI**	**KUTOJIBU**
Mumo na mama yake wanaishi karibu na msitu.	8	**Mumo na mama yake wanaishi karibu na nini?** [na msitu]			
Mumo hupenda kucheza. Mama yake humwambia asicheze mbali na nyumbani.	18	**Mama yake humwambia nini?** [Asiende kucheza mbali na nyumbani]			
Siku moja, Mumo aliona ndege wa kupendeza akipita. Alimfuata mpaka msituni.	29	**Mumo alimfuata nani mpaka msituni?** [ndege/ndege wa kupendeza]			
Hakujua njia ya kurudi kwao. Aliketi chini	36	**Nini kinaonyesha Mumo alikuwa amechoka?** [aliketi chini; kulia; alishikwa na usingizi]			
ya mti na kuanza kulia. Baadaye alishikwa na usingizi akalala. Alipoamka, giza lilikuwa limeingia. Mara akaona taa kwa umbali. Watu wakaja. Wakamwona na kufurahi.	60	**Kwa nini watu walifurahi?** [Walimwona Mumo]			

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 4(a): Hadithi ya Kusikiza Ikisomwa

Mwonyeshe 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.

4b: Ufahamu wa Hadithi ya Kusikiza

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.

HADITHI 3: RIZIKI	**MASWALI**	**JIBU SAHIHI**	**JIBU LISILOSAHIHI**	**KUTOJIBU**
Riziki ni msichana anayependa kuchezacheza. Siku moja mwalimu alipoingia darasani wanafunzi walisimama na kumsalimia. Riziki akakiondoa kiti cha msichana mmoja aliyekuwa mbele yake. Yule msichana alipokuwa akikaa, alianguka chini. Wanafunzi wote wakacheka. Mwalimu akamuadhibu Riziki kwa kosa hilo. Riziki hakurudia hilo kosa tena.	**Msichana aliyependa kuchezacheza aliitwa nani?** [Riziki]			
	Riziki alifanya nini wakati wanafunzi waliposimama kumsalimia mwalimu? [Alikiondoa kiti cha mwanafunzi aliyekuwa mbele yake. Alitoa kiti]			
	Kwa nini wanafunzi walicheka? [Kwa sababu msichana alianguka chini, Walichukua kiti]			
	Kwa nini mwalimu alimwadhibu Riziki? [alisababisha kuanguka kwa mwenzake, aliondoa kiti cha mwenzake, alifanya kosa]			
	Je, unafikiri mwalimu alimuadhibu Riziki kwa njia gani? [Alipiga magoti, jibu lolote sahihi na kuadhibu]			

Sehemu ya Tano. Ufahamu wa Kujaza Pengo

Anzisha kifaa cha kupima mda wakati mwanafunzi anapolisoma neno la kwanza. ***Kaa kimya.*** *Iwapo mwanafunzi atakosea kwa maneno manne ya kwanza, Tafadhali msimamishe kusoma na uendelea na sehemu inayofuata.*

WAKATI MDA UNAPOKAMILIKA, SEMA " Wacha kusoma." Tia alama ya mabono ( ]) baada ya neno alilolitamka mwishi

Onyesha mwanafunzi ukurasa wa kwanza wa Hadithi. Kisha sema,

Katika hii sehemu, utasoma hadithi maalum. Hii hadithi ina pengo. Kila pengo linawezwa kujazwa na moja wapo ya maneno kati ya tatu uliyopewa. Unatakiwa kuchagua ni lipi kati ya haya maneno ambalo la faa zaidi kujaza kila pengo kisha uutie mviringo kwa hilo neno.

Tutaanza na hili jaribio (onyesha). Soma sentensi ya kwanza ki vyako ilihali nikiisoma kwa sauti.
Mimi naitwa Kanini.

Sasa nitasoma sentensi inayofuata.
Nyumbani kwetu tumepanda (ruka, miti, kikombe).

Neno *miti* **la faa saidi na hii hadithi. Chora mviringo kwa hili neno** *miti.* (Hakikisha kuwa mwanafunzi amechora mviringo kwa neno linalo stahili)

Sasa tusome sentensi inayofuata.
Nina Baba, (kimbia, tamka, mama) na ndugu wawili.

Ni neno lipi lafaa zaidi katika hii sentensi? (Sikiza).
(Iwapo ni sahihi): **Ndio, neno** *mama* **la faa zaidi na hii hadithi. Chora mviringo kwa hili neno** *mama.*
(Iwapo sio sahihi): **La. neno** *mama* **la faa zaidi na hii hadithi. Chora mviringo kwa hili neno** *mama.*

Sasa ningependa usome sentensi ya mwisho kisha uutie mviringo kwa neno lenye la faa zaidi katika hii sentensi. Soma haraka iwezakanavyo. Soma sentensi kisha utie mviringo kwa neno linalofaa. (Mpe mwanafunzi mda wa kusoma sentensi na wa kutia mviringo kwa neno linalofaa).

Neno *sokoni,* **ni sahihi. Iwapo ulitia mviringo kwa neno lingine, kwa jibu lako na utie mviringo kwa neno** *sokoni.*

Ambia mwanafunzi afungue ukurasa unaofuata. Nitakaposema "anza," soma maneno haraka iwezekanavyo. Ufikapo kwenye maneno matatu yaliyoekwa kwa mabano, tia mviringo kwa neno lililo sahihi. Nitanyamaza nikiku sikiza, labda kama unahitaji usaidizi. Je, umeelewa chenye unapaswa kufunya? Uko tayari? Anza.

Sehemu ya Tano. Ufahamu wa Kujaza Pengo (Mfano)

Mimi naitwa Kanini.
Nyumbani kwetu tumepanda **(ruka, miti, kikombe).** Nina Baba, **(kimbia, tamka, mama)** na ndugu wawili. Mama yangu huuza matunda **(sokoni, cheka, jembe)**.

Sehemu ya Tano: Ufahamu wa Kujaza Pengo (Zoezi)

Karani anaishi na wazazi wake kijijini. **(Mlima, Kula, Wazazi)** wake hawana pesa za kununua nguo za shule. Walikutana na mama mmoja tajiri. **(Kulala, Huyo, Hii)** mama akawaeleza kuwa anaweza kununua nguo za **(kanisa, kulima, shule)** na vitabu. Mama tajiri akasema, ilikuwa ni lazima Karani aishi naye **(kwake, juu, rangi)** jijini. Yeye hakujaliwa kupata **(mbuzi, kuimba, mtoto).** Wazazi wa Karani walifurahi sana. Wakaamua kuwa, ingekuwa vyema Karani **(simba, aishi, hapo)** na yule mama tajiri. Hawakujua kuwa, yule mama alimtaka Karani **(twende, awe, mchuzi)** mfanyikazi wake. Kazi ya Karani ilikuwa **(jembe, kumsaidia, kumkimbilia)** nyumbani. Kila siku, Karani aliamka mapema **(kuita, kutafuta, isipokuwa)** maji. Alitamani kucheza na kwenda shule kama **(watoto, mti, kila)** wengine. Yule mama tajiri alitaka afanye kazi tu.

Likizo ilipofika, wazazi wa Karani walienda jijini **(shamba, kumuona, pinga)** mtoto wao. Walipofika, walimuona Karani akiwa **(na, la, chupa)** huzuni. Karani alikuwa amevaa **(lia, nguo, picha)** chafu sana. Mama yake akawa **(ni, na, huyo)** huzuni kubwa. Karani alipowaona wazazi **(kikombe, wewe, wake)**, alianza kulia. Aliwauliza kwa nini walitaka **(awe, mimi, yake)** mfanyikazi. Wazazi wake wakashangaa. Mama ya Karani alitokwa **(mguu, na, ni)** machozi.

Pupil Stimuli Sheets for Kiswahili EGRA

KENYA EARLY GRADE READING ASSESSMENT

Student Stimuli Booklet

Kiswahili

(Mid-Term)

USAID | KENYA
FROM THE AMERICAN PEOPLE

Mifano: k A m

Z	u	g	a	M	a	d	M	o	t
s	th	n	N	B	i	R	k	u	T
i	A	h	l	K	a	w	A	O	a
e	f	n	A	ɭ	a	W	K	sh	a
l	o	a	w	gh	m	a	l	h	ɭ
m	e	i	k	n	a	b	ch	y	a
Dh	i	u	a	z	u	S	ɭ	A	V
n	E	i	n	Y	i	e	D	i	a
i	U	t	Ny	a	i	a	u	m	N
Ng’	p	n	g	u	o	A	L	k	i

Mifano: ju huka fisa

ngiso	fipe	mwela	hungu	ndaho
regu	ndise	gazu	vube	nyuza
kabe	nzinga	dhilu	yota	josa
mtozo	vili	bwara	leye	howe
choyu	honzi	chuso	rime	toko
gowe	ripi	nepu	mtofi	shifi
thata	aate	riki	kengu	ngute
nziki	msino	mbeta	sharu	dusu
kenzi	kine	kuvi	vicha	mapa
ndami	chena	owa	ng’ila	zefu

Mumo na mama yake wanaishi karibu na msitu. Mumo hupenda kucheza. Mama yake humwambia asicheze mbali na nyumbani. Siku moja, Mumo aliona ndege wa kupendeza akipita. Alimfuata mpaka msituni. Hakujua njia ya kurudi kwao. Aliketi chini ya mti na kuanza kulia. Baadaye alishikwa na usingizi akalala. Alipoamka giza lilikuwa limeingia. Mara akaona taa kwa umbali. Watu wakaja. Wakamwona na kufurahi.

Kiswahili Maze for Pupils

School Name_____Six letter ID_____

Mimi naitwa Kanini.
Nyumbani kwetu tumepanda **(ruka, miti, kikombe)**. Nina Baba, **(kimbia, tamka,mama)** na ndugu wawili. Mama yangu huuza matunda **(sokoni,cheka, jembe).**

Karani anaishi na wazazi wake kijijini. **(Mlima,Kula, Wazazi)** wake hawana pesa za kununua nguo za shule. Walikutana na mama mmoja tajiri. **(Kulala, Huyo, Hii)** mama akawaeleza kuwa anaweza kununua nguo za **(kanisa, kulima, shule)** na vitabu. Mama tajiri akasema, ilikuwa ni lazima Karani aishi naye **(kwake, juu, rangi)** jijini. Yeye hakujaliwa kupata **(mbuzi, kuimba, mtoto).** Wazazi wa Karani walifurahi sana. Wakaamua kuwa, ingekuwa vyema Karani **(simba, aishi, hapo)** na yule mama tajiri. Hawakujua kuwa, yule mama alimtaka Karani **(twende, awe, mchuzi)** mfanyikazi wake. Kazi ya Karani ilikuwa **(jembe, kumsaidia, kumkimbilia)** nyumbani. Kila siku, Karani aliamka mapema **(kuita, kutafuta, isipokuwa)** maji. Alitamani kucheza na kwenda shule kama **(watoto, mti, kila)** wengine. Yule mama tajiri alitaka afanye kazi tu.

Likizo ilipofika, wazazi wa Karani walienda jijini **(shamba, kumuona, pinga)** mtoto wao. Walipofika, walimuona Karani akiwa **(na, la, chupa)** huzuni. Karani alikuwa amevaa **(lia, nguo,picha)** chafu sana. Mama yake akawa **(ni, na, huyo)** huzuni kubwa. Karani alipowaona wazazi **(kikombe, wewe, wake),** alianza kulia. Aliwauliza kwa nini walitaka **(awe, mimi, yake)** mfanyikazi. Wazazi wake wakashangaa. Mama ya Karani alitokwa **(mguu, na, ni)** machozi.

Protocol for English EGRA

Kenya Early Grade Reading Assessment: Student Response
Administrator Instructions and Protocol (Mid-Term)

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 an exam. It is important to read ONLY the sections in boxes aloud slowly and clearly.

Good morning. My name is ____ and I live in _____. I'd like to tell you a little bit about myself. [Number and ages of children; pets; sports; etc]

1. Could you tell me a little about yourself and your family? [*Wait for response; if student is reluctant, ask question 2, but if they seem comfortable continue to verbal consent*].

