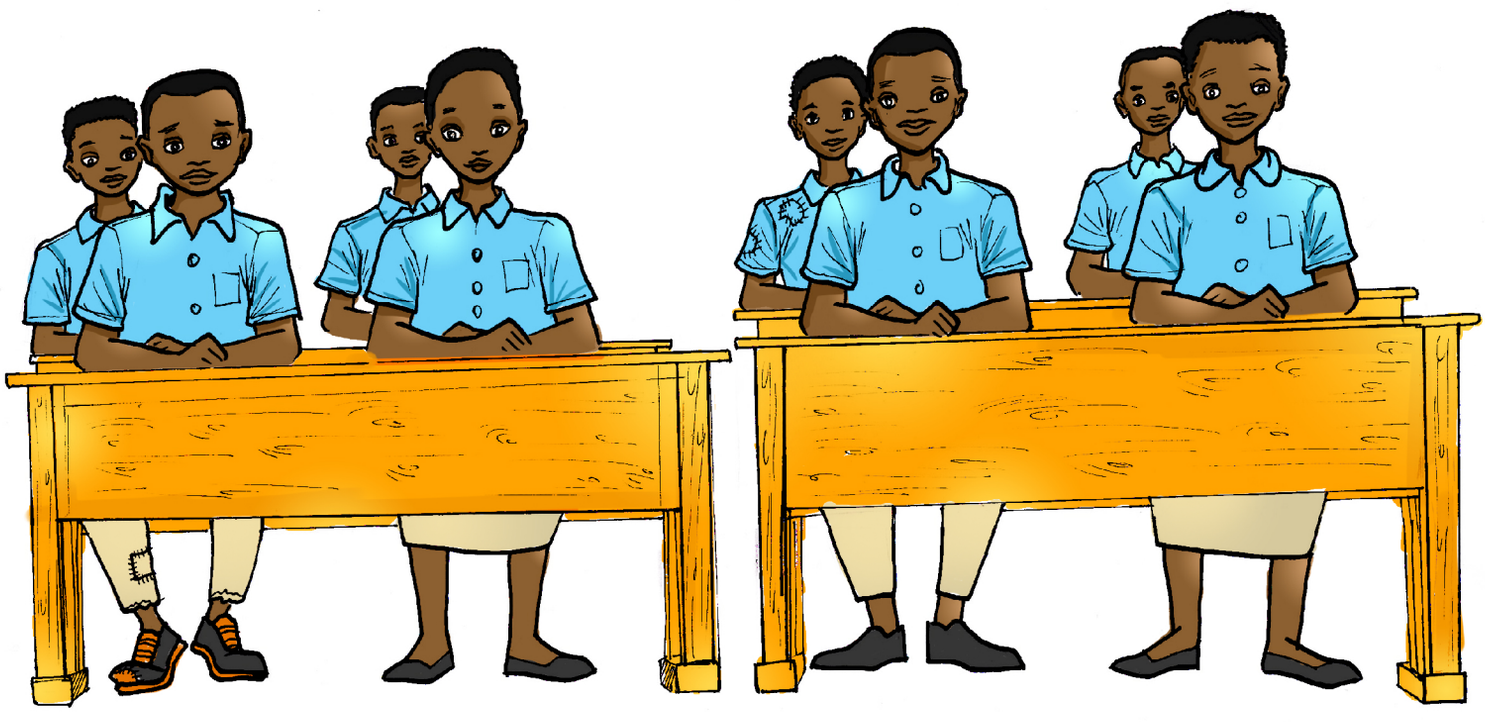
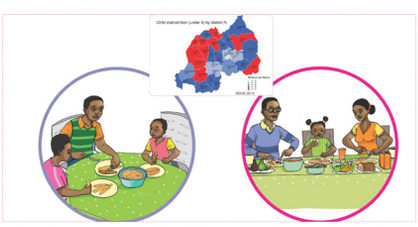
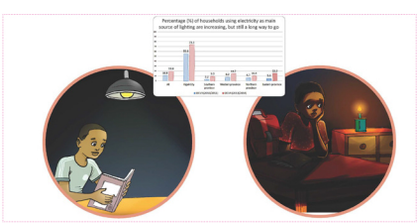
TEACHERS' DISCUSSION GUIDE FOR READING DATA WITH CHILDREN



OUR STORY – PAST, PRESENT AND FUTURE OF RWANDA, OUR CONTINENT AND OUR GLOBE

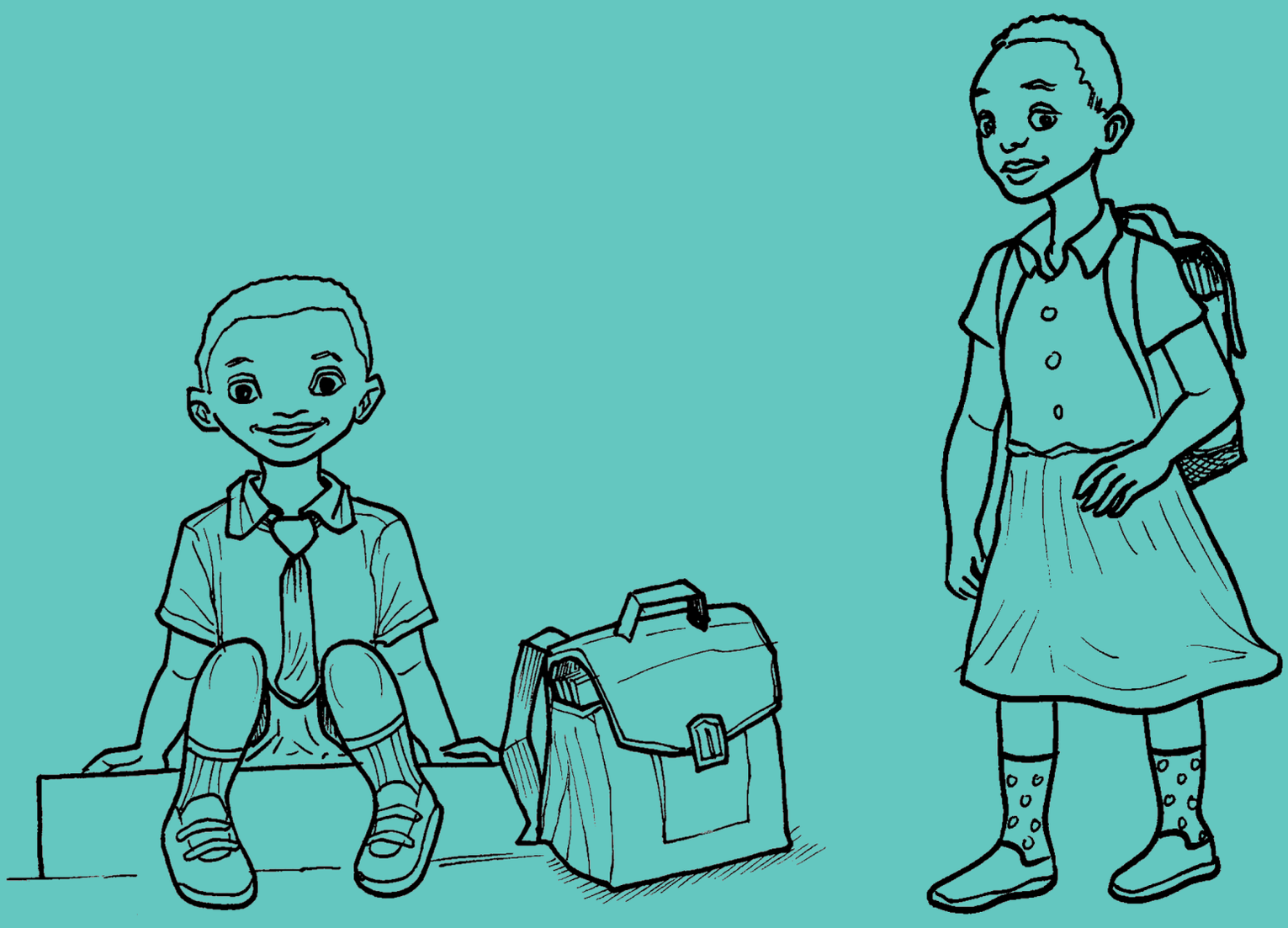




NISR
NATIONAL INSTITUTE OF STATISTICS OF RWANDA

unicef
for every child

TEACHERS' DISCUSSION GUIDE FOR READING DATA WITH CHILDREN



ISBN: 978-99977-43-24-4

Illustration credits: Inkstain

Design and layout: WordCore Communications

©NISR, JANUARY 2017

FOREWORD

NISR Director General

During the past decade, Rwanda has made significant achievements in the areas of human development, evidenced by a number of key social indicators. Transitioning from the closure of the Millennium Development Goals to the new Sustainable Development Goals has opened a golden opportunity to facilitate dynamic discussions towards the achievement of Rwanda's new development goals.

Recognizing that successful advocacy relies heavily on how collected data and information are communicated, the National Institute of Statistics of Rwanda (NISR) has tested a number of innovations in recent years. "

The 'Reading Data with Children' event, organized in collaboration with UNICEF Rwanda, is a perfect example. This tool has successfully contributed to nurturing a data-driven mind-set and to boosting the statistical literacy of the country's general population, particularly the young generation.

The 'Reading Data with Children' event was organized in conjunction with the African Statistics Day celebration. It demonstrated that children can act as agents of change to advocate for development issues among parents, peers, and community members by using statistics as a tool. The newly improved "Teacher's Guide for Reading Data with Children" is a departure from the event-based norm to school-based discussions aimed at reaching out to a larger number of children (10 – 16 years old) through formal education.

The guide was developed and tested by the NISR Innovations Team, UNICEF colleagues, and Rwanda Education Board. It uses data from the Fourth Integrated Household and Living Conditions Survey (EICV) and the Rwanda Demographic and Health Survey (RDHS) and is adapted to a child's capacity. This guide is expected to further inspire data-driven minds among Rwanda's youth, who will steer the country's future in the era of Sustainable Development Goals.

One of the mandates of NISR is to produce and disseminate the latest socio-economic data among the public in order to facilitate good decision making and planning. We must not limit our ambitions; I strongly believe that statistics will soon become a part of Rwandan children's daily life through the use of this discussion guide in schools. I salute the concerted efforts made by UNICEF and NISR in this regard.

Yusuf Murangwa

UNICEF Rwanda Representative

In 2015, the era of the Millennium Development Goals came to a conclusion. During this time, Rwanda celebrated significant achievements in the areas of human development. These achievements were recognized by several indicators produced by NISR. However, the data also revealed that disadvantaged populations often do not feel the effects of development progress as much as other groups.

UNICEF recognizes that achieving the Sustainable Development Goals by 2030 will require making the greatest, deepest progress for the most disadvantaged populations first. This will require successful advocacy, which will also rely heavily on how data and information are communicated, presented, and shared. An important portion of the target audience includes children and adolescents. As a first step, it is very important to teach children and disadvantaged populations how to identify development gaps, and to ensure that they are vocal about their rights. It is also one of UNICEF's main objectives to advocate for child participation in Rwanda's development. This is very much aligned with Rwandan culture, where community participation is at the heart.

On November 17, the day before Africa Statistics Day, NISR and UNICEF organised an innovative event: Reading Data with Children. At this event, 50 children participated in discussions on statistics from the Demographic and Health Survey (DHS) and the Integrated Household Living Conditions Survey (EICV). We were impressed by their analytical questions and critical thinking skills. Children were consistently standing up to speak out, including through sign language for children living with disabilities. At the event, we had an opportunity to witness children's potential as future leaders and responsible citizens.

Building on this success, I am encouraged to see that NISR is using this teacher's guide to reach out to more children for discussions on child rights, especially those living in remote areas.

In looking ahead towards achieving the Sustainable Development Goals, I am certain that we can shape Rwanda's future through its children.

Ted Maly

FACILITATOR NOTES

This teacher's guide was designed to be interactive, and is intended to be used in a flexible way. As every educator knows, each child and each classroom is unique; therefore, we encourage you to adapt this guide as you see fit.

The timing and ordering of the activities are included as an approximate suggestion to help plan your workshop, but these remain flexible. If completed in full, this workshop is a full-day set of activities, so we recommend allowing time for breaks.

Regarding the questions, the answers provided are only general responses, as this guide is being disseminated all across Rwanda.

We encourage you to adapt the questions where necessary to make it more relevant to your locality and students. Students often give wonderful and unexpected responses, so we encourage you to use your own expertise to praise or correct students accordingly.

It is strongly recommended for facilitators to spend time studying resources, including the PowerPoint presentations, to understand how each activity is run. The total time required to complete all activities in this guide is 4 hours and 34 minutes.

We hope that both you and your students find these sessions both educational and fun.

SELECTED INDICATORS AND KEY MESSAGES

1. **Net Attendance Rate in Primary Schools (%)** - The dream of universal and complete primary education may soon be a reality in Rwanda. About 90% of boys and girls are in school, but not all children. 1 out of 10 are still left behind (EICV).
2. **Poverty by District** — In 2013/2014, some districts had higher poverty rates than others (EICV).
3. **Child Malnutrition (Under 5) by District** — In 2014/2015, more than 42% of children under 5 years old in 10 districts were stunted (RDHS).
4. **Literacy Rate of Population 15-24 (%), According to Consumption Quintile** - Expanding access to education is yielding positive results: even youth from the poorest households are catching up on literacy (EICV).
5. **Care Seeking for Childhood Illnesses (%)** - Mothers who are more educated are more likely to seek healthcare for their children (RDHS).
6. **Secondary School Net Attendance Rate (%), According to Wealth** - More children are attending higher education, even children from the poorest households (EICV).
7. **Percentage of Population with Health Insurance by Wealth** - There is a need to support the poorest households in getting health insurance (EICV).
8. **Under 5 Mortality** — In the last 15 years, there has been a significant reduction in child mortality, decreasing from 50 deaths per 1,000 live births to 196(RDHS).
9. **Fertility Rate** – Rwandan families today are having fewer children, and as a result, children enjoy more attention and care from their parents (RDHS).
10. **Birth Registration** - The percentage of unregistered births has dropped significantly since 2010. A birth certificate identifies who you are and gives you access to social services. Every child has the right to have a birth certificate (RDHS).
11. **Ownership of Mosquito Nets (%)** – Since 2010, 8 out of 10 families have mosquito nets, but which families are still left behind (RDHS)?
12. **Delivery at a Health Facility (%)** — In 2014/2015, 91% of deliveries happened in health facilities (RDHS).
13. **Households Using Improved Sanitation (%)** - Household access to improved sanitation has significantly increased, but regional disparities still exist (EICV).
14. **Households Access to Improved Water Source (%)** – Household access to an improved drinking water source has significantly improved (EICV).
15. **Households Using Electricity as Main Source of Lighting (%)** – All children want to enjoy reading at night. In 2013/2014, more than 70% of households had access to electricity in Kigali City compared to 9% in the Southern Province (EICV).
16. **Households Access to Internet (%)** – Internet access brings huge opportunities for children's learning. From 2010/2011 to 2013/2014, the proportion of households which have access to internet almost tripled; however, only 1 out of 10 households had internet access in 2014 (EICV).

LESSON PREPARATION

REQUIRED EQUIPMENT:

- Laptop with Microsoft PowerPoint installed and the presentation for this lesson.
- Projector and a screen to show the presentation.
- One copy per student of the '**Bar Chart Worksheet**'. There are two versions of this worksheet: one beginner version and one advanced version, depending on the level of the student.
- One copy per student of the '**Map Colouring Worksheet'.**
- Paper and art materials for students to create their artwork.

OPTIONAL EQUIPMENT:

- Signs made of paper for 'Number Line Activities'. For example: 0, 500, 1,000 and 0%, 50%, 100%.
- Signs for the 'Family Size Grouping Activity'. There are nine signs numbered 1-9.

BEFORE THE EVENT

- Set up the classroom with the laptop and projector with the presentation pre-loaded.
- Mark out number lines and family size grouping areas (see activities below).
- Prepare enough printed copies of worksheets for all students (see required
- Equipment above).
- Prepare the art workshop equipment (see required equipment above).

FURTHER EXPLANATIONS OF ACTIVITIES

STARTER ACTIVITY (CLUMPING GAME)

The teacher explains that the students must stand in groups with others as quickly as they can after hearing the command. For example, the teacher will say "I want you to make groups of three", and students must stand in groups of three as quickly as possible.

Next, the teacher asks the students to stand in groups of people who have the same favourite colour. The students then rush to find others and stand in groups together.

The teacher then moves on to the next command.

Once the questions have been asked and the activity is finished, the teacher can explain that

"Grouping students together like this is a simple way of demonstrating statistics. It helps us better understand numbers about people".

Below is a link to a demonstration of the activity.

https://goo.gl/Egjb64

THINK – PAIR – SHARE

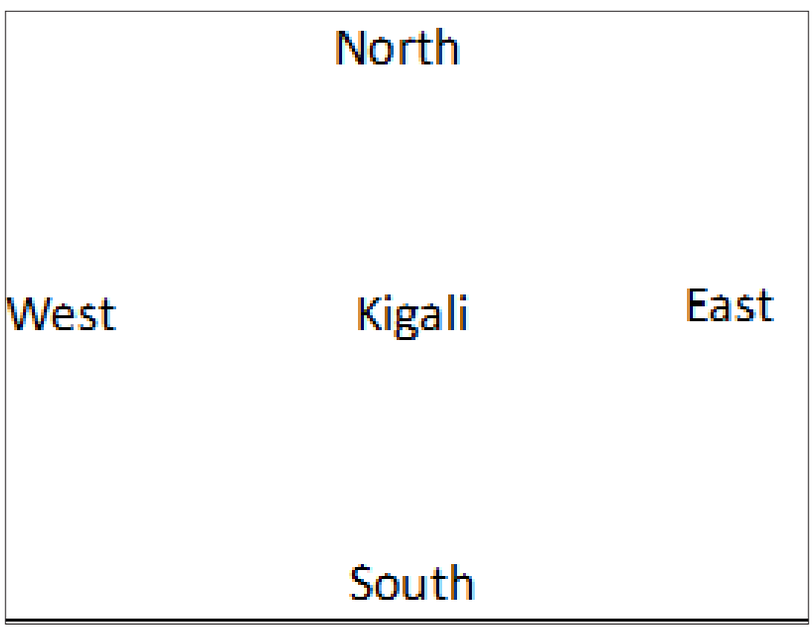
This activity allows students time to think of an answer and discuss it, enabling more students to answer questions and avoiding a limited number of students dominating the discussion. Below is a brief explanation of the activity.

The teacher first asks the students a question and allows the students 30 seconds on their own (in silence) to consider what the picture means (THINK). After 30 seconds, the teacher allows the students to pair and discuss their ideas with the student next to them (PAIR) for one minute. Finally, the teacher asks some of the students to share their ideas with the class (SHARE).

Below is a link to a demonstration of the activity.

https://goo.gl/hhsLkJ

RWANDA IN A CLASSROOM

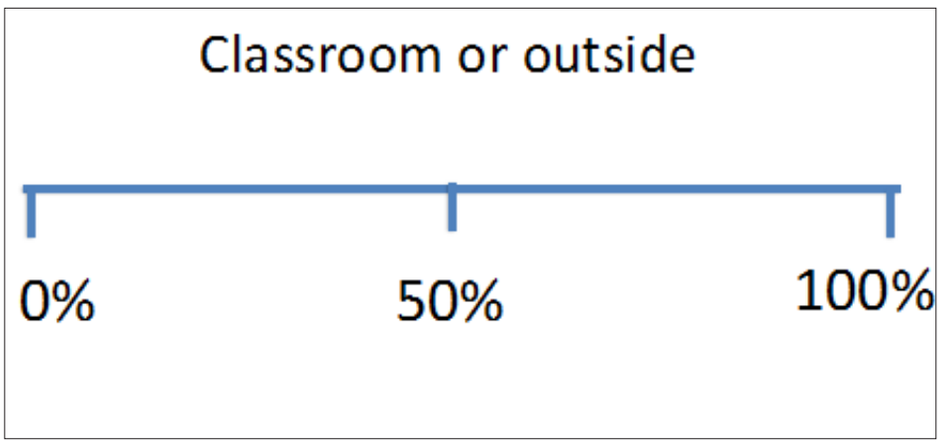


In this activity, Rwanda is represented by the classroom. Each wall is given a direction (e.g. North, South, East, and West), and the middle of the classroom represents Kigali (see diagram). The teacher explains this to the students.