2. What do you like to do when you are not in school?

Verbal Consent

- **Let me tell you why I am here today. I work with the Ministry of Education and we are trying to understand how children learn to read. You were picked by chance, like in a raffle or lottery.**
- **We would like your help in this. But you do not have to take part if you do not want to.**
- **We are going to play a reading game. I am going to ask you to read letters, words and a short story out loud.**
- **Using this stopwatch, I will see how long it takes you to read.**
- **This is NOT a test and it will not affect your grade at school.**
- **I will also ask you other questions about your family, like what language your family uses at home and some of the things your family has.**
- **I will NOT write down your name so no one will know these are your answers.**
- **Once again, you do not have to participate if you do not wish to. Once we begin, if you would rather not answer a question, that's all right.**
- **Do you have any questions? Are you ready to get started?**

Check box if verbal consent is obtained: ☐ ***YES***

(If verbal consent is not obtained, thank the child and move on to the next child, using this same form)

A. Date of Assessment :	Day : _____ Month:_____
B. Enumerator's Name :	
C. School Name :	
D. District :	
E. Zone :	
F. School Shift :	0 = Full day 1 = Morning only 2 = Afternoon only
G. Multigrade Class ? :	0 = No 1 = Yes
H. Order of Assessment :	1 = First 2 = Second 3 = Third

I. Class :	1 = Class One 2 = Class Two
J. Stream Name :	
K. Pupil Unique Code :	
L: (for Class 1 only) Was pupil sampled at Baseline? :	0 = No 1 = Yes
M. Pupil's Age :	
N. Pupil's Gender :	0 = Boy 1 = Girl
O. Time Started :	____ : _____ AM / PM

Section 1. Letter Sound Knowledge

Show the child the sheet of letters in the student stimuli booklet. Say:

Here is a page full of letters of the English alphabet. Please tell me the SOUNDS of as many letters as you can; not the NAMES of the letters, but the SOUNDS.
For example, the sound of this letter *[point to A]* **is "AH" as in "APPLE".**
Let's practise: Tell me the sound of this letter *[point to V]:*
If the child responds correctly say: **Good, the sound of this letter is "VVVV."**
If the child does not respond correctly, say: **The sound of this letter is "VVVV."**
Now try another one: Tell me the sound of this letter *[point to L]:*
If the child responds correctly say: **Good, the sound of this letter is "LLL."**
If the child does not respond correctly, say: **The sound of this letter is "LLL."**
Do you understand what you are to do?
When I say "Begin," please sound out the letters as quickly and carefully as you can. Tell me the sound of the letters, starting here and continuing this way. *[Point to the first letter on the row after the example and draw your finger across the first line].* **If you come to a letter sound you do not know, I will tell it to you. If not, I will keep quiet and listen to you. Ready? Begin**.

Start the timer when the child reads the first letter. Follow along with your pencil 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, provide the sound of the letter, point to the next letter and say "****Please go on****." Mark the letter you provide to the child as incorrect. If the student gives you the letter name, rather than the sound, provide the letter sound and say: ["****Please tell me the SOUND of the letter****"]. This prompt may be given only once during the exercise.*

AFTER 60 SECONDS SAY, "stop." Mark the final letter read with a bracket ( ]).
Early Stop Rule: *If you have marked as incorrect all of the answers on the first line with no self-corrections, say "****Thank you!****" discontinue this exercise, check the box at the bottom, and go on to the next exercise.*

Example : A v L

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	
d	i	R	E	T	N	t	y	s	n	*(10)*
v	o	E	A	H	g	B	h	u	R	*(20)*
l	t	Q	Y	S	a	I	m	o	a	*(30)*
t	U	H	E	K	w	b	W	h	z	*(40)*
I	H	t	E	O	l	E	n	M	p	*(50)*
G	P	r	H	L	i	w	A	e	o	*(60)*
N	C	n	O	S	O	L	J	T	o	*(70)*
s	A	c	E	X	m	s	D	F	r	*(80)*
i	d	i	R	E	f	s	t	s	e	*(90)*
E	a	e	T	U	a	n	a	r	e	*(100)*

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. ☐

Section 2. Invented word decoding

Show the child the sheet of invented words in the student stimuli booklet. Say,

Here are some made-up words. I would like you to read as many as you can. Do not spell the words, but read them. For example, this made-up word is: "lut".

Let's practise: Please read this word *[point to the next word:* **dif***].*
[If the student says "dif", say]: **"Very good: "dif"**
[If the student does not say "dif" correctly say]: **This made-up word is "dif."**

Now try another one: Please read this word *[point to the next word:* **mab***].*
[If the student says "mab", say]: **"Very good: "mab"**
[If the student does not say "mab" correctly say]: **This made-up word is "mab."**

When I say "begin," read the words as quickly and carefully as you can. Read the words across the page, starting at the first row below the line. I will keep quiet and listen to you, unless you need help. Do you understand what you are to do? 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. If you've already marked the self-corrected word as incorrect, circle the word and go on.* ***Stay quiet,*** *except when providing answers as follows: if the child hesitates for 3 seconds, provide the word, point to the next word and say "****Please go on****." Mark the word you provide to the child as incorrect.*

AFTER 60 SECONDS, SAY "Stop." Mark the final word read with a bracket ( ]).
Early Stop Rule: *If you have slashed/marked as incorrect all of the answers on the first line, say "****Thank you!****" discontinue this exercise, check the box at the bottom, and go on to the next exercise.*

Example : lut dif mab

1	*2*	*3*	*4*	*5*	
git	ret	gat	lep	shik	*(5)*
zay	vob	bis	cur	zin	*(10)*
zeg	yot	jol	reb	kan	*(15)*
pab	vap	kom	dix	tep	*(20)*
gux	lal	pim	kar	ving	*(25)*
lop	fem	het	wim	jeb	*(30)*
pog	chup	heg	fik	ruk	*(35)*
mak	mip	wis	wog	sab	*(40)*
dap	mep	yut	thon	whib	*(45)*
pug	fal	bem	zil	nob	*(50)*

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. ☐

Section 3a. 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, unless you need help. 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 provide the word, point to the next word and say "****Please go on****." Mark the word you provide to 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 3b. 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 1: A NEW DRESS		**QUESTIONS**	**CORRECT RESPONSE**	**INCORRECT RESPONSE**	**NO RESPONSE**
Anna went to the shop to buy a new dress.	10	**Why did Anna go to the shop?** [to buy a new dress]			
She saw dresses with many colours.	16	**What types of dresses did Anna see at the market? [**Dresses of different colors; beautiful dresses; many dresses.]			
She did not know which one to buy. Anna looked and looked. All the dresses were too big. She started to walk home.	39	**Why did she start to walk home?** [She did not find a dress, the dresses were too big, she was tired, it was getting late]			
Anna ran into the next shop because it began to rain.	50	**Why did Anna run into the shop?** [Because it started raining.]			
She saw a very nice dress. She smiled	58	**How do we know Anna liked the dress?** [She smiled, she bought the dress.]			
and bought it.	61				

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

Check this box if exercise stopped due to no correct answers in the first line. ☐

Section 4. Maze comprehension

Show the pupil the first page of the Maze assessment. Say,

For this activity, you will read a special kind of story. Some of the words in the story have been replaced with a group of three words. You are to decide which word in each group fits best in the story. You will circle the word you think is best.

We will begin with the practice story here (point). Read the first sentence to yourself while I read it out loud.

The bird landed on the ground.

Now I will read the next sentence.

It picked up a piece of (book, grass, tired).

The word *grass* **fits best with the rest of the story. Draw a circle around the word** *grass.* (Check to be sure that the students have circled the correct word.)

Let's read the next sentence.

The bird flew back to its (nest, car, yell).

Which word fits best in the sentence? (Listen to the pupil).
(If correct): **Yes, the word** *nest* **fits best with the rest of the story. Draw a circle around the word** *nest.*
(If incorrect): **No. Actually, the word** *nest* **fits best with the rest of the story. Draw a circle around the word** *nest.*

For the last sentence, I want you to read it yourself and circle the word that fits best in the sentence. Work quickly, but not so fast that you make mistakes. Now read the sentence and circle the word. (Allow time for the pupil to read the sentence and circle the word).

The word *tree,* **is correct. If you circled another word, cross out your answer and circle** *tree.*

Tell the pupil to turn over the page. When I say "begin," read the words as quickly and carefully as you can. Whenever you see a group of words, circle the correct answer. I will keep quiet and listen to you, unless you need help. Do you understand what you are to do? Ready? Begin.


Start the timer when the child reads the first word. ***Stay quiet.*** *If the pupil gets the first four items wrong, please stop them and continue to the next section.*

AFTER THE TIMER GOES RED, SAY "Stop." Mark the final word attempted with a bracket ( ]).

Section 4. Maze Comprehension (Example)

The bird landed on the ground. It picked up a piece of (**book**, **grass**, **tired**). The bird flew back to its (**nest**, **car**, **yell**). The nest was in the big (**foot**, **rip**, **tree**).

Section 4. Maze Comprehension (Exercise)

Jane does not like to do homework. When she gets home from school (**cat, she, fly**) only wants to play. Jane tells (**table, her, red**) mother that a full day of (**scary, school, house**) and homework is too much! Her (**hen, to, mother**) tells Jane she needs to do (**her, book, run**) homework before playing. Jane tells her (**goat, mother, work**) that she is just a little (**child, leg, three**), so she needs more time to (**eats, hat, play**).

One day, Jane decides she will (**under, never, dog**) do homework again. She does not (**bring, throw, with**) her books home from school anymore. (**She, Class, Jump**) feels that she is on a (**shop, holiday, on**). Jane is happy. After two full (**weeks, chairs, up**), she takes her exams. Jane gets (**dirty, ear, poor**) marks. Her mother is very angry, (**and, in, hot**) Jane is very sad. She cries (**to, for, walk**) a long time.

Her big brother (**on, pulls, comes**) to see her. She tells him (**in, pen, about**) her homework and her very poor (**marks, pigs, fear**). The brother tells her that doing (**shirt, have, homework**) will help her a lot. Now, (**box, run, Jane**) knows that homework can help her (**get, drink, bus**) good marks. She now wants to (**fall, work, pink**) hard and do her homework.

Section 5. Pupil Context Interview

Ask each question verbally to the child, as in an interview. Do not read the response options aloud. Wait for the child to respond, then write this response in the space provided, or circle the code of the option that corresponds to the child's response. If there is no special instruction to the contrary, only one response is permitted.

1a	Were you attending this school in January? (since the beginning of the school year, since Christmas, etc.)	No ..... 0 Yes 1
1b	What language(s) do you speak at school? *[Multiple responses are allowed]*	Kiswahili ..... 1 English…… 2 Mother Tongue……..……3 (Specify):..... . Do not know/No response……..……9
1c	What language do you speak at home? *[Multiple responses are allowed]*	Kiswahili ..... 1 English…… 2 Mother Tongue……..……3 (Specify):..... . Do not know/No response……..……9

		No	***Yes***	***Don't Know***	***No response***
2	Do you have a radio at your house?	0	1	8	9
3	Do you have a telephone or mobile phone at your house?	0	1	8	9
4	Do you have electricity at your house?	0	1	8	9
5	Do you have a television at your house?	0	1	8	9
6	Do you have a refrigerator at your house?	0	1	8	9
7	Do you have a toilet inside your house?	0	1	8	9
8	Do you have a bicycle at your house?	0	1	8	9
9	Do you have a motorcycle at your house?	0	1	8	9
10	Do you have a car, truck, 4 by 4, tractor, or engine boat at your house?	0	1	8	9

11	Did you go to any school before Class 1? (nursery, pre-unit, baby class)	No ..... 0 Yes ..... 1 Do not know/No response……..……9

12	What class were you in last year?	Pre-school..... 0 Class 1..... 1 Class 2……..2 Not in school..... 3 Do not know/No response……..……9
13	Last year, were you absent from school for more than one week?	No..... 0 Yes ..... 1 Do not know/No response……..……9
14	Do you have the English reading textbook at home?	No..... 0 Yes ..... 1 Do not know / No response..... 9
15	Do you have the Kiswahili reading textbook at home?	No..... 0 Yes ..... 1 Do not know / No response..... 9
16	Do you have the maths textbook at home?	No..... 0 Yes ..... 1 Do not know / No response..... 9
17	Do you have other books or reading materials at home? *[If No or Don't Know Skip to 19]*	No..... 0 Yes ..... 1 Do not know / No response..... 9
18	*[If yes to Question 17]* What language(s) are these books or other materials in? *[Multiple- responses are allowed]*	Kiswahili……..1 English..... 2 Mother Tongue……..3 (Specify):..... Do not know / No response..... 9
19	Can your mother read and write?	No..... 0 Yes ..... 1 Do not know / No response..... 9
20	Can your father read and write?	No..... 0 Yes ..... 1 Do not know / No response..... 9
OK we are done! You have done a good job. Go back to your classroom, and please do not talk to other pupils about what we have done today.		