Using example questions, the teacher asks the students to stand in the part of Rwanda which corresponds to the answer. For example, the teacher can ask students to move to the part of Rwanda with the lowest rate of malnutrition. Then, the teacher asks some students why they chose to stand there.

As a follow up, the teacher can ask the students to stand in the part of Rwanda which they think has the highest malnutrition. Again, the teacher can ask why they chose there. This offers a fun way for students to show their predictions and interact with data in a physical way.

NUMBER LINE



Prior to this activity, the teacher needs to prepare the 'number line'. This can either be across the length of the classroom or in a space outside.

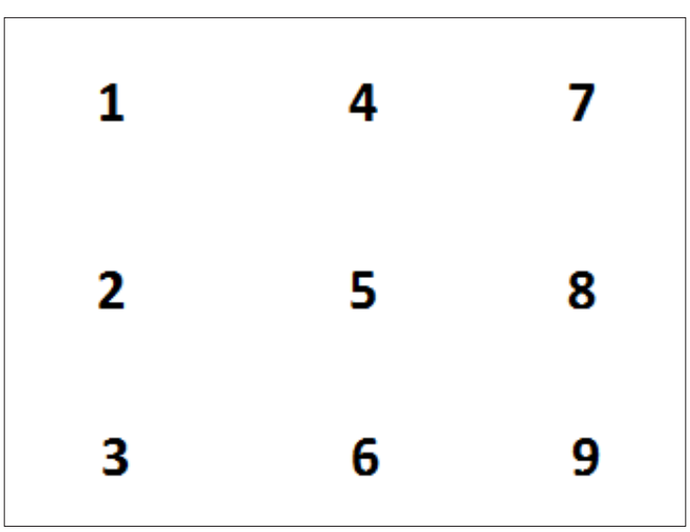
The number line should be a straight line with 0% written at one side and 100% written at the other side. The teacher may wish to put additional divisions, such as 50% in the centre.

The teacher then asks the students, for example, "In the year 2000, what percentage of children do you think were born in a health facility?"

The teacher then asks the students to stand at the corresponding position on the number line and asks some students why they chose this particular number. The teacher then tells the students the answer (26%).

The teacher can repeat this process using data from other years.

FAMILY SIZE GROUPING



The teacher shows the students the numbered areas of the classroom (see diagram). The teacher asks, "How many children on average did a family have in 2005?" The teacher explains that the students must stand in the numbered area which represents their guess. The teacher can model this with an example.

For example: "If you think in 2005 the average number of children per mother was 8, please stand here (area labelled 8)."

Next, the teacher asks some students why they chose that number, and then reveals the correct answer (6.1 children).

The teacher then repeats this activity using the year 2015 (4.2 children).

MAP COLOURING

The teacher tells the students that they will be creating their own maps to see how sanitation conditions have improved across Rwanda.

The teacher hands out the map worksheet.

Students choose three different colours for the key and colour the map according to the key andand the data provided.

The top map is for 2010/2011 and the bottom map is for 2013/2014.

Once the maps are completed, the teacher shows the second slide displaying the maps and asks students to compare these with their own maps for errors.

ACRONYMS

AIDS - Acquired Immune Deficiency Syndrome

EICV – Integrated Household Living Conditions Survey

MDGs - Millennium Development Goals

RDHS – Rwanda Demographic & Health Survey

SDGs - Sustainable Development Goals

DATA SOURCE

Integrated Household Living Conditions Survey (EICV)

The EICV is conducted every three years to provide information on changes in the well-being of the population. This includes information on poverty, employment, living conditions, education, health, housing conditions, and household consumption. It was conducted every five years until 2010/11. But EICV4 was conducted after three years, and subsequent surveys will continue with a frequency of three years.

The recent is EICV 2013/2014 is a follow-up to the 2000/2001, 2005/2006 and 2010/2011 EICV survey rounds. This survey provides information on monetary poverty measured in consumption expenditure terms, but also provides complementary socio-economic information that helps understand the changes in household living conditions.

The Rwanda Demographic and Health Survey (RDHS)

The RDHS provides data to monitor the population and health situation in Rwanda. Specifically, this survey collects information on a broad range of demographic, health, and social issues such as household characteristics, maternal and child health, breastfeeding practices, early childhood mortality, maternal mortality, the nutritional status of women and young children, fertility levels, marriage, fertility preferences, awareness and use of family planning methods, sexual activity, and awareness and behavior regarding AIDS and other sexually transmitted infections. The recent RDHS was conducted in 2014/2015 following the 2010, 2005, 2000 and 1992 survey rounds.

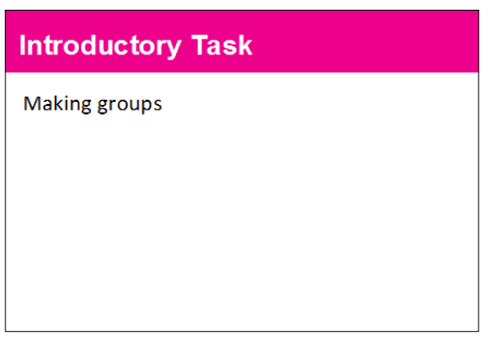
CLASSROOM ACTIVITIES

ICEBREAKER

Duration: 10 min

Objective: This is a starter/icebreaker activity. It is intended to be an active start to the lesson, to get students moving and interacting with each other. It is also a fun introduction to some familiar statistics.

Exhibit Slide:



Activity Outline

-The teacher asks the students to stand up.

-The teacher explains that the students must stand in groups with others as quickly as they can after hearing the command. For example, the teacher says "I want you to make groups of three" and students must stand in groups of three as quickly as possible.

-Next, the teacher asks the students to stand in groups of people who have the same favourite colour. The students then rush to find others and stand in groups together.

-The teacher moves on to next command.

-Once the questions have been asked and the activity is finished, the teacher explains saying,,

"Grouping students together like this is a simple way of demonstrating statistics so we can better understand numbers about people."

The teacher explains that these groupings are examples of statistics, which are very useful for us to understand society and how we can improve it.

Questions to be asked

- Please stand in groups of 3.
- Please stand in groups of people whose favourite colour is the same.
- Please stand in groups of people who share the same favourite school subject.
- Please stand in groups of the same sex.
- Please stand in groups of people the same age.
- Please stand in groups of people with the same number of brothers and sisters.

Answers/Notes

*The teachers can add their own questions.

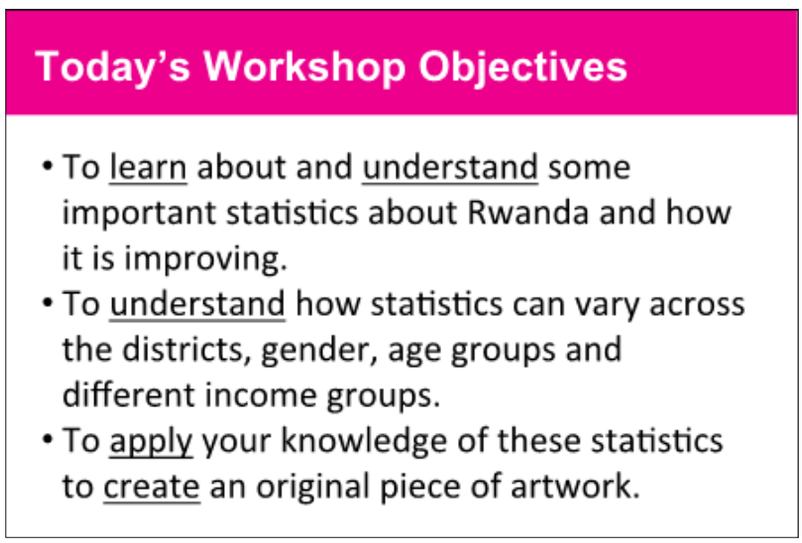
*This activity requires space for the students to move around the classroom

INTRODUCING LEARNING OBJECTIVES

Duration: 3 min

Objective: This introduces students to the learning objectives so all participants understand what they are learning and why.

Exhibit Slide:



Activity Outline

The teacher displays the workshop objectives to the students and then reads them aloud (see below).

- To learn about and understand some important statistics about Rwanda.
- To understand how statistics can vary across; provinces, districts, gender, age groups and different income groups.

To apply your knowledge of these statistics to create an original piece of artwork.

Notes

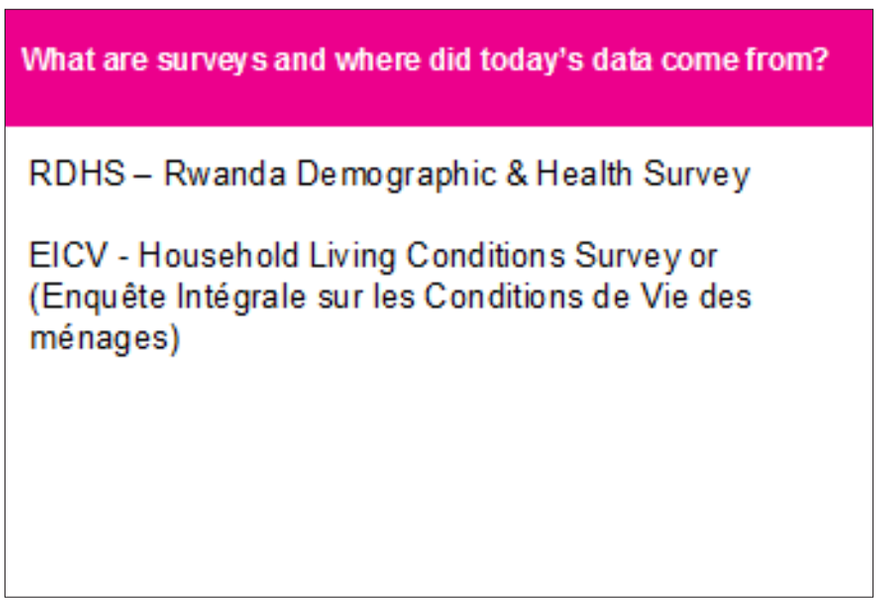
*There is no need to go into detail about the objectives. The students will meet these objectives throughout the workshop.