Time Ended: ____ : _____ AM / PM

Pupil Stimuli Sheets for English EGRA

KENYA EARLY GRADE READING ASSESSMENT

Student Stimuli Booklet
English

MIDTERM

USAID | KENYA
FROM THE AMERICAN PEOPLE

Example : A v L

d	i	R	E	t	N	t	y	s	n
v	o	E	A	h	g	B	h	u	R
l	t	Q	Y	s	a	l	m	o	a
t	U	H	E	k	w	b	W	h	z
l	H	t	E	o	l	E	n	M	p
G	P	r	H	l	i	w	A	e	o
N	C	n	O	S	O	L	J	T	o
s	A	c	E	x	m	s	D	F	r
i	d	i	R	e	f	s	t	s	e
E	a	e	T	u	a	n	a	r	e

Example : lut dif mab

git	ret	gat	lep	shik
zay	vob	bis	cur	zin
zeg	yot	jol	reb	kan
pab	vap	kom	dix	tep
gux	lal	pim	kar	ving
lop	fem	het	wim	jeb
pog	chup	heg	fik	ruk
mak	mip	wis	wog	sab
dap	mep	yut	thon	whib
pug	fal	bem	zil	nob

Anna went to the shop to buy a new dress. She saw dresses with many colours. She did not know which one to buy. Anna looked and looked. All the dresses were too big. She started to walk home. Anna ran into the next shop because it began to rain. She saw a very nice dress. She smiled and bought it.

English Maze for Pupils

School Name_____Six Letter ID_____

The bird landed on the ground. It picked up a piece of (**book, grass, tired**). The bird flew back to its (**nest, car, yell**). The nest was in the big (**foot, rip, tree**).

Jane does not like to do homework. When she gets home from school (**cat, she, fly**) only wants to play. Jane tells (**table, her, red**) mother that a full day of (**scary, school, house**) and homework is too much! Her (**hen, to, mother**) tells Jane she needs to do (**her, book, run**) homework before playing. Jane tells her (**goat, mother, work**) that she is just a little (**child, leg, three**), so she needs more time to (**eats, hat, play**).

One day, Jane decides she will (**under, never, dog**) do homework again. She does not (**bring, throw, with**) her books home from school anymore. (**She, Class, Jump**) feels that she is on a (**shop, holiday, on**). Jane is happy. After two full (**weeks, chairs, up**), she takes her exams. Jane gets (**dirty, ear, poor**) marks. Her mother is very angry, (**and, in, hot**) Jane is very sad. She cries (**to, for, walk**) a long time.

Her big brother (**on, pulls, comes**) to see her. She tells him (**in, pen, about**) her homework and her very poor (**marks, pigs, fear**). The brother tells her that doing (**shirt, have, homework**) will help her a lot. Now, (**box, run, Jane**) knows that homework can help her (**get, drink, bus**) good marks. She now wants to (**fall, work, pink**) hard and do her homework.

Protocol for EGMA

Kenya Early Grade Mathematics Assessment: Student Response Form
Administrator Instructions and Protocol, 2012

MATHEMATICS (Mid-Term Survey)

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.

Verbal Consent: Read the text in the box clearly to the child in Kiswahili or English:

Before we start, I want to tell you my name. I'm _____
Kabla ya kuanza, ningependa kukueleza majina yangu. Mimi naitwa _____
I work with the Ministry of Education.*Kiswahili: Mimi hufanya kazi na Wizara ya Elimu.*

- **We want to know how children learn math. You were picked by chance, like in a raffle or lottery.**
  Kiswahili: Tungependa kujua vile watoto wanajivunza hesabu. Kuchaguliwa kwako kulikuwa ni bahatitu,kama mchezo wa bahati na sibu
- **We would like your help in this. But you do not have to take part if you do not want to.**
  Kiswahili:Tungepedelea usaidizi wako katika haya. Lakini si lazima ushiriki ikiwa hupendelei.
- **We are going to play some counting games and some number games.***Kiswahili:Tutacheza michezo ya kuhesabu na pia michezo ya nambari*.
- **Using this stopwatch, I will see how long it takes you to count.**
  Kiswahili: Kwa kutumia saa hii, nitaweza kuona itakuchukua mda gani kuhesabu.
- **This is NOT a test and you will NOT be graded on it for school.**
  Kiswahili: Huu sio mtihani na hautatahiniwa shuleni.
- **I will NOT write down your name so no one will know these are your answers.**
  Kiswahili: Sita yaandika majina yako kwa hivyo hakuna mtu atakayejua ya kwamba haya ni majibu yako.
- **Once again, you do not have to take part in this if you do not want to. Once we begin, if you do not want to answer a question, that's all right.**
  Kwa mara nyingine, silazima ushiriki iwapo hujihisi. Tukishaanza, una uhuru wa kutojibu swali lolote.
  Okay, are you ready to start?*Kiswahili: Je, uko tayari kuanza?*

Check box if verbal consent is obtained: ☐ ***YES***

(If verbal consent is not obtained, thank the child and move on to the next child, using this same form)

A. Date of Assessment :	Day : _____ Month:_____
B. Enumerator's Name :	
C. School Name :	
D. District:	
E. Zone:	
F. School Shift :	1 = Full day 2 = Morningonly 3 = Afternoononly
G. Multigrade Class ?	0 = No1 = Yes
H. Order of Assessment	1 = First 2 = Second 3 = Third

I. Class:	1 = Class One 2 = Class two
J. Stream Name:	
K. Pupil Unique Code:	
L. Student's Age :	
M. Student'sGender	1 = boy 2 = girl
N.Time Started:	____ : _____ AM / PM

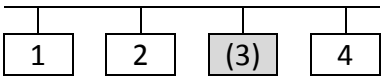
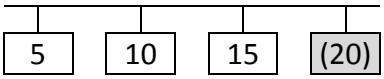
Task 1: Number Identification - EXERCISE	**📖Sheet 1**	🕐60 seconds (Timed)
🗣 **Here are some numbers. I want you to point to each number and tell me what the number is. I am going to time you and will tell you when to begin and when to stop.** *Kiswahili: Hapa pana nambari kadhaa. Nataka uonyeshe kila nambari kwa kidole na uniambie ni nambari gani. Nitakuhesabia wakati, nitakueleza wakati wa kuanza na wakumalizia* - ***[Point to the first number]*** **Start here.*[Glide hand from left to right].* Are you ready? . . . Start.** *Kiswahili: [Onyesha nambari ya kwanza kwakidole] Anza hapa. [Teleza mkono kutoka upande wa kushoto hadi wakulia]. Je, ukotayari?...Anza.* **- What number is this?** *Kiswahili: Hii ni nambari gani?*		✋ (Stop) • If the time on the stopwatch runs out (60 seconds). ➲(Move on) • If a child stops on a number for <u>5 SECONDS, mark as wrong and move on.</u>
✍ (/) Incorrect or no response ( ]) After the last number read		
✍ Record time left (seconds):		

3	8	0	16	25
33	59	48	13	20
62	71	44	86	95
167	287	506	713	957

Task 2: Number Discrimination - PRACTICE	**📖Sheet 2A**	🕐× (Not Timed)
P1: 🗣 **Look at these numbers. Tell me which number is bigger**. *Kiswahili: Tazama nambari hizi. Niambie ni namabari gani kubwa?* 8 4 ✓🗣**That's correct, 8 is bigger. Let's do another one.** ***Kiswahili:*** *Sahihi! 8 ndio kubwa.Tujaribu mfano mwingine.* ×🗣**The bigger number is 8.** ***[Point to 8]: T*****his is 8.** ***[Point to 4]: t*****his is 4. 8 is bigger than 4. Let's do another one**. *Kiswahili : Nambari kubwa ni 8.[elekeza kidole kwa 8]. Hiini 8. . [elekeza kidole kwa 4]. Hii ni 4. '8' nikubwa kuliko '4'. Tujaribu mfano mwingine.*		
P2: 🗣 **Look at these numbers. Tell me which number is bigger.** *Kiswahili: Tazama na mbari hizi. Niambie ni nambari gani kubwa?* 12 22 ✓🗣**That's right, 22 is bigger. Let's continue.** *Kiswahili: Ndivyo! 22 nikubwa. Ebu tuendelee.* ×🗣**The bigger number is 22.** ***[Point to 22]: T*****his number is 22.** ***[Point to 12]: T*****his is 12. 22 is bigger than 12. Let's continue.** *Kiswahili : Nambari kubwa ni 22. [Elekeza kidole kwa 22]. Hii ni 12. [Elekeza kidole kwa 12]. 22 ni kubwa kuliko 12. Hebu tuendelee.*		

Task 2: Number Discrimination - EXERCISE	**📖Sheets 2B1 & 2B2**	🕐×(Not Timed)
🗣 **Look at these numbers. Tell me which number is bigger.** *Kiswahili: Tazama nambari hizi. Nieleze ni nambari gani kubwa kuliko nyingine. Point and say* *[Repeat for each item]*		✋ (Stop) •If the child makes 4successive errors ➲(Move on) •If the child doesn't respond after 5 SECONDS, mark as wrong and move on.
✍ **Circle**:1 = Correct 0 = Incorrect or no response.		

5	3	*5*	1 0	63	93	*93*	1 0
18	23	*23*	1 0	134	164	*164*	1 0
52	15	*52*	1 0	327	626	*626*	1 0
88	72	*88*	1 0	452	152	*452*	1 0
37	45	*45*	1 0	963	864	*963*	1 0

Task 3: Missing number - PRACTICE	**Sheet 3A**	× (Not Timed)
P1: **Here are some numbers. 1, 2, and 4, what number goes here?** *Kiswahili: Hapa pana nambari kadhaa.1, 2 na 4. Ni nambari gani itaekwa hapa?*  ✓**That's correct, 3. Let's do another one.** *Kiswahili: Ndivyo, 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 one.** *Kiswahili: Namabari 3 itaekwa hapa.Tuseme nambari hizi pamoja. [Elekezakidolekwakilanambari]. 1, 2, 3, 4. Namabari 3 itaekwa hapa. Tujaribu mfano mwingine.*		
P2: **Here are some numbers. 5, 10, and 15, what number goes here?** *Kiswahili: Hapa pana nambari kadhaa: 5, 10 na 15. Ni nambari gani itaenda hapa?*  ✓**That's correct, 20. Let's do some more.** *Ndivyo, 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: Namabari 20 itaekwa hapa. Tuseme nambari hizi pamoja [elekeza kidole kwa kila nambari]. 5,10, 15, 20. 20 inaekwa hapa. Tujaribu Mifano zaidi.*		

Task 3: Missing number - EXERCISE	**Sheets 3B1 & 3B2**	(Not Timed)
Here are some more numbers. *[Point to the box]* . . . What number Goes here? *Kiswahili: Hapapa na nambari zaidi. [elekeza kidole kwa sanduku] … Ni Nambari gani itaenda hapa?* ***[Repeat for each item]***		(Stop) • If the child gets 4 successive errors (Move on) • If the child doesn't respond after **5 SECONDS**, mark as wrong and move on.
Circle: 1 = Correct. 0 = Incorrect or no response.		

1	2	3	4	(5)	1 0	6	457	458	(459)	460	1 0
2	16	17	(18)	19	1 0	7	38	(36)	34	32	1 0
3	40	(50)	60	70	1 0	8	25	30	35	40	1 0
4	(600)	700	800	900	1 0	9	390	380	370	360	1 0
5	3	5	7	(9)	1 0	10	11	16	(21)	26	1 0

Task 4A: Addition: Level 1 - EXERCISE	**📖Sheet 4A**	🕐60 seconds (Timed)

🗣 **Here are some addition exercises *[glide hand from top to bottom]*. I am going to time you and will tell you when to begin and when to stop. Say the answer for each problem. If you don't know an answer, move to the next problem. Are you ready? . . .**

Kiswahili: Hapa kuna zoezi la kuongeza. [Pitisha mkono kutoka juu hadi chini] . Nita kuhesabia wakati na nitakuambia wakati wa kuanza na wakati wa kumaliza. Sema jibu kwa kila swali.Kama haunajibu, endelea na swali linalofuatia.Je, ukoTayari? . . .

Start here *[point to the first problem]*.

Kiswahili: Anziahapa [elekeza kidole kwa swali la kwanza]

✍ (/) Incorrect or no response
( ]) After last problem attempted

2 + 1 = (3)	8 + 9 = (17)
3 + 2 = (5)	4 + 8 = (12)
6 + 3 = (9)	9 + 5 = (14)
4 + 5 = (9)	6 + 6 = (12)
4 + 4 = (8)	8 + 7 = (15)
5 + 1 = (6)	8 + 5 = (13)
2 + 6 = (8)	9 + 9 = (18)
7 + 3 = (10)	4 + 9 = (13)
5 + 5 = (10)	10 + 4 = (14)
2 + 8 = (10)	7 + 10 = (17)

✋ (Stop)
- If the time on the stopwatch runs out (60 seconds).