SHARING THE SOURCE OF STATISTICS

Duration: 2 min

Objective: This shares the plan of activities that the students will engage in today.

Exhibit Slide:



Activity Outline

The teacher displays this to the students and reads through the plan.

Questions and Sample Answers

Q1. What does RDHS mean?

Q2. What does EICV means?

*This may need to be adapted if you have made changes to the standard plan.

Refer to Data Source page 11

SESSION # 1 - NET ATTENDANCE RATE IN PRIMARY SCHOOLS

The dream of universal and complete primary education may soon be a reality in Rwanda. About 90% of boys and girls are in school, but not all children. 1 out of 10 are still left behind (EICV).

Duration: 8 min

Objective: To make students aware of the percentage of children attending primary school.

Activity Outline

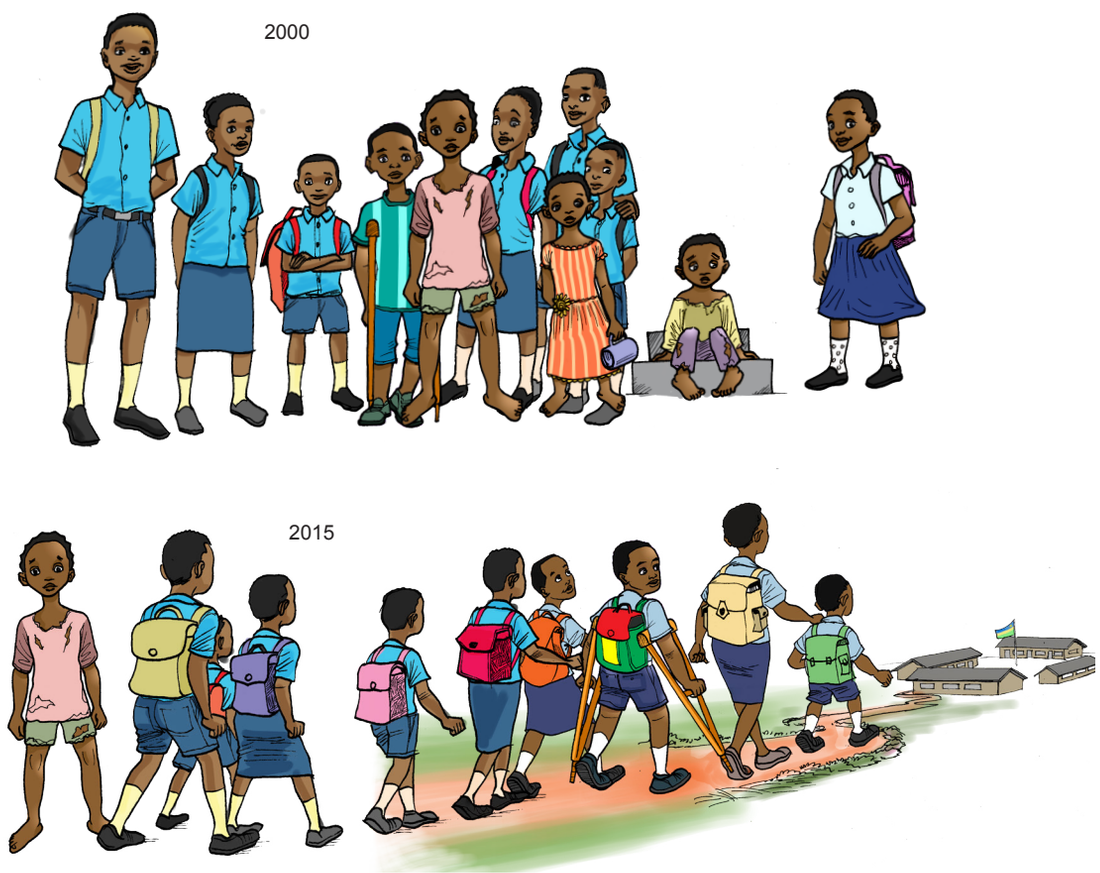


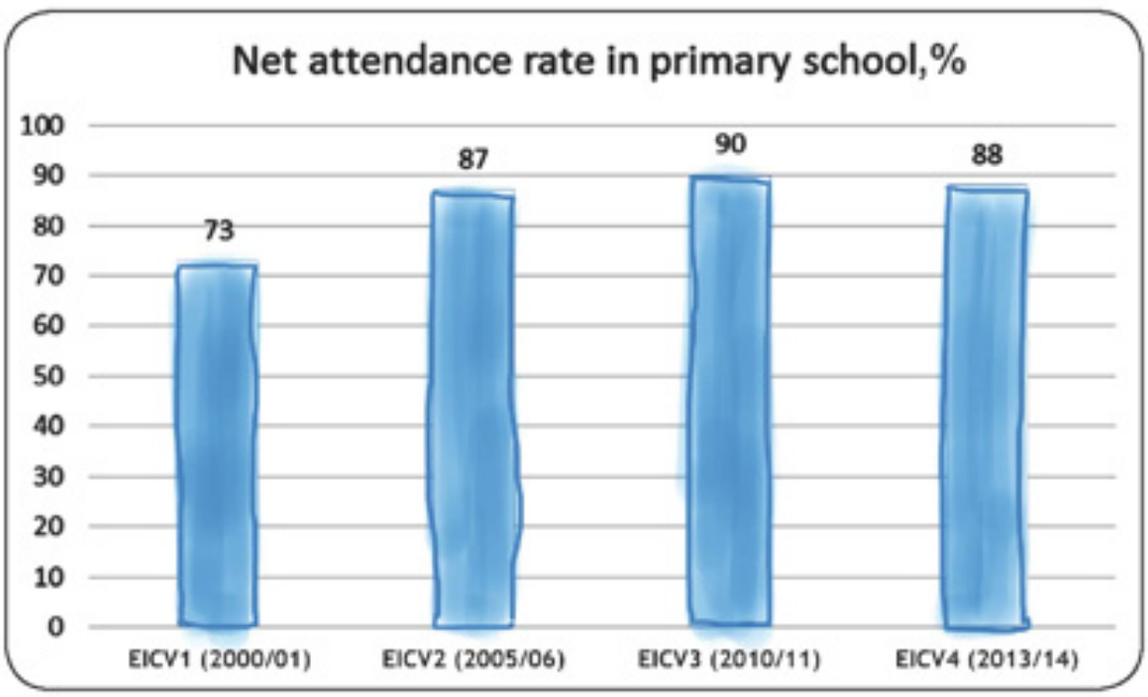
Figure 1: Think - Pair - Share

First, the teacher shows the cartoon of the children (without the bar chart). Using the 'Think-Pair-Share' technique, the teacher begins by asking students to take 30 seconds to consider what the picture means individually (THINK). After 30 seconds, the teacher allows the students to pair and discuss their ideas with the student seated next to them (PAIR) for one minute. Finally, the teacher asks some the students to share their ideas with the class (SHARE).

From this image, students should be able to guess that the image depicts more students going to school in 2015.

Some students may be able to guess that the number of students represent the percentage (i.e. nine students in school uniforms represent 90% of students going to school). The teacher can help by using the pictures to encourage answers (e.g. "Can you see any differences between the children in the pictures?" and "how many of the children do you think go to school?").

The dream of universal and complete primary education may soon be a reality in Rwanda. About 90% of boys and girls are at school, but not all children…1 out of 10 still left behind



The teacher then reveals the bar chart to the students and asks follow-up questions.

Questions and Sample Answers

Q1. What does this bar chart show you?

A1. The percentage of students attending primary school has risen since 2000/2001. Almost 9 in 10 students attended primary school in 2013/2014.

Q2. Why do you think the percentage of students attending primary school has increased over the past 15 years?

A2. More primary schools

A2. Parents understand the value of education more now than in the past

A2. Government policy calls for all students to attend primary school.

Q3. What do you hope to see happen over the next 15 years for primary education attendance?

A3. 100% of children attending primary schools.

Possible student question: "Why did the percentage decrease by 2% from 2010 to 2013?"

A. This is why statistics are important. The Government has noticed this and is investigating to discover the reasons and improve the situation.

SESSION # 2 - POVERTY BY DISTRICT

In 2013/2014, some districts had higher poverty rates than others (EICV).

Duration: 10 min

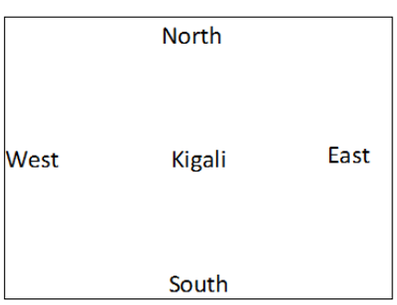
Objective: The objective of this activity is to help students understand poverty in Rwanda and how it varies between districts.The objective of the 'game' is to engage students in an active way to share their opinions and ideas.

Activity Outline

Initially, the teacher does not show the graph. The teacher asks the students "What does poverty mean"?

Figure 2: What does 'poverty' mean?

In this activity, Rwanda is represented by the classroom. Each wall is given a direction (e.g. North, South, East, and West), and the middle of the classroom represents Kigali (see diagram).