➲(Move on)
- If a child stops on an item for **5 SECONDS**, mark as wrong and move on.

✍ Record time left (seconds):

To solve the problems, indicate the method the child used (tick all that apply):
□ Solved the problems in his/her head
□Fingers
□ Counters
□ Tick marks on paper with a pencil
□ Other (✍describe) _____

Task 4B: Addition: Level 2 - EXERCISE	**Sheet 4B**	(Not Timed)
Paper and pencil.		(stop) • If the child did not answer any Level 1 question correctly. • If the child makes 4 consecutive errors. (Move on) • 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>**
Here are more addition exercises. **You may use this paper and pencil if you want to. But you do not have to do so.** *Kiswahili: Hapa kuna mazoezi mengine ya kuongeza.Ukipenda, waweza Kutumia penseli na karatasi Lakini sio lazima. .* **Start here [point to the first problem].** *Kiswahili: Anzia hapa [elekeza kidole kwa swali la kwanza]*		
<u>Circle:</u>1 = Correct. 0 = Incorrect or no response. 11 + 3 = (14) 1 0 16 + 9 = (25) 1 0 11 + 17 = (28) 1 0 27 + 32 = (59) 1 0 34 + 19 = (53) 1 0		
To solve the problems, the child used [(✓) tick all that apply]: □ Solved the problems in his/her head □Fingers □ Counters □ Tick marks on paper with a pencil □ Other (describe) _____		

Task 5A: Subtraction: Level 1 - - EXERCISE	**📖Sheet 5A**	🕐60 seconds (Timed)
🗣 **Here are some subtraction exercises *[glide hand from top to bottom]*. I am going to time you and will tell you when to begin and when to stop. Say the answer for each problem. If you don't know an answer, move to the next problem. Are you ready? . . .** *Kiswahili: Hapa kuna zoezi la kutoa [elekeza mkono kutoka juu Hadi chini].Nitakuhesabia wakati na nitakuambia wakati wa kuanza Na wakati wa kumaliza. Sema jibu kwa kila swali.Kama Hauna jibu, endalea na swali linalofuatia. Je, uko tayari? . . .* **Start here *[point to the first problem]*.** *Kiswahili: Anzia hapa [elekeza kidole kwa swali la kwanza]*		✋ (Stop) •If the time on the stopwatch runs out (60 seconds). ➲(Move on) •If a child stops on an item for **5 SECONDS** , mark as wrong and move on.
✍ (/) Incorrect or no response ( ]) After last problem attempted		

3 – 1 = (2)	17 – 9 = (8)
5 – 2 = (3)	12 – 8 = (4)
9 – 3 = (6)	14 – 5 = (9)
9 – 5 = (4)	12 – 6 = (6)
8 – 4 = (4)	15 – 7 = (8)
6 – 1 = (5)	13 – 5 = (8)
8 – 6 = (2)	18 – 9 = (9)
10 – 3 = (7)	13 – 9 = (4)
10 – 5 = (5)	14 – 4 = (10)
10 – 8 = (2)	17 – 10 = (7)

✍Record time left (seconds):

To solve the problems, the child used[(✓)tick all that apply]:
□ Solved the problems in his/her head
□Fingers
□ Counters
□ Tick marks on paper with a pencil
□ Other (✍ describe) _____

Task 5B: Subtraction: Level 2 - EXERCISE	**📖Sheet 5B**	🕐× (Not Timed)
✐❖Paper and pencil.		✋ (Stop) •If the child did not answer any Level 1 question correctly. •If the child makes 4 consecutive errors. ➲(Move on) •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.
🗣 **Here are more subtraction exercises.** **You may use this paper and pencil if you want to. You do not have to do so.** *Kiswahili: Hapa kuna zoezi linguine la kutoa. Ukipenda,unaeza Kutumia penseli na karatasi lakini sio lazima..* **Start here [point to first problem].** *Kiswahili: Anzia hapa [elekeza kidole kwa swali la kwanza]*		
✍**Circle:**1 = Correct. 0 = Incorrect or no response. 14 – 3 = (11) 1 0 25 – 9 = (16) 1 0 28 – 17 = (11) 1 0 59 – 32 = (27) 1 0 53 – 19 = (34) 1 0		
To solve the problems, the child used [(✓)tick all that apply]: □ Solved the problems in his/her head □Fingers □ Counters □ Tick marks on paper with a pencil □ Other (✍ describe) _____		

Task6: Word Problems- PRACTICE	🕮× (No Stimuli Sheet)	🕐×(Not Timed)
✐❖Counters, paper and pencil.		
🗣 **I have some exercises that I am going to ask you to do for me. Here are some objects to help you. You can use them if you need, but you don't have to use them. Listen very carefully to each exercise. If you need, I will repeat the exercise for you. Okay, let's get started.** *Kiswahili: Hapa nina mazoezi zaidi ambayo nitakuuliza uyafanye. Hapa pana vyombo kadhaa vya kukusaidia. Ukitaka,unaweza kuvitumia lakini sio lazima uvitumie. Sikiliza kwa makini kwa kila zoezi. Ukitaka nirudie, niko tayari kurudia. 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 anatoka 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: Ndivyo; 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 motto mmoja akitoka nje ya matatu. Je, ni watoto wangapi wamebaki ndani ya matatu? Ndivyo; watoto wawili wamebaki ndani ya matatu. Hebu tufanye mazoezi zaidi.*		

<table>
<tr><td colspan="2">Task 6: Word Problems - EXERCISE</td><td>📖× (No Stimuli Sheet)</td><td>🕐× (Not Timed)</td></tr>
<tr><td colspan="4">✎❖Counters, paper and pencil.</td></tr>
<tr><td colspan="3">🗣 Now I have some more exercises for you.
Kiswahili: Sasa ninayo mazoezi zaidi ambayo ningetaka ufanye.</td><td rowspan="4">✋ (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)

<u>Comment</u>: The “[pause and checks]” in each problem should be certain that the child understands what you have said before continuing. You may want to ask, “Do you understand?”
“Je, unaelewa?”</td></tr>
<tr><td colspan="2"><u>Exercise 1</u>
🗣 5 children are playing a game. [pause and check]
3 more children join the game. [pause and check]
How many children are playing the game altogether?

Kiswahili: Watoto watano wanacheza mchezo fulani. [pumziko]. Watoto wengine watatu wanaingia kucheza nao [pumziko].Je, ni watoto wangapi sasa wanaoucheza huo mchezo kwa jumla?</td><td>Correct answer: 8
<u>Circle one</u>:
1 Correct
0 Incorrect</td></tr>
<tr><td colspan="2"><u>Exercise 2</u>
🗣 There are 9 children playing a game. [pause and check]
3 are boys. The others are girls. [pause and check]
How many girls are playing the game?

Kiswahili: Kuna watoto 9 wanacheza mchezo fulani [pumziko]. Wavulana ni 3. Wengineo ni wasichana [pumziko].Je, kuna wasichana wangapi wanaocheza huo mcheza?</td><td>Correct answer: 6
<u>Circle one</u>:
1 Correct
0 Incorrect</td></tr>
<tr><td colspan="2"><u>Exercise 3</u>
🗣 There are 2 Teams, Team A and B. [pause and check]
There are 8 children on Team A.
There are 4 children on Team B. [pause and check]
How many more children must join Team B so that it has the same number of children as Team A?

Kiswahili: Kuna vikundi viwili: A na B. [pumziko] Kuna watoto 8 katika kikundi A. [pumziko] Kuna watoto 4 katika kikundi B. [pumziko]
Je, ni watoto wengine wangapi wanafaa kujiunga na kikundi B ili idadi ya watoto katika kikundi B, iwe sawa na ile yenye iko Katika Kikundi A?</td><td>Correct answer: 4
<u>Circle one</u>:
1 Correct
0 Incorrect</td></tr>
</table>

<table>
<tr>
<td>Exercise 4
🗣 There are some children playing a game.
3 more children join the game. [pause and check]
Now there are 10 children playing the game.
[pause and check]
How many children were playing the game at the beginning?

Kiswahili: Kuna watoto kadhaa wanaocheza mcheza. Watoto wengine watatu wanaingia kucheza nao [pumziko]. Sasa kuna watoto 10 wanaoucheza huo mchezo kwa jumla [pumziko]. Je, ni watoto wangapi waliku wakiucheza huo mchezo mwanzoni (Kabla ya wengine kuingia)?</td>
<td>Correct answer: 7
<u>Circle one</u>:
1 Correct
0 Incorrect</td>
<td rowspan="2">✋ (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)

<u>Comment</u>: The “[pause and checks]” in each problem you should be certain that the child understands what you have said before continuing. You may want to ask, “Do you understand?” “Je, unaelewa?”</td>
</tr>
<tr>
<td>Exercise 5
🗣 There are 15 sweets. [pause and check]
5 children share the sweets equally. [pause and check]
How many sweets does each child get?

Kiswahili: Pana peremende 15 [pumziko]. Watoto 5 wanagawana hizi peremende kwa kiasi sawa [pumziko]. Je, kila mtoto anapata peremende ngapi?</td>
<td>Correct answer: 3
<u>Circle one</u>:
1 Correct
0 Incorrect</td>
</tr>
<tr>
<td colspan="3">To solve the problems, the child used [(✓)tick all that apply]:
□ Solved the problems in his/her head
□ Fingers
□ Counters
□ Tick marks on paper with a pencil
□ Other (✍ describe) _____</td>
</tr>
</table>

Time Ended: _____:_____AM/PM

Pupil Stimuli Sheets for EGMA

KENYA EARLY GRADE MATHS ASSESSMENT

Student Stimuli Booklet

Mathematics

(Mid-Term)

USAID | KENYA
FROM THE AMERICAN PEOPLE

SHEET 1

3	8	0	16	25
33	59	48	13	20
62	71	44	86	95
167	287	506	713	957

SHEET 2A

8	4
12	22

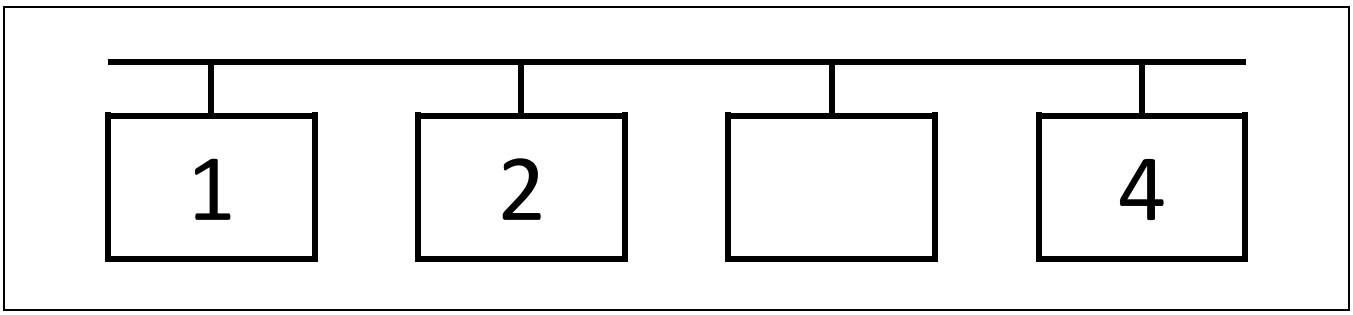
SHEET 2B1

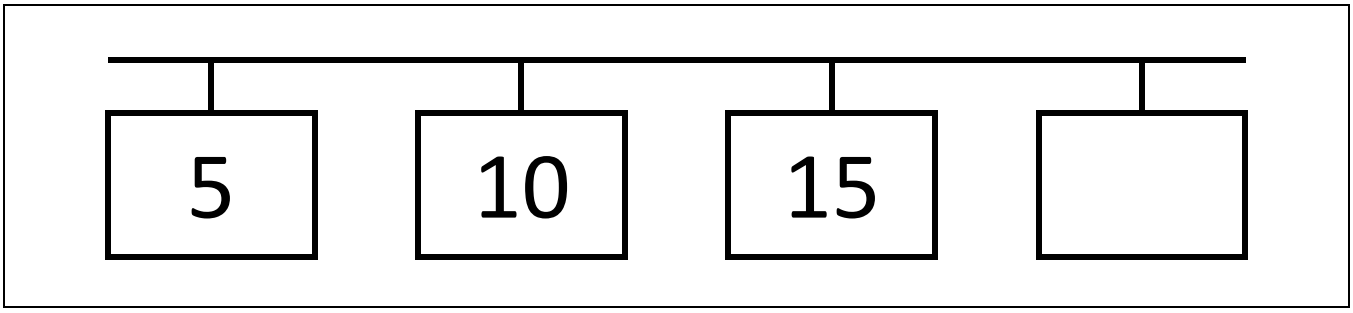
5	3
18	23
52	15
88	72
37	45

SHEET 2B2

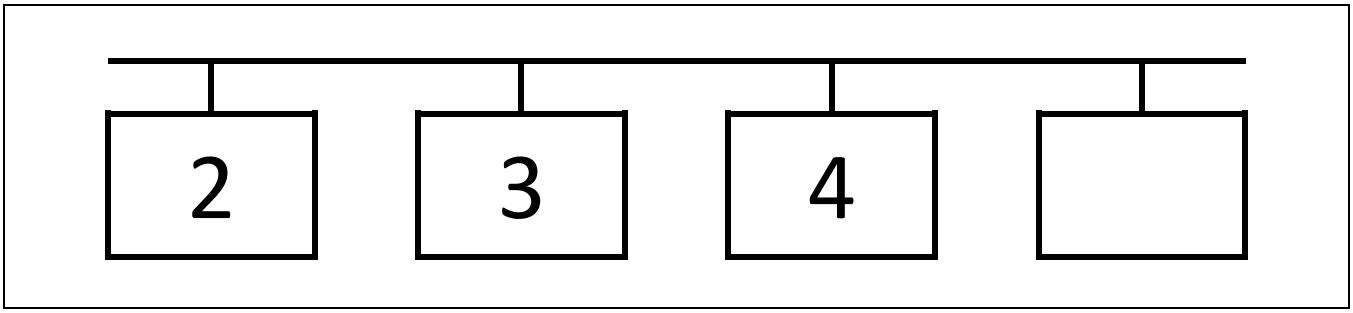
63	93
134	164
327	626
452	152
963	864

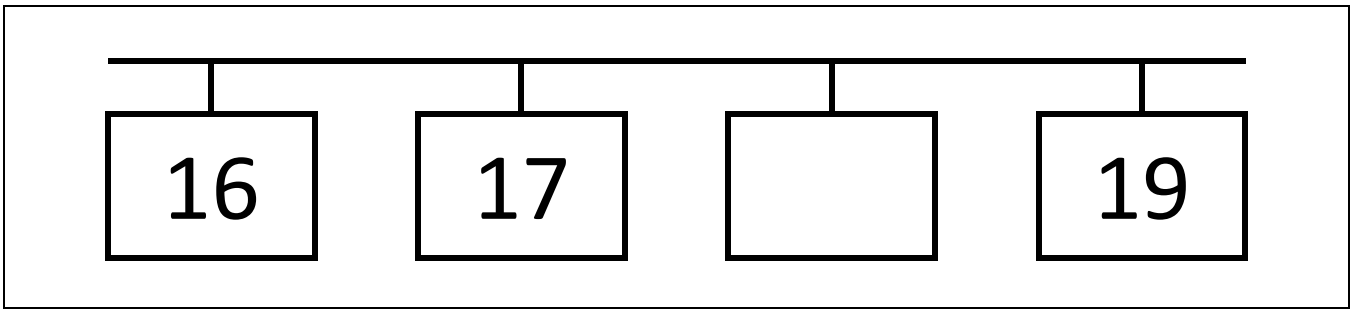
SHEET 3A

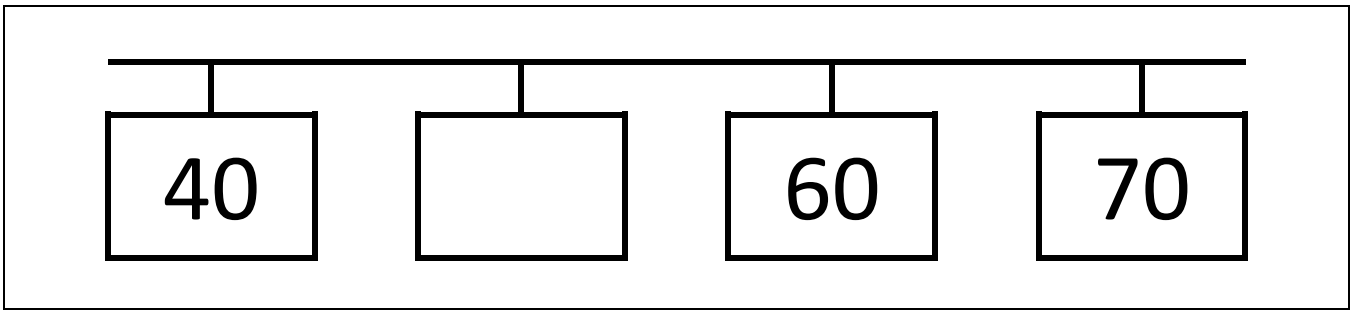


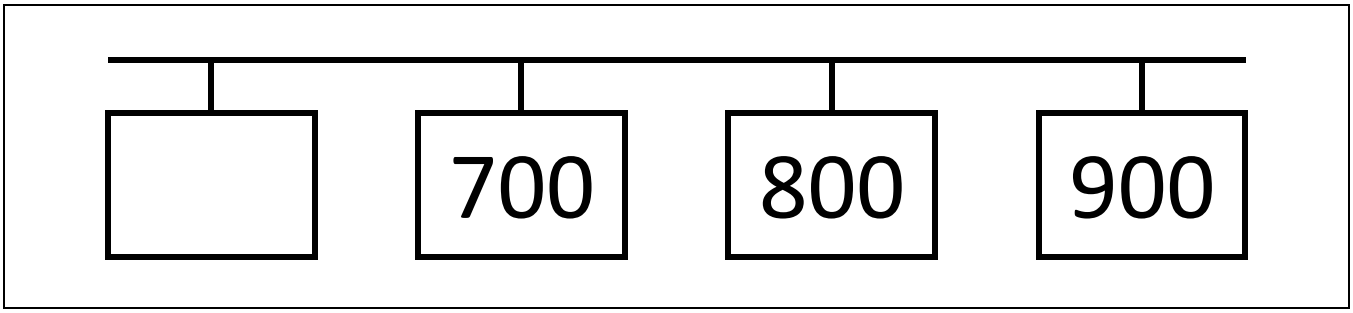


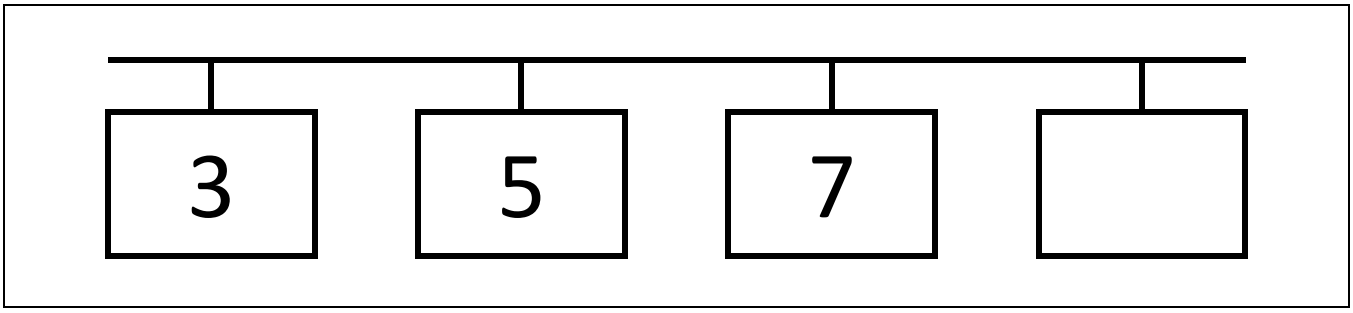
SHEET 3B1



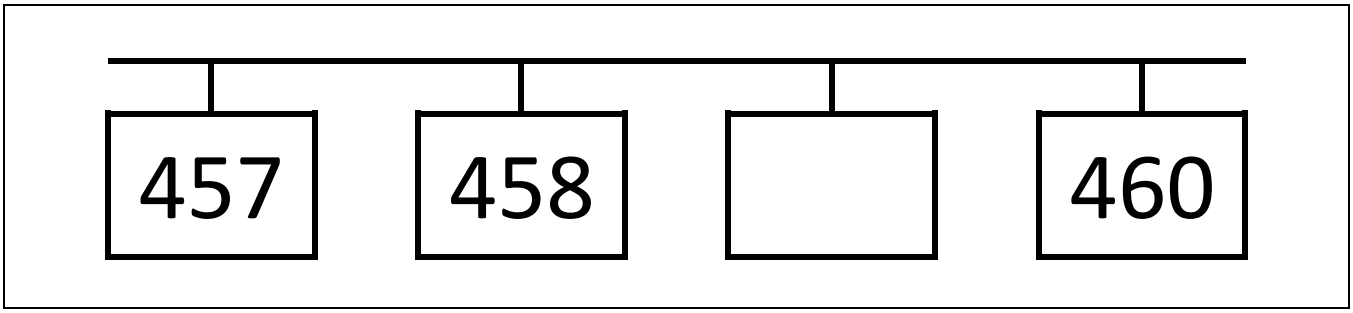


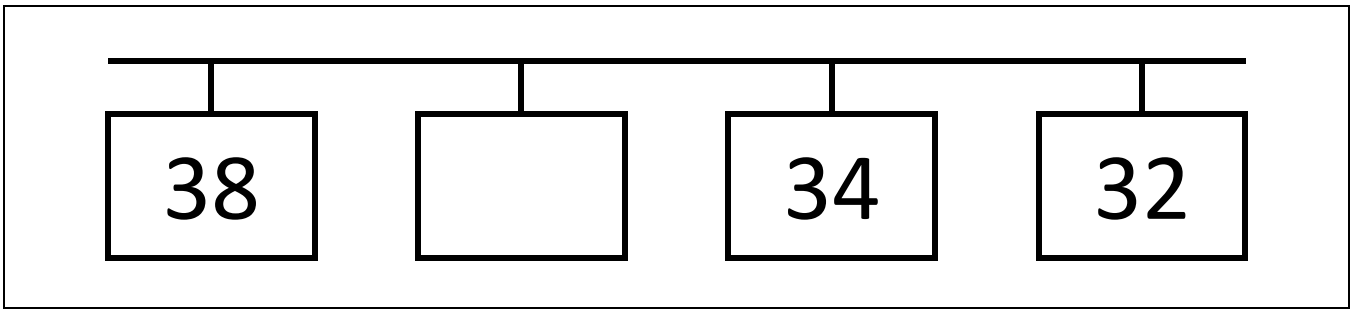


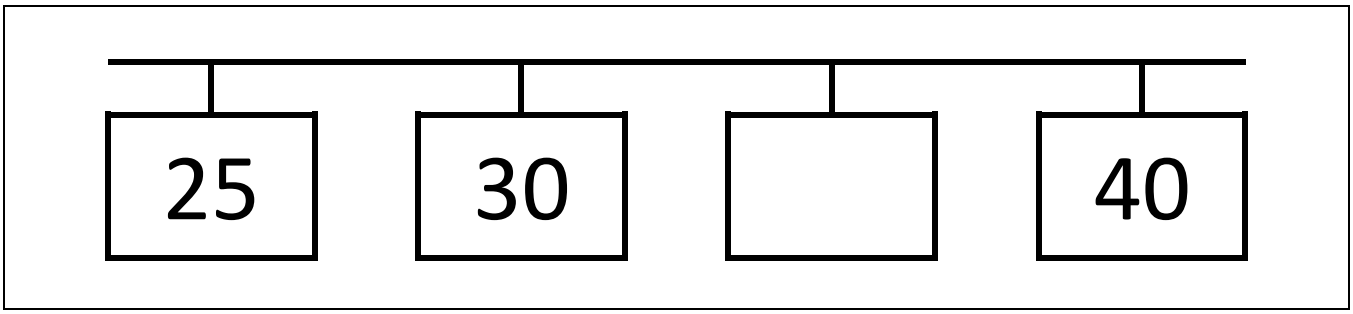


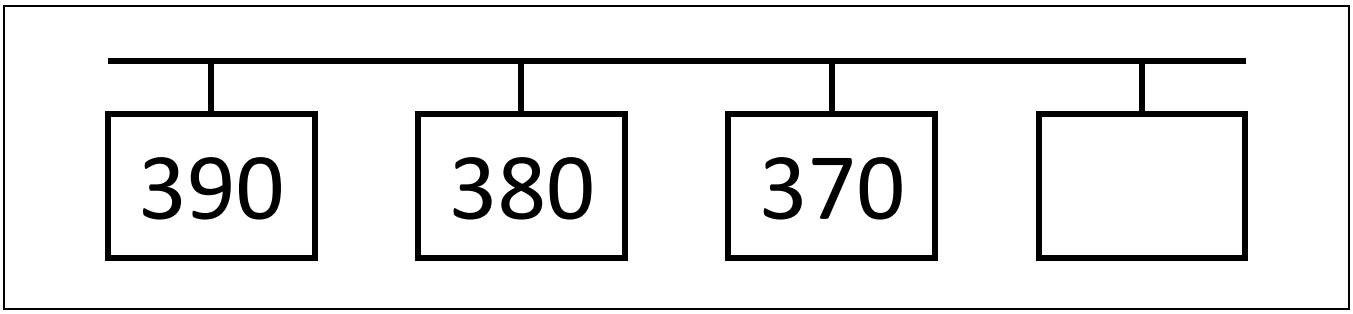


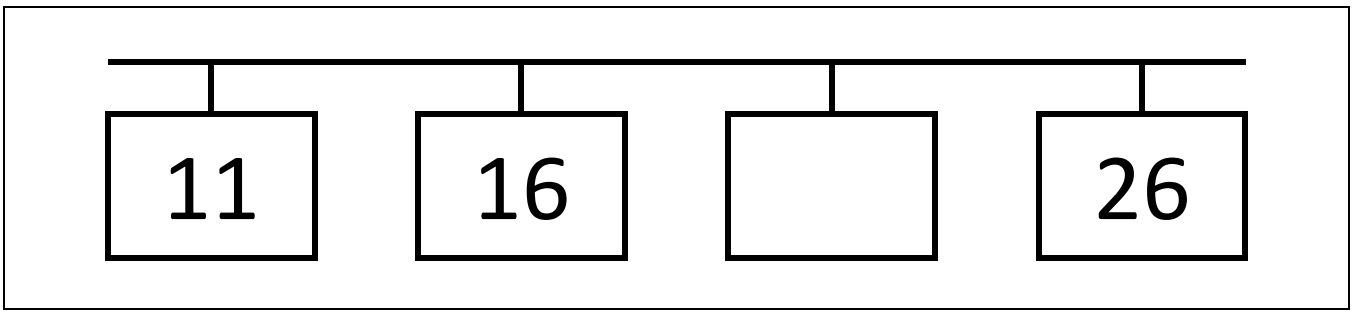
SHEET 3B2











SHEET 4A

2 + 1 = ☐	8 + 9 = ☐
3 + 2 = ☐	4 + 8 = ☐
6 + 3 = ☐	9 + 5 = ☐
4 + 5 = ☐	6 + 6 = ☐
4 + 4 = ☐	8 + 7 = ☐
5 + 1 = ☐	8 + 5 = ☐
2 + 6 = ☐	9 + 9 = ☐
7 + 3 = ☐	4 + 9 = ☐
5 + 5 = ☐	10 + 4 = ☐
2 + 8 = ☐	7 + 10 = ☐

11 + 3 = ☐
16 + 9 = ☐
11 + 17 = ☐
27 + 32 = ☐
34 + 19 = ☐

SHEET 5A

3 – 1 = ☐	17 – 9 = ☐
5 – 2 = ☐	12 – 8 = ☐
9 – 3 = ☐	14 – 5 = ☐
9 – 5 = ☐	12 – 6 = ☐
8 – 4 = ☐	15 – 7 = ☐
6 – 1 = ☐	13 – 5 = ☐
8 – 6 = ☐	18 – 9 = ☐
10 – 3 = ☐	13 – 9 = ☐
10 – 5 = ☐	14 – 4 = ☐
10 – 8 = ☐	17 – 10 = ☐

Sheet 5B

14 - 3 = ☐
25 - 9 = ☐
28 - 17 = ☐
59 - 32 = ☐
53 - 19 = ☐

SSME Teacher Questionnaire

Teacher Questionnaire
Midterm Survey, 2012
KENYA

- The Ministry of Education and RTI International are collaborating in a study to better understand how children learn. Your school was selected through a process of statistical sampling. We would like your help in giving us some information. But you do not have to take part if you do not want to.
- Your name will not be recorded on this form or mentioned anywhere in the survey data. The results of this survey will be published in the form of collective tables. The information acquired through this instrument will be shared with the Ministry of Education with the hope of identifying areas where additional support may be needed.
- The name of your school and the class level and class you teach will be recorded, but only so that we can correctly link school, class, and student data so as to analyze relationships between children's learning and the characteristics of the settings in which they learn. Your school's name will not be used in any report or presentation. The results of analysis will be used by the Ministry of Education and RTI to help identify additional support that is needed.
- If you agree to help with this study, please read the consent statement below, check the "Yes" box, and answer the questions in this questionnaire as completely and accurately as you can, regarding your teaching preparation and activities. It should take you no more than 10 minutes. Return the completed form to the study team before the team leaves your school.
- If after reading this message you prefer not to participate, please return this form with no markings to the study team.

CONSENT STATEMENT: I understand and agree to participate in this research study. ☐ *YES*

Please answer all questions truthfully. Write each response in the space on the right across from each item. Where response options are given, clearly circle the number on the far right of the option that corresponds most closely to your response.

1	Date of interview	☐ **October, 2012**
2a	In which class is the teacher being surveyed? (*Check only one*)	Class One ☐ Class Two ☐
2b	Which subjects does the teacher teach to the Class from question 2a? *[Multiple responses are allowed]*	English ☐ Kiswahili ☐ Maths ☐
3	Name of County	
4	Name of District	
5	Name of Zone/Cluster	
6	Name of School	
7	Supervisor's Name	

9	Your gender:	Male ..... 0 Female 1
10	Enrolment of your class (indicate numbers by gender)	Number of boys: ____ Number of girls: ____
11	Your age at last birthday (years)	_____ years
12	What is your highest professional qualification/ training?	Untrained teacher .....0 P1 ..... 1 Diploma / S1 ..... 2 Bachelors' of Education ..... 3 Other (specify:_____)..... 4
13	How many years have you taught at this school?	_____ years
14	How many years have you been teaching overall?	_____ years
15	Does your school have a Library?	No..... 0 Yes..... 1 Don't know 9
16	Does your school have a Parent / Teacher Association which meets regularly?	No..... 0 Yes..... 1 Don't know 9
17	Approximately, how long do you take to travel to school?	Stay within the school compound.....0 15 minutes or less ..... 1 16 to 30 minutes ..... 2 31 to 45 minutes ..... 3 46 to 60 minutes ..... 4 More than 60 minutes 5
18	How often does a head teacher, TAC tutor or District official observe you teaching in your classroom?	Never ..... 0 About once per week..... 1 About once per month..... 2 About once per term..... 3 About once per year 4
19	How many days of in-service training or professional development sessions on **any topic** have you attended during the last 3 years? If none put a "zero"	Days:_____
20	How many days of in-service training or professional development sessions on teaching **Kiswahili** have you attended during the last 2 years? If none put a "zero"	Days:_____
21	How many days of in-service training or professional development sessions on teaching **English** have you attended during the last 2 years? If none put a "zero"	Days:_____
22	How many days of in-service training or professional development sessions on teaching **Maths** have you	Days:_____

	attended during the last 2 years? If none put a “zero”	
23	[If Teacher attended trainings in questions 19-22] What was the most useful aspect of those trainings?	

Which of the following methods do you use to measure your pupils’ maths/reading progress? Indicate how often you use each method by circling the number on the right that corresponds to the closest frequency:

		Never	**1 day a week**	**2 days a week**	**3 days a week**	**4 days a week**	**5 days a week**