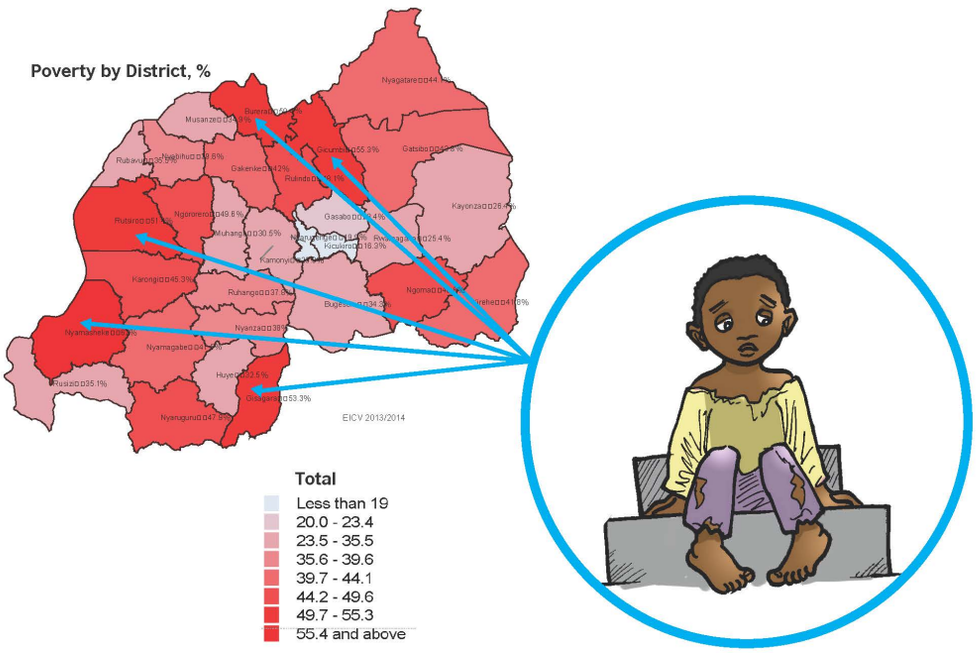
Let's imagine our classroom is Rwanda!

The teacher asks the students to stand in the part of Rwanda which they think has the lowest rate of poverty and asks some students why they chose to stand in that region.

The teacher then asks the students to stand in the part of Rwanda which they think has the highest rate of poverty. Again, the teacher asks why they chose that region.

The students then return to their seats and the teacher shows the graph. The teacher asks additional questions as follow-up (see sample questions below).

South and West had higher poverty rates - public policy should target the most vulnerable districts



This diagram shows how a classroom would represent the outline of Rwanda.

Questions and Sample Answers

Poverty: When families don't have enough money to provide for the things they need to live a healthy life, like food, housing, and medicine.

Q1. Can someone tell me the districts with the highest rate of poverty?

A1. South, West and parts of North.

Q2. Can someone show me the district with the lowest rate of poverty?

A2. Kigali.

Q3. Why do you think some districts are doing better than other districts?

A3. Kigali is the capital with a lot of business and trade. Many people are employed in paid jobs. Other areas of the country are based on farming with families receiving less regular income.

Q4. What would you like to see change in your community to improve people's standard of living?

SESSION # 3 - CHILD MALNUTRITION (UNDER 5) BY DISTRICT

In 2014/2015, more than 42% of children under 5 years old in ten districts were stunted (RDHS).

Duration: 10 min

Objective:
The objective of this activity is to have students understand child malnutrition in Rwanda and how it varies between districts.The objective of the 'game' is to engage students in an active way to share their opinions and ideas.

Activity Outline

Initially, the teacher **does not** show the graph. The teacher asks the students what they think the picture shows.

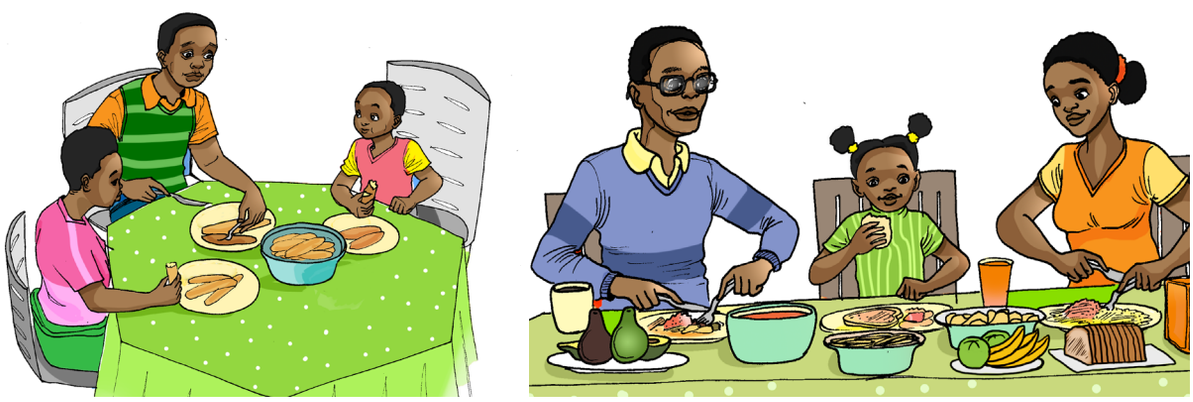
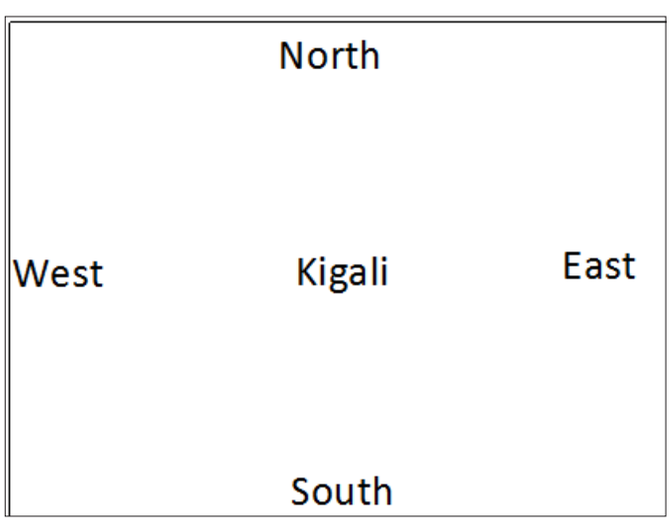


Figure 3: Think-Pair-Share

The teacher uses the Think-Pair-Share technique for discussing the pictures above. Ideally, students will link the ideas of diet and nutrition.



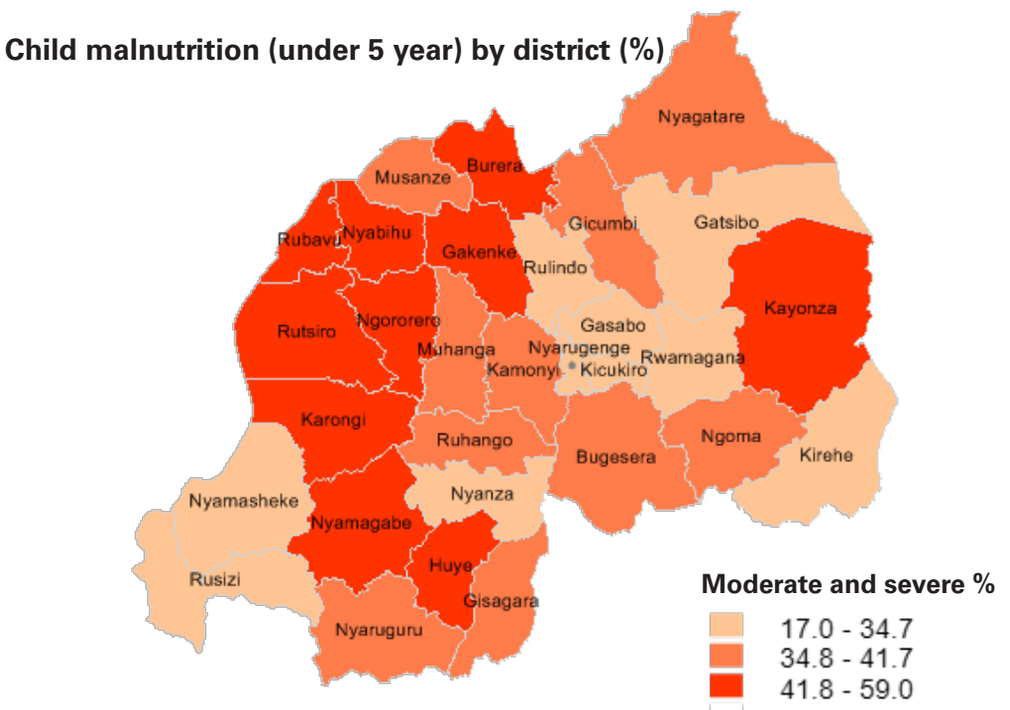
This diagram shows how a classroom would represent the outline of Rwanda

After this activity, the teacher shows the next slide. This is essentially the same activity as the previous session, with the topic changing from poverty to malnutrition.

In this activity, Rwanda is represented by the classroom. Each wall is given a direction (e.g. North, South, East, and West), and the middle of the classroom represents Kigali (see diagram). The teacher tells the students to stand in the part of Rwanda which has the lowest rate of malnutrition and asks some students why they chose to stand in that region.

The teacher then asks the students to stand in the part of Rwanda which they think has the highest rate of malnutrition. Again, the teacher asks why they chose that region.

The students then return to their seats and the teacher shows the graph. The teacher asks additional questions as follow-up (see sample questions below).



The students then return to their seats and the teacher shows the graph. The teacher asks additional questions as follow-up (see sample questions below).

Questions and Sample Answers

Q1. What does malnutrition mean?

A1. Malnutrition means when the food somebody eats is not balanced, resulting in insufficient vitamins, minerals, proteins, etc. This can mean the person does not grow well and can have health problems. This is what 'stunted' means.

Q2. Can someone tell me the district with the highest level of malnutrition? ((Teacher picks a student to show on the board.).)

A2. Western Rwanda shows the highest malnutrition rates.

Q3. Can someone show me the district with the lowest malnutrition? ((Teacher picks a student to show on the board.).)

A3. Kigali shows the lowest malnutrition rates.

Q4. Why do you think some districts show higher malnutrition?

A4. This could be because of several reasons. One may be linked to poverty, where people may not have enough money to buy a range of healthy foods, such as fruit, vegetables, meat, eggs etc. Another reason may be due to poor education on diet and food. For example, even some wealthier families that can afford healthy food can experience malnutrition if they don't know what food they should eat to grow healthy.

SESSION #4 - LITERACY RATE OF THE POPULATION 15-24 (%) ACCORDING TO WEALTH QUINTILE

Expanding access to education is yielding positive results: even youth from the poorest households are catching up on literacy (EICV).

Duration: 8 min

Objective: The objective of this activity is to enable students to understand the connection between literacy, the spending levels of families, and how they varied between 2010 and 2014.

Activity Outline

The teacher shows the slide with only the picture as a clue and asks, "What does literacy mean??"

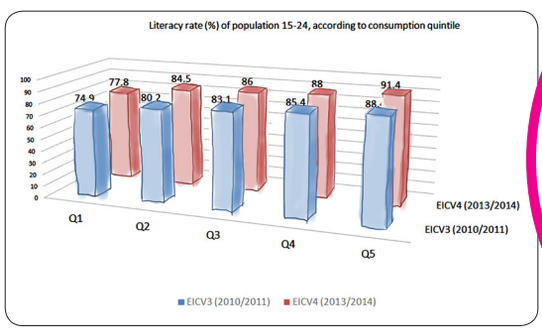
Figure 4: What does 'Literacy' mean?

After listening to student responses, the teacher asks students to look at the "Q-levels" in the diagram below, then asks the students Question 2 below.

The teacher then asks students to look at the difference between richer and poorer families between 2010 and 2014 and asks Question 3.

(Note: On the bar chart below, Q1 refers to quintile 1, or the poorest families. Conversely, Q5 refers to quintile 5, or the wealthiest families.)

Expanding access to education bearing fruits – even the youth from the lowest wealth quintile catching up on literacy



Questions and Sample Answers

Q1. What does literacy mean?

A1. Literacy means being able to read and write, which can be in any language. (This doesn't have to have been taught in school)

Q2. Is there a pattern between how much a family spends and if their children can read and write?

A2. Yes, the more a family spends (the richer they are), the more literate their children are likely to be.

Q3. What do you notice between 2010 and 2015 for both richer and poorer families?

A3. In Rwanda literacy levels have increased at the same rate among both rich and poor households.

Q4. Why do you think the literacy levels increased between these dates for both rich and poor households?

A4. The quality of education in schools has improved, more access to books, more parents are becoming literate so they are able to help their children learn at home.

SESSION #5 - CARE SEEKING FOR CHILDHOOD ILLNESSES (%)

Mothers who are more educated are more likely to seek healthcare for their children (RDHS).

Duration: 12 min

Objective: The objective of this activity is for students to understand that the more school education a mother has received, the better she cares for her child when he/she falls sick. To emphasize this lesson, students will create and interpret their own bar charts.

Activity Outline

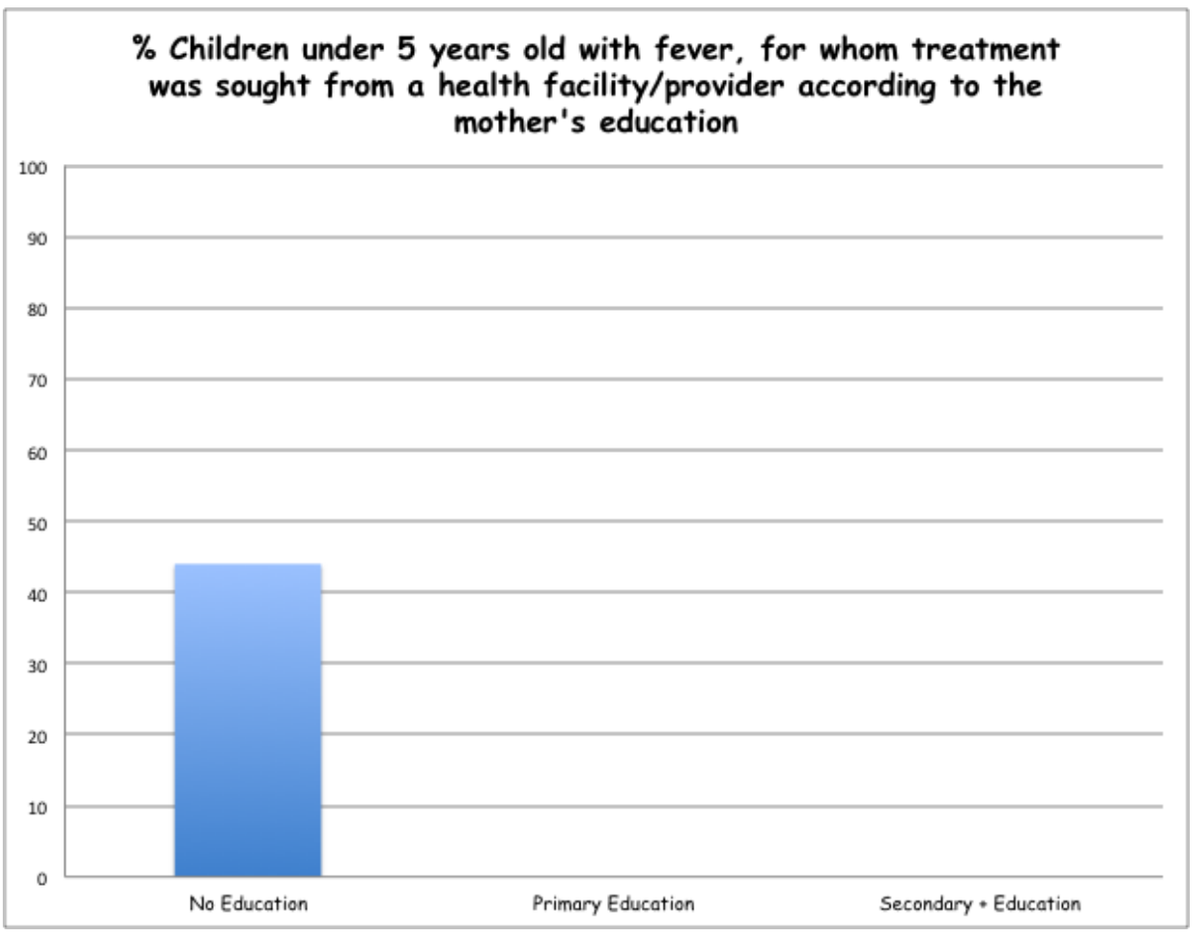
The activity starts with the Think – Pair – Share activity based on the pictures. Once the teacher discusses some of the ideas, the teacher explains the next activity.

Figure 5: Think-Pair-Share – Time for you to make a bar chart!

The teacher begins this activity by telling students that they will be creating their own bar charts.

There are two templates for graphs in the appendices of this guide. The first is for younger/lower ability students and has the first bar completed. The second is for older/higher ability students and is simply a set of labelled axes on which the students must draw in their own bars.

Use the data to complete the bar chart below
No education: 44%
Primary education: 48%
Secondary education +: 66%



Write one or two sentences to explain what you think the graph shows.

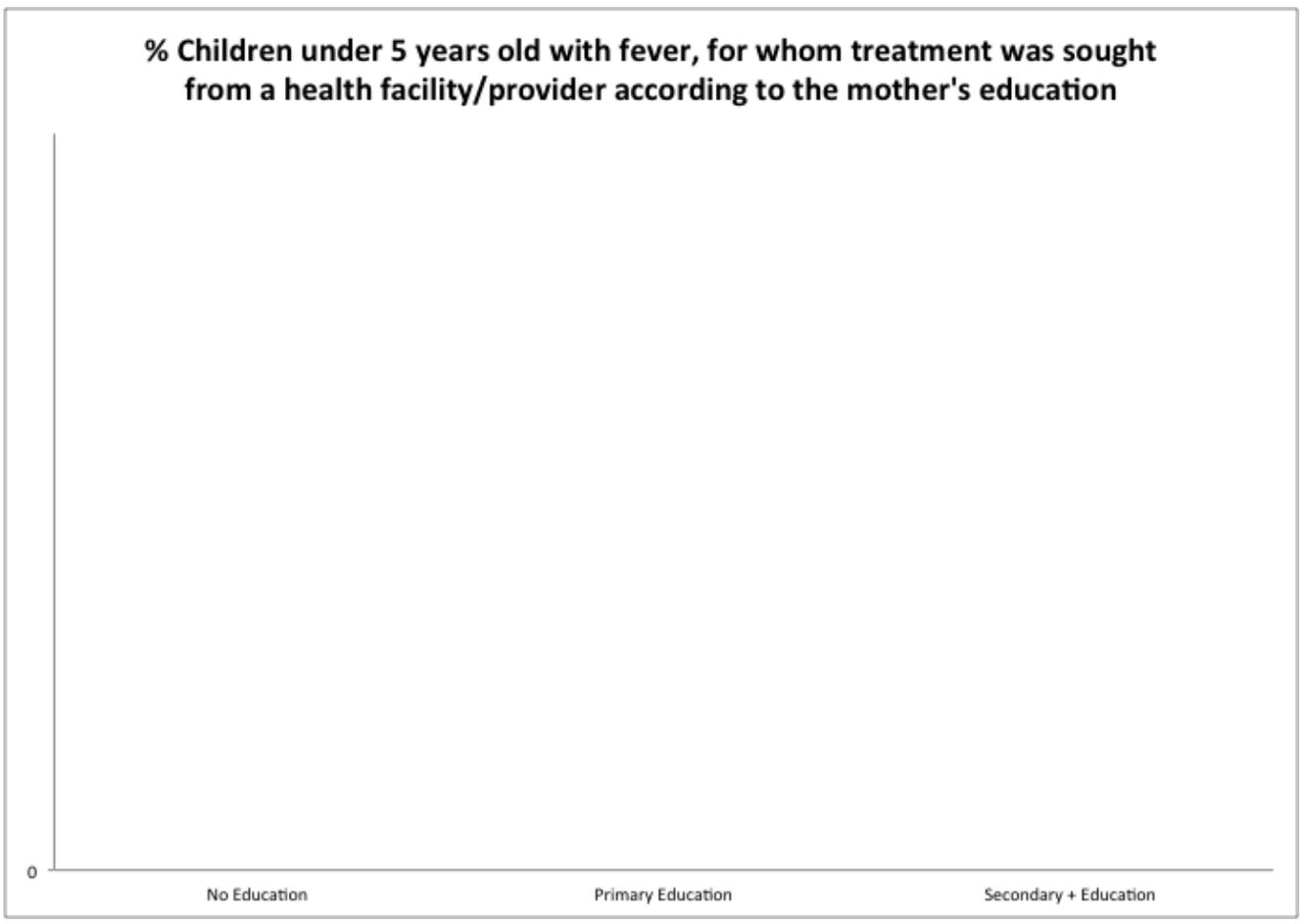
_____

_____

_____

(Lower ability worksheet)

Use the data below to create a bar chart.
No education: 44%
Primary education: 48%
Secondary education +: 66%



Write one or two sentences to explain what you think the graph shows.