24	Written assessments	0	1	2	3	4	5
25	Oral evaluations	0	1	2	3	4	5
26	Checking of exercise books	0	1	2	3	4	5
27	Checking of homework	0	1	2	3	4	5
28	Other methods (please describe):						

	Instructions: Only complete the column for the subjects the teacher teaches. *(Maths, Kiswahili or English*). Many teachers teach all three.			
		English (a)	**Kiswahili (b)**	**Maths (c)**
29	Write the title of the main textbook used for each subject:	…… …… I don't have the Textbook……..8 ***Skip to 32***	…… …… I don't have the Textbook……..8 ***Skip to 32***	…… …… I don't have the Textbook……..8 ***Skip to 32***
30	How often do you use the text mentioned in Q29 during the lessons?	Never……0 One day per week ……1 Two days per week ……2 Three days per week ……3 Four days per week……4 Five days per week …… 5	Never……0 One day per week ……1 Two days per week ……2 Three days per week ……3 Four days per week……4 Five days per week …… 5	Never……0 One day per week ……1 Two days per week ……2 Three days per week ……3 Four days per week……4 Five days per week …… 5
31	How useful do you find this Text?	Not useful …… 1 A little bit useful …… 2 Somewhat useful …… 3 Useful …… 4 Very useful ……5	Not useful …… 1 A little bit useful …… 2 Somewhat useful …… 3 Useful …… 4 Very useful ……5	Not useful …… 1 A little bit useful …… 2 Somewhat useful …… 3 Useful …… 4 Very useful ……5
32	Do you have a teacher's guide for:	No ……0 **Skip to 34** Yes ……1	No ……0 **Skip to 34** Yes ……1	No …… 0 **Skip to 34** Yes …… 1
33	How useful do you find this guide?	Not useful …… 1 A little bit useful …… 2 Somewhat useful …… 3 Useful …… 4 Very useful ……5	Not useful …… 1 A little bit useful …… 2 Somewhat useful …… 3 Useful …… 4 Very useful ……5	Not useful …… 1 A little bit useful …… 2 Somewhat useful …… 3 Useful ……4 Very useful ……5
34	Please show me the scheme of work for this subject	Doesn't have it……1 Not well prepared……2 Reasonably well prepared……3 Well prepared……4 Refuses/No response……9	Doesn't have it……1 Not well prepared……2 Reasonably well prepared……3 Well prepared……4 Refuses/No response……9	Doesn't have it……1 Not well prepared……2 Reasonably well prepared……3 Well prepared……4 Refuses/No response……9
35	Please show me the lesson plan for this subject	Doesn't have it……1 Not well prepared……2 Reasonably well prepared……3 Well prepared……4 Refuses/No response……9	Doesn't have it……1 Not well prepared……2 Reasonably well prepared……3 Well prepared……4 Refuses/No response……9	Doesn't have it……1 Not well prepared……2 Reasonably well prepared……3 Well prepared……4 Refuses/No response……9

	Following are different activities you might do with your pupils during a lesson. Think about the last 5 school days and indicate how often each of the following activities took place, by circling the number on the right that corresponds to the closest frequency:	**Never**	**1 day a week**	**2 days a week**	**3 days a week**	**4 days a week**	**5 days a week**
36	The whole class repeated sentences that you said first.	0	1	2	3	4	5
37	Pupils copied down text from the chalkboard.	0	1	2	3	4	5
38	Pupils retold a story that they read.	0	1	2	3	4	5
39	Pupils sounded out unfamiliar words.	0	1	2	3	4	5
40	Pupils learned meanings of new words.	0	1	2	3	4	5
41	Pupils read aloud to teacher or to other pupils.	0	1	2	3	4	5
42	Pupils were assigned reading to do on their own during school time.	0	1	2	3	4	5
43	The whole class repeated numbers written on a chart or chalkboard after you	0	1	2	3	4	5
44	Pupils copied math problems from the chalkboard	0	1	2	3	4	5
45	Pupils were assigned math problems to do at home.	0	1	2	3	4	5
46	Pupils worked out math problems in groups.	0	1	2	3	4	5

	In what class should pupils FIRST be able to demonstrate these skills?	**Before class 1**	**class 1**	**Class 2**	**Class 3**	**Class 4 or later**
47	Read aloud a short passage with few mistakes	0	1	2	3	9
48	Write name	0	1	2	3	9
49	Understand stories they read	0	1	2	3	9
50	Recognize letters and say letter names	0	1	2	3	9
51	Sound out unfamiliar words	0	1	2	3	9
52	Understand stories they hear	0	1	2	3	9
53	Recite alphabet	0	1	2	3	9
54	Count numbers up to 100	0	1	2	3	9
55	Add and subtract one-digit numbers	0	1	2	3	9
56	Add and subtract two-digit numbers	0	1	2	3	9
57	Multiply one digit numbers	0	1	2	3	9
58	Recognize and identify basic shapes.	0	1	2	3	9

For Phase 1 PRIMR schools only		
59	What lesson did you most recently teach in Kiswahili?	Term:_____ Week:_____ Day:_____
60	What lesson did you most recently teach in English?	Term:_____ Week:_____ Day:_____
61	What lesson did you most recently teach in Maths?	Week:_____ Day:_____
62	What percentage of your pupils were non-readers in October of last year?	_____%
63	What percentage of your pupils are non-readers in October of this year?	_____%
64	What percentage of your pupils was able to read fluently and with comprehension in October of last year?	_____%
65	What percentage of your pupils was able to read fluently and with comprehension in October of this year?	_____%
66	Has PRIMR made your job as a teacher easier?	Much easier …… 1 A little bit easier…… 2 Not any different …… 3 A little bit more difficult …… 4 Much more difficult……5
67	What is the quality of the PRIMR materials?	Very Good…… 1 Good…… 2 Average…… 3 Poor…… …… 4 Very Poor……5
68	What would you expect the average Kiswahili fluency rates of your pupils to be?	_____ words per minute
69	What would you expect the average English fluency rates of your pupils to be?	_____ words per minute
70	How many times were you observed teaching in 2012 by your tutor/coach?	_____times
71	How many days a week did you teach the PRIMR Kiswahili lessons? English lessons? Math lessons?	English_____times per week Kiswahili_____times per week Maths_____times per week
72	Have you attended all 2012 PRIMR trainings? January 2012 / April 2012 / July 2012	No…… 0 Yes…… 1 Don't know …… 9

73	How can the PRIMR program improve for 2013?	Open response

Thank you for your participation! You have been very helpful.