_____

_____

_____

(Higher ability worksheet)

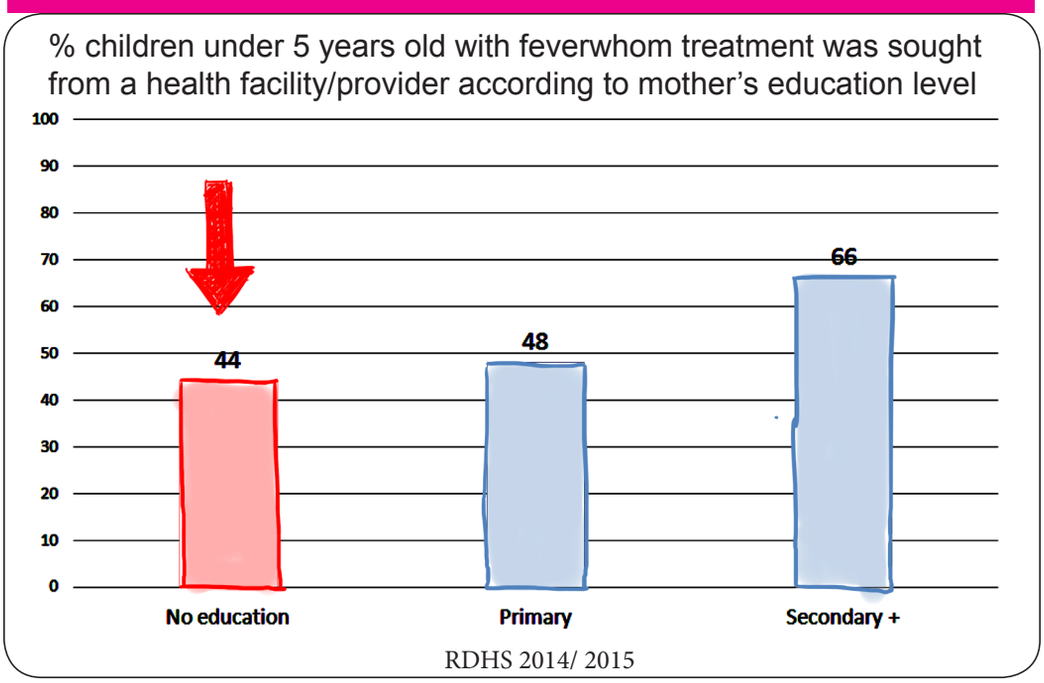
The teacher may choose which is more suitable for their students.

The data is provided for the students on the worksheet.

The students must then write one or two sentences to explain the data in their graphs.

The teacher should move around the room during this activity to check that students are completing the task and offer help as needed. To complete this worksheet should take about 8 minutes.

Education for girls is a key:
Educated mothers know how to take care of children



After students finish, the teacher shows the bar chart above to check that students completed it correctly and ask for one or two students to read their explanations.

The teacher then asks follow up questions (see sample questions and answers below).

Questions and Sample Answers

Q1. Compare the levels of education of mothers in the bar chart. What do you notice for more educated mothers?

A1. The pattern in the data suggests that the more school education a mother has received, the better she takes care of her child during sickness.

Q2. Why may this be the case?

A2. Mothers who are more educated will have a better knowledge of sickness and options available to them. They may also be from a wealthier family and are more likely to be able to afford healthcare.

SESSION # 6 - SECONDARY SCHOOL NET ATTENDANCE RATE (%), ACCORDING TO WEALTH

More children are attending higher education, even children from the poorest households (EICV)

Duration: 8 min

Objective: The objective of this activity is to have students understand the connection between secondary school attendance rates and the wealth levels of families and how they varied between 2010 and 2014.

Activity Outline

Teacher shows the slide and asks "Are there any members of your family who attended secondary school? Please raise your hands."

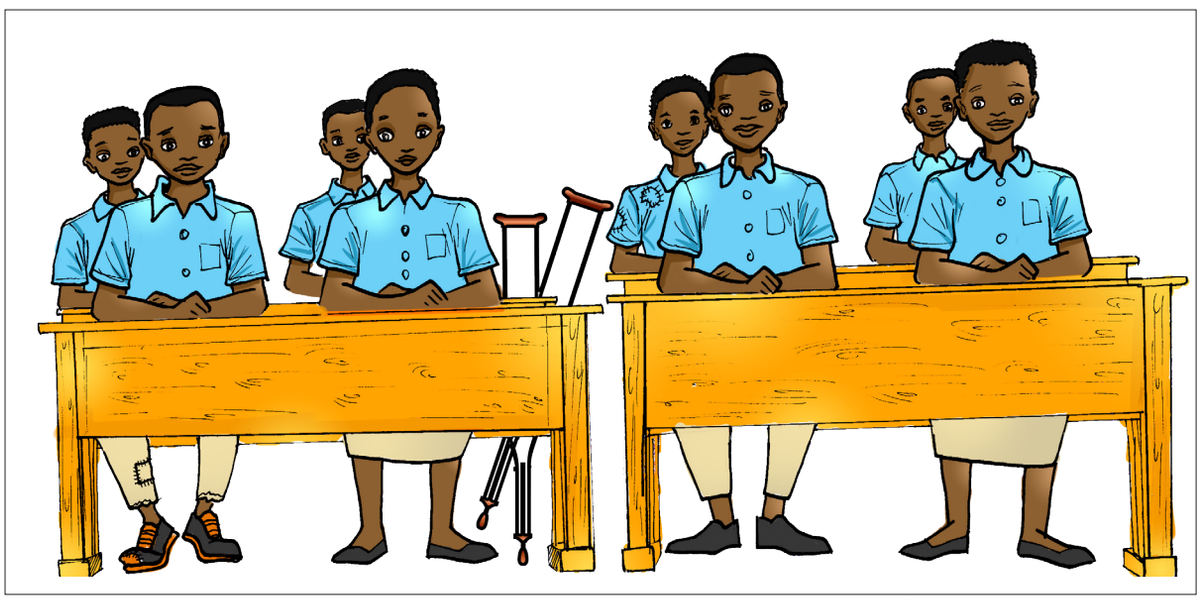
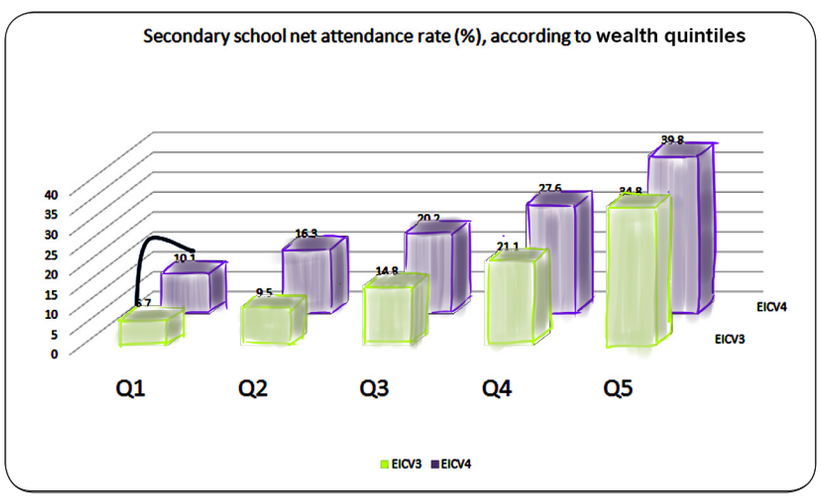


Figure 6: Are there any members of your family who attended secondary school?

Teacher then checks answers and shows the graph below.

More children attend higher education today, even the number of children from poorest families has increased



The teacher asks students to look at the 'Q-levels' and asks, "Is there a pattern between how wealthy a household is and if their children attend secondary school"?

The teacher then asks the students to look at the differences for the poorest (Q1) and richest (Q5) between 2010 and 2015.

Ask the students, "What do you notice between 2010 and 2014 for the different wealth levels?"

(Note: Use Think-Pair-Share for this question.)

Questions and Sample Answers

Q1. Is there a pattern between how wealthy a household is and if their children attend secondary school?

A1. Yes, the higher spenders are more likely to attend secondary school.

Q2. What difference do you notice in spending levels between 2010 and 20142014?

A2. The lower spenders increased school attendance between 2010 and 2014 for the different wealth levels.

Children from the poor households increased in attendance between EICV 3(2010/2011) to EICV 4 (2013/2014) at the similar rate as children from the richer households."There is a need to support the poorest households in accessing health insurance (EICV 4).

SESSION # 7 - PERCENTAGE OF POPULATION WITH HEALTH INSURANCE BY WEALTH QUINTILE

Duration: 8 min

Objective: The objective of this activity is to teach students how to read statistics of Health insurance in Rwanda: households with a larger number of health insurance are among the highest wealth quintile.