SSME Head Teacher Questionnaire

Head Teacher Questionnaire
Midterm Survey
KENYA

- The Ministry of Education and RTI International are collaborating in a study to better understand how children learn. Your school was selected through a process of statistical sampling. We would like your help in giving us some information. But you do not have to take part if you do not want to.
- Your name will not be recorded on this form or mentioned anywhere in the survey data. The results of this survey will be published in the form of collective tables. The information acquired through this instrument will be shared with the Ministry of Education with the hope of identifying areas where additional support may be needed.
- The name of your school and the class level and class you teach will be recorded, but only so that we can correctly link school, class, and student data so as to analyze relationships between children's learning and the characteristics of the settings in which they learn. The results of analysis will be used by the Ministry of Education and RTI to help identify additional support that is needed.
- If you agree to help with this study, please read the consent statement below, check the "Yes" box, and answer the questions in this questionnaire as completely and accurately as you can, regarding your teaching preparation and activities. It should take you no more than 10 minutes. Return the completed form to the study team before the team leaves your school.

  If after reading this message you prefer not to participate, please return this form with no markings to the study team.

CONSENT STATEMENT: I understand and agree to participate in this research study. ☐ *YES*

Please answer all questions truthfully. Write each response in the space on the right across from each item. Where response options are given, clearly circle the number on the far right of the option that corresponds most closely to your response. For example, (3)

1	Name of County	
2	Name of District	
3	Name of Zone/Cluster	
4	Name of School	
5	Supervisor Name	
6	Day and Month	☐ **October, 2012**
7	Your gender	Male …… 0 Female ……1
8	What is your position at this school?	Head Teacher …… 1 Deputy Head teacher …… 2 Other …… 3
9	How many years have you been in this position (as a head teacher or the deputy head teacher)	Years: _____

10	What is your highest level of education?	Graduate ……1 Approved Teacher Status ……2 Diploma …… 3 PI ……..4 PII ……5 Other, (specify}: _____
11	How many hours a week do you teach? (Put zero if none)	Hours: _____ **If ZERO, GO TO QUESTION 13**
12	What Classes do you teach? *(Multiple responses allowed – Circle all that apply)*	Pre Primary……0 Standard 1 ……1 Standard 2 ……2 Standard 3 ……3 Standard 4 ……4 Standard 5 ……5 Standard 6 ……6 Standard 7 ……7 Standard 8 ……8
13	How many hours, per week, do you provide instructional support for your teachers?	Hours: _____
14	Have you received specialized training in any area or taken courses in school management in the last 12 months?	Yes ……1 No ……0 **IF NO, GO TO QUESTION 17**
15	If yes, what was the length of the program?	_____Days
16	Who initiated this training for you?	MoE invited me ……1 City Council/Municipal council …… 2 I initiated it ……3 Program/Project/Donor …… 4 Other, (Specify) _____
17	Have you received special training or taken courses preparing you to implement a program in lower primary level reading and math in the last 12 months?	Yes ……1 No ……0 **IF NO, GO TO QUESTION 20**
18	If yes, what was the length of the program?	_____Days
19	Who organized this training?	MoE invited me ……1 City Council/Municipal council ……2 I initiated it ……3 Program/Project/Donor ……4 Other, (Specify): _____5
20	Have you supported teachers on how to teach reading and math in lower primary?	Yes ……1 No ……0

21	Are you satisfied with the performance in reading and maths in standard 1 and 2 in your school?	Not satisfied at all ……1 Satisfied ……2 Very satisfied ……3
22	In the last month, on how many days did you have to leave the school during the school day on official school business? (Enter Zero if none)	Days: _____
Information about the school		
23	What is the highest class taught in this school?	Standard _____
24	Does your school use Kiswahili as the medium of instruction for Class 1 and 2?	Yes ..... 1 No 0
25	Approximately what percentage of actual instruction in Class 1and 2 is in Kiswahili?	_____Percent
26	Why does your school not use more Kiswahili in instruction in class 1 and 2?	Explain: _____ _____ _____
27	In your personal view, what should be the appropriate class to begin teaching in English?	Standard 0 ..... 0 Standard 1 ..... 1 Standard 2 ..... 2 Standard 3 ..... 3 Standard 4 4
28	How many of the teachers have received specific training on teaching reading? (Enter Zero if none)	Number of teachers: _____ ***IF ZERO GO TO QUESTION 30***
29	Who organized this training? *(Multiple-responses allowed)*	MoE ……1 City Council/Municipal council ……2 School…… …… 3 Program/Project/Donor …… 4 District……5 Other, (Specify): _____
30	Since the start of the current school year, was this school closed during the regular school calendar other than holidays?	Yes ..... 1 No ..... 0 ***GO TO QUESTION 33***
31	If yes, how many days was the school closed?	Number of days: _____
32	If yes, why was the school closed?	Teacher strike……1 Student strike / Parent strikes…… ……2 Insecurity…. … …… 3 Severe Weather…… ……. 4 Other, (Specify): _____
33	How many teachers were absent yesterday?	Number of teachers absent: _____ Don't know ……99
34	How many teachers arrived after the start of classes yesterday?	Number of teachers late: _____ Don't know ……99

35	Who is responsible for reviewing teachers' lesson plans?	No one ……..0 ***IF NO ONE, GO TO QUESTION 37*** head teacher ……1 Deputy head teacher ……2 Other ……3 Other, (specify):_____
36	How often are these plans reviewed?	Never ……0 Once per year ……1 Once every 2-3 months ……2 Once every month ……3 Once every two weeks …… 4 Every week ……5 Once per day ……6 Don't Know/No Responses ……99
37	In your school, who is responsible for observing and supervising teachers in their classrooms?	No one observes ……0 ***IF NO ONE, GO TO QUESTION 39*** Head Teacher ……1 Deputy Head Teacher ……2 Other ……3 If other, specify:_____
38	In a term, how often are you able to observe the teachers in their classrooms?	Never …… 0 One time ……1 Two times ……2 Three Times ……3 Four or more times ……4 If other, specify:_____
39	How do you know whether your students are progressing? ***[DO NOT READ RESPONSES - CIRCLE ALL THOSE MENTIONED]***	Yes Classroom observation …… 1 Monitor students' results on tests given by teachers……2 Evaluate children orally myself ……3 Review children's assignments or Homework ……4 Teachers provide me progress reports ……5 Other ……6 If other, specify:_____ Don't know/refuse to respond …… 7
40	Who provides pupils' textbooks in **Kiswahili** for class 1 & 2? **[CIRCLE ALL THOSE MENTIONED]**	Yes MoE ……1 City /Municipal council ……2 School (via independent funds)……3 Parents (individually) ……4 School Committee or board……5 Other, (specify): _____ 6 Don't know/refuse to respond …… DK

41	What is the approximate student to book ratio for **Kiswahili** in Class 1 and 2	1 to 1……1 2 to 1……2 3 to 1……3 4 to 1……4 5 to 1 or more……5 No books……8 Doesn't know/refuses to respond……DK
42	Who provides pupils' textbooks in **English** for class 1 & 2? **[CIRCLE ALL THAT IS MENTIONED]**	MoE ……1 City /Municipal council ……2 School (via independent funds)……3 Parents (individually) ……4 School Committee or board……5 Donors……6 Other, (specify): _____ 7 Don't know/refuse to respond …… DK
43	What is the approximate student to book ratio for **English** in Class 1 and 2	1 to 1……1 2 to 1……2 3 to 1……3 4 to 1……4 5 to 1 or more……5 No books……8 Doesn't know/refuses to respond……99
44	Who provides pupils' textbooks in **math** for class 1 & 2? **[CIRCLE ALL THAT IS MENTIONED]**	MoE ……1 City /Municipal council ……2 School (via independent funds)……3 Parents (individually) ……4 School Committee or board……5 Donors……6 Other, (specify): _____ 7 Don't know/refuse to respond …… 99
45	What is the approximate student to book ratio for **Math** in Class 1 and 2	1 to 1……1 2 to 1……2 3 to 1……3 4 to 1……4 5 to 1 or more……5 No books……8 Doesn't know/refuses to respond……99
46	How often did the P.T.A. meet in this past year?	Never ……0 once a year ……1 once a term ……2 once a month ……3 once a week …… 4 doesn't know/no response ……99 School does not have a PTA (skip to Q48)……88

47	For which of the following does the PTA have decision making authority and/or responsibility? **[CIRCLE ALL THAT APPLY]** **[DON'T READ ALL THE POSSIBLE RESPONSES. SIMPLY CIRCLE ALL RESPONSE GIVEN]**	Discuss school management problems? ..... 1 Discuss students' problems and solutions?..... 2 Review progress of school improvement efforts? .....3 Review financial situation (budgets) of the school .....4 Manage school infrastructure and equipment? .....5 Discuss school curriculum?.....6 Raise funds .....7 Manage procurement or distribution of textbooks? .....8 don't know/no response 9
48	Is there clean, safe water supply available on school premises?	Yes .....1 No 0
49	Does the school have electricity?	Yes .....1 No 0
50	Does the school have a feeding program?	Yes .....1 No 0
51	Does the school have separate girls' washroom facilities?	Yes .....1 No 0
52	Does the school have a computer room?	Yes .....1 No 0
53	Does the school have a library?	Yes .....1 No 0

For Phase 1 PRIMR schools only		
54	What was the quality of the PRIMR trainings in 2012?	Very good..... 1 Good..... 2 Average..... 3 Poor..... 4 Very Poor..... .....5 Did not attend.....6
55	What percentage of English lessons in your school were taught using the PRIMR lesson plans	_____%
56	What percentage of Kiswahili lessons in your school were taught using the PRIMR lesson plans	_____%
57	What percentage of Math lessons in your school were taught using the PRIMR lesson plans	_____%
58	What was your school's enrollment in Class 1 and 2 in January 2012	_____Class 1 _____Class 2
59	What was your school's enrollment in Class 1 and 2 in October 2012	_____Class 1 _____Class 2

60	Did you see any positive effects of PRIMR on enrollment in 2012?	No .....0 Yes.....1 Don't know 9
61	Have you attended all 2012 PRIMR trainings? January 2012 / April 2012 / July 2012	No .....0 Yes.....1 Don't know 9
62	How many of your Class 1 or 2 teachers transferred / left/ died in 2012?	_____ Number
63	Why did the teachers leave? *[Multiple responses are allowed]*	Higher pay elsewhere..... 1 Recruited because of PRIMR skills..... 2 Fired..... ..... 3 Attending courses..... 4 Other..... 5
64	Did the PRIMR initiative improve Kiswahili outcomes in your school?	Yes, quite a lot..... 1 Yes, somewhat..... 2 No change..... ..... 3 No, made things worse..... 4 No, made things much worse.....5
65	Did the PRIMR initiative improve English outcomes in your school?	Yes, quite a lot..... 1 Yes, somewhat..... 2 No change..... ..... 3 No, made things worse..... 4 No, made things much worse.....5
66	Did the PRIMR initiative improve Math outcomes in your school?	Yes, quite a lot..... 1 Yes, somewhat..... 2 No change..... ..... 3 No, made things worse..... 4 No, made things much worse.....5
67	Please suggest ways in which the PRIMR Initiative can be improved for 2013?	Open response

Thank you for your participation! You have been very helpful.

SSME Classroom Observation Tool:
Reading Lesson

Classroom Observation – Early Grade Reading

COR1	County:	
COR2	Zone/Cluster:	
COR3	School:	
COR4	Assessor Name:	
COR5	Supervisor Name:	
COR6	Coordinator:	
COR7	Class	Class 1 ……. 1 Class 2……. 2
COR8	English or Kiswahili lesson?:	English ……. 1 Kiswahili……. 2

The observation form should be completed in class during a reading lesson. If the teacher indicates that there is not a separate
When arriving to class, find a seat at the back of the class. Try not to interrupt or disturb the class.

Complete the observation table. Every three minutes, indicate the teacher focus, teacher content, student and teacher action, and teaching material used at the moment of observation. In sections A and B indicate the teacher focus and teacher content by placing an "X" by the observed item. In sections C and D, indicate the teacher and student action and the language being used by placing the appropriate language code by the observed action. In section E, indicate the material and the langauge being used by placing the appropriate language code by the material used at the moment of observation. Every section (A, B, C, D, and E) must have at least one mark for each "Snapshot". Don't forget to write in the time of the beginning of the observation.

After the observation is complete, answer the following questions:

	In order to get a sense of the number of textbooks available please ask the children to hold up the textbook for the curre					
COR9	Number of children with text book for current subject					
COR10	Does the teacher have a book for this class?	Yes	1	No	0	
COR11	If yes, ask the teacher to show you the Text Book [Eng, swahili Maths he or she is using					
COR11.1	How many chapters/lessons has the class covered so far this year?					
COR11.2	How many chapters/lessons are there in this book?					
COR11.3	Is this the PRIMR book?	Yes	1	No	0	
COR 11.4	Is the teacher using the PRIMR teachers' guide?	Yes	1	No	0	
COR12	Start time ----------Hr……..Min **(24 hr system)**					

NOTES:

			Observation #:										
			3	6	9	12	15	18	21	24	27	30	33
		A) Teacher focus: (only one X)											
13	COR13	Whole class											
14	COR14	Small Group											
15	COR15	One individual student											
16	COR16	Other / Not focusing on students											
17	COR17	Teacher not in the room											
		B) Instructional Content: (only one X)											
18	COR18	Letters and letter sounds											
19	COR19	Spelling											
20	COR20	Grammar											
21	COR21	Reading isolated words											
22	COR22	Reading sentences											
23	COR23	Vocabulary (word meanings)											
24	COR24	Writing/dictation											
25	COR25	Reading texts											
26	COR26	Reading comprehension – text											
27	COR27	Writing – creating texts											
28	COR28	Other or don't know											
		C) Teacher Action (Languge) (E=English; K=Kiswahili; O=Other)											
29	COR29	Reading out loud											
30	COR30	Writing											
31	COR31	Explaining											
32	COR32	Speaking											
33	COR33	Listening to student(s)											
34	COR34	Monitoring students											
		D) Student actions (Language) (E=English; K=Kiswahili; O=Other)											
35	COR35	Choral reading											
36	COR36	Individual reading out loud											
37	COR37	Silent reading											
38	COR38	Writing on paper or individual slate											
39	COR39	writing on blackboard											
40	COR40	Speaking											
41	COR41	Listening to/watching the teacher											
42	COR42	Repeating/Recitation											
43	COR43	Other (Projects, games, etc....)											
44	COR44	Off task (talking, sleeping, playing)											
		E) Materials used (Language) (E=English; K=Kiswahili; O=Other)											
45	COR45	Blackboard											
46	COR46	Textbook											
47	COR47	Other book											
48	COR48	Papers (worksheets or photocopies)											
49	COR49	Flashcards											
50	COR50	Posters/Wall charts											
51	COR51	Slates											
52	COR52	Student notebooks											
53	COR53	Other											

54	COR54	Is the classroom clean and neat?	No . . . . . 0 Yes 1
55	COR55	Is there sufficient light in the room?	No . . . . . 0 Yes 1
56	COR56	Is there a ceiling?	No . . . . . 0 Yes 1
57	COR57	Are there students sitting on the floor? How many?	None ..... 0 A few ..... 1 About half ..... 2 Almost all ..... 3 All 4

58	COR58	Are there sufficient chairs/desks for all the students?	No . . . . . 0 Yes 1
59	COR59	Are all the desks designed for one or two students?	No . . . . . 0 Yes 1
60	COR60	Is there enough space in the class for the teacher to circulate freely?	No . . . . . 0 Yes 1
61	COR61	Indicate what desk or bench arrangement is used in this classroom	Rows …….. 0 small groups …….. 1 circle…… 2 other (describe) …….. 3
62	COR62	How many boys are present in this classroom at the time of your observation? **[HAVE ALL THE BOYS STAND AND COUNT THEM]**	Boys ☐☐
63	COR63	How many girls are present in this classroom at the time of your observation? **[HAVE ALL THE GIRLS STAND AND COUNT THEM]**	Girls ☐☐
	Materials **[ASK CHILDREN TO RAISE EACH TYPE OF MATERIAL IN THE AIR ONE BY ONE]**:		
64	COR64.1	Number of children with **exercise book**	☐☐
65	COR64.2	Number of children with **pen/ pencil**	☐☐
	COR66	Does the teacher have the following materials?	
66	COR66.1	**[CIRCLE ALL THE MATERIALS THAT THE TEACHER HAS]**	Chalkboard…….. 1
67	COR66.2		Whiteboard……. 1
68	COR66.3		Chalk/Markers for blackboard/whiteboard 1
69	COR66.4		Pen/Pencil…….. 1
69	COR66.5		Notebook…….. 1
70	COR66.6		Teacher Manual (current subject) 1
71	COR71	***[If there is a chalkboard]*** Is the chalkboard in good condition?	No . . . . . 0 Yes 1
		Are the following materials available/accessible (not locked away) for children to read?	
72	COR72	Books/booklets other than textbooks	None ……. 0 1-4……..…… 1 5-9 . . . . . 2 10-19 …….. 3 20-39 …….. 4 40+ 5
73	COR73	Magazines	None ……. 0 1-4……..…… 1 5-9 . . . . . 2 10-19 …….. 3 20-39 …….. 4 40+ 5
74	COR74	Are there posters on the walls	No . . . . . 0 Yes 1
75	COR75	Are there posters specifically about health and/or safety?	No . . . . . 0 Yes 1
76	COR76	Are there teacher made displays/resources visible?	No . . . . . 0 Yes 1
77	COR77	Is students' work displayed on the walls?	No . . . . . 0 Yes 1
78	COR78	Ending Time	____:____ (AM / PM)

SSME Classroom Observation Tool:
Math Lesson

Classroom Observation – Early Grade Mathematics

COM1 County:	
COM2 Zone/Cluster:	
COM3 School:	
COM4 Assessor Name:	
COM5 Supervisor Name:	
COR6 Coordinator:	
COR7 Class	Class 1 …… 1 Class 2…… 2

The observation form should be completed in class during a mathematics lesson. If the teacher indicates that there is not a separate mathematics lesson, ask to observe a lesson that focuses on mathematics.
When arriving to class, find a seat at the back of the class. Try not to interrupt or disturb the class.

Complete the observation table. Every three minutes, indicate the teacher focus, teacher content, student and teacher action, and teaching material used at the moment of observation. In sections A and B indicate the teacher focus and teacher content by placing an "X" by the observed item. In sections C and D, indicate the teacher and student action and the language being used by placing the appropriate language code by the observed action. In section E, indicate the material and the langauge being used by placing the appropriate language code by the material used at the moment of observation. Every section (A, B, C, D, and E) must have at least one mark for each "Snapshot". Don't forget to write in the time of the beginning of the observation.

After the observation is complete, answer the following questions:

	In order to get a sense of the number of textbooks available please ask the children to hold up the textbook for the current subject.					
COM9	Number of children with text book for current subject					
COM10	Does the teacher have a book for this class?	1= Yes	2= No			
COM11	If yes, ask the teacher to show you the Text Book he or she is using					
COR11.1	How many chapters/lessons has the class covered so far this year?					
COR11.2	How many chapters/lessons are there in this book?					
COR11.3	Is this the PRIMR book?	Yes	1	No	0	
COR 11.4	Is the teacher using the PRIMR teachers' guide?	Yes	1	No	0	
COM12	Start time ----------Hr……..Min					

NOTES:

		Observation #:										
		3	6	9	12	15	18	21	24	27	30	33
	A) Teacher focus: (only one X)											
COM13	Whole class											
COM14	Small Group											
COM15	One individual student											
COM16	Other / Not focusing on students											
COM17	Teacher not in the room											
	B) Instructional Content: (X)											
COM18	Reciting number words											
COM19	Number Identification											
COM20	Counting											
COM21	Comparing sets											
COM22	Addition - 1 digit											
COM23	Addition – 2 or more digits											
COM24	Subtraction - 1 digit											
COM25	Subtraction - 2 or more digits											
COM26	Multiplication											
COM27	Division											
COM28	Fractions											
COM29	Decimals & Percentages											
COM30	Money											
COM31	Time											
COM32	Standard Measurement Tools											
COM33	Working with data (graphs, etc.)											
COM34	Geometry (shapes, attributes)											
COM35	Algebra											
COM36	Other or don’t know											
COM37	ABOVE DONE USING PICTURES											
COM38	ABOVE DONE USING COUNTERS											
	C) Teacher Action (Languge)											
COM39	Repeating/recitation											
COM40	Writing problems on board											
COM41	Explaining											
COM42	Listening to student(s)											
COM43	Asking question(s)											
COM44	Monitoring students											
COM45	Non-instructional (Behavior mgmt, etc.)											
	D) Student actions (Language)											
COM46	Repeating/recitation											
COM47	Listening/watching teacher											
COM48	Asking question											
COM49	Answering question											
COM50	Copying from board											
COM51	Writing at blackboard											
COM52	Whole class problem solving											
COM53	Small group desk work											
COM54	Individual desk work											
COM55	Other (Projects, games, etc....)											
COM56	Off task (talking, sleeping, playing)											
	E) Materials used (Language)											
COM57	Blackboard											
COM58	Textbook											
COM59	Workbook/Worksheet/Copies											
COM60	Flashcards											
COM61	Posters/Wall charts											
COM62	Manipulatives: Counting											
COM63	Manipulatives: Geometry											
COM64	Manipulatives: Fractions											
COM65	Slates											
COM66	Student notebooks											
COM67	Other											

COM68	Is the classroom clean and neat?	No . . . . . 0 Yes 1
COM69	Is there sufficient light in the room?	No . . . . . 0 Yes 1
COM70	Is there a ceiling?	No . . . . . 0 Yes 1
COM71	Are there students sitting on the floor? How many?	None ..... 0 A few ..... 1 About half ..... 2 Almost all ..... 3 All 4
COM72	Are there sufficient chairs/desks for all the students?	No . . . . . 0 Yes 1
COM73	Are all the desks designed for one or two students?	No . . . . . 0 Yes 1
COM74	Is there enough space in the class for the teacher to circulate freely?	No . . . . . 0 Yes 1
COM75	Indicate what desk or bench arrangement is used in this classroom	Rows ..... 0 small groups ..... 1 circle..... 2 other (describe) 3
COM76	How many boys are present in this classroom at the time of your observation? **[HAVE ALL THE BOYS STAND AND COUNT THEM]**	Boys ☐☐
COM77	How many girls are present in this classroom at the time of your observation? **[HAVE ALL THE GIRLS STAND AND COUNT THEM]**	Girls ☐☐
Materials **[ASK CHILDREN TO RAISE EACH TYPE OF MATERIAL IN THE AIR ONE BY ONE]**:		
COM78.1 COM78.2	Number of children with **exercise book** Number of children with **pen/ pencil**	☐☐ ☐☐
COM80 COM80.1 COM80.2 COM80.3 COM80.4 COM80.5 COM80.6	Does the teacher have the following materials? **[CIRCLE ALL THE MATERIALS THAT THE TEACHER HAS]**	Chalkboard..... 1 Whiteboard..... 1 Chalk/Markers for blackboard/whiteboard 1 Pen/Pencil..... 1 Notebook..... 1 Teacher Manual (current subject) 1
COM85	***[If there is a chalkboard]*** Is the chalkboard in good condition?	No . . . . . 0 Yes 1
	Are the following materials available/accessible (not locked away) for children to read?	
COM86	Books/booklets other than textbooks	None ..... 0 1-4..... 1 5-9 . . . . . 2 10-19 ..... 3 20-39 ..... 4 40+ 5

COM87	Magazines	None ..... 0 1-4..... 1 5-9 ..... 2 10-19 ..... 3 20-39 ..... 4 40+ 5
COM88	Are there posters on the walls	No ..... 0 Yes 1
COM89	Are there posters specifically about health and/or safety?	No ..... 0 Yes 1
COM90	Are there teacher made displays/resources visible?	No ..... 0 Yes 1
COM91	Is students' work displayed on the walls?	No ..... 0 Yes 1
COM92	Ending Time	_____ : _____ (AM / PM)