Activity Outline

The teacher starts by asking "What is health insurance?" and students offer answers.

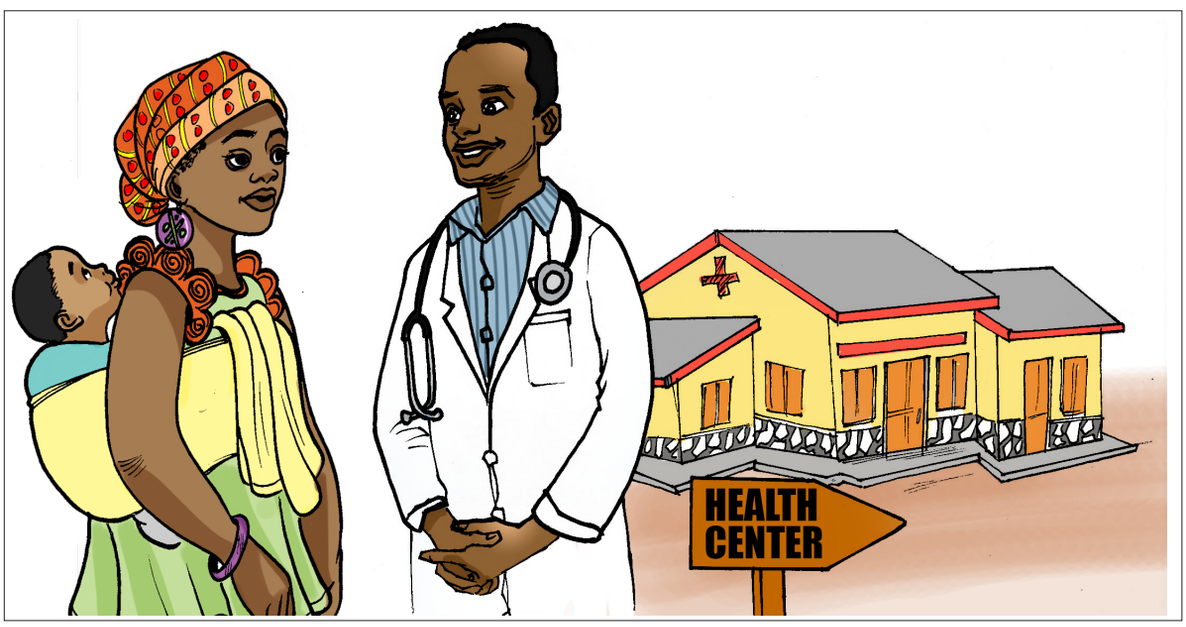
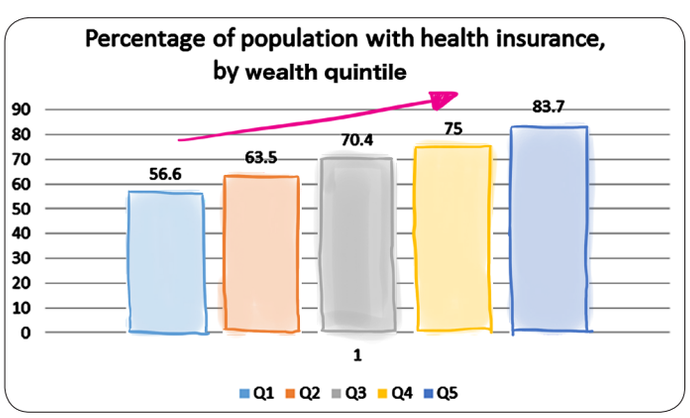


Figure 7: What is health insurance?

Teacher then shows the bar-chart.

There is a need to support the poorest families in getting health insurance



EICV 2013/2014

Next, the teacher continues with the questions provided below. To ensure that the students have enough time to consider the questions, the teacher should use the Think-Pair-Share technique to allow all students to discuss their ideas.

Questions and Sample Answers

Q1. What is health insurance?

A1. Health insurance is something which you pay for monthly and if you get sick it will pay for your hospital fees and medicine.

Q2. What is the pattern you see in the graph?

A2. The richer households have better access to health care compared to the poorer households.

SESSION #8 - UNDER FIVE MORTALITY

In the last 15 years, there has been a significant reduction in child mortality, decreasing from 50 deaths per 1,000 live births to 196 (RDHS).

Duration: 10 min

Objective: The objective of this activity is to help students understand the huge fall in child mortality in the last 15 years.

The activity also includes a 'number line' game, in which students will actively interact with the data.

Activity Outline

Initially, the teacher **does not** show the students the following graph.

Prior to this activity, the teacher needs to prepare the 'number line'. This can either be across the length of the classroom or outside.

The number line will be a straight line with 0 written at one side and 1,000 written at the other side. The teacher may wish to include other divisions, such as 500 in the centre (see diagram below).

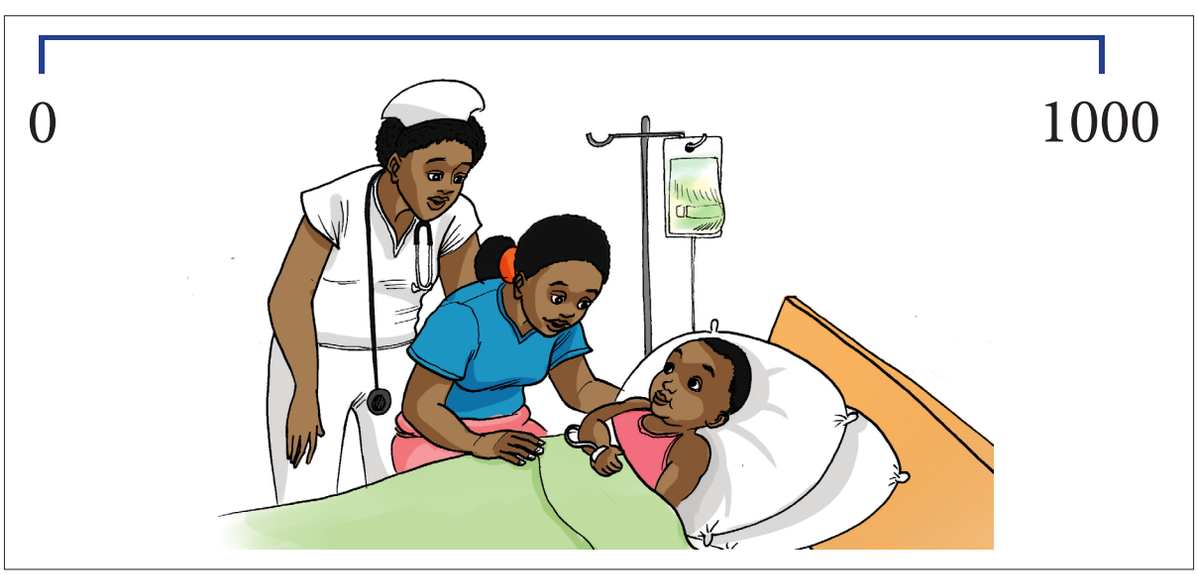
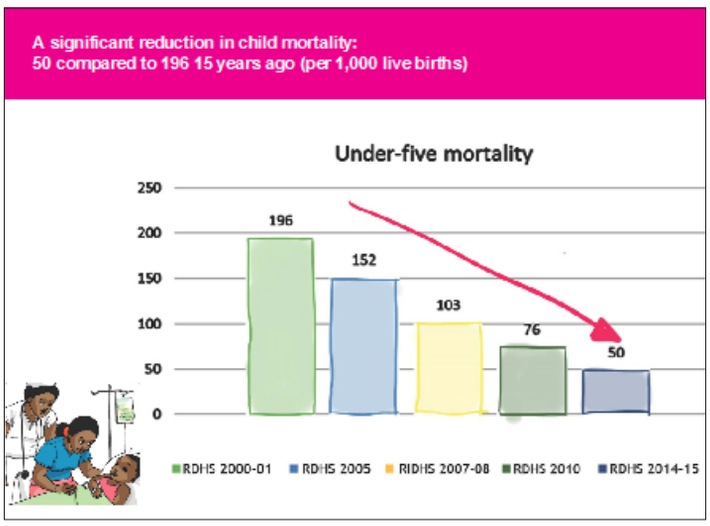


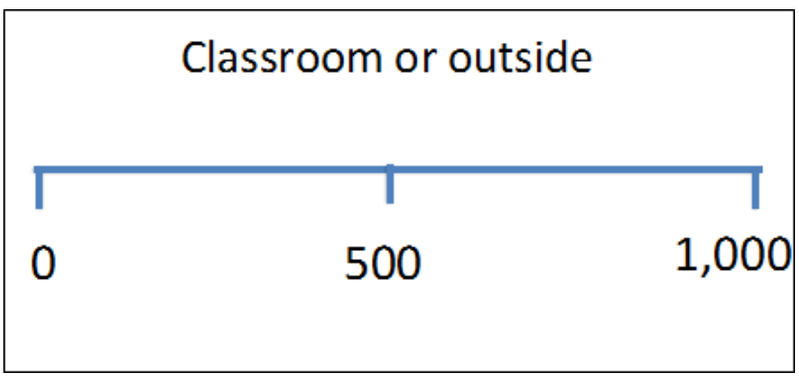
Figure 8: Let's make a number line!

The teacher explains, "Child mortality is the number of children out of 1,000 who die before their fifth birthday.."

The teacher then ask students, "In the year 2000, how many children per 1,000 do you think died before their fifth birthday?"



The teacher may wish to model an example. For example, if a student thinks that 500 children out of 1,000 died before turning five years stand on the 500.



The students stand at the position on the number line corresponding to their answer. The teacher asks some students why they chose their number from different positions on the line, and then tells them the correct answer ((196).

This can be repeated for the years 2014-2015 (50).

After this activity, the teacher shows the graph and asks the follow up questions below.

The teacher should emphasize how significant this decrease has been.

Questions and Sample Answers

Q1. Why do you think the child mortality rate is improving so much?

A1. Increased access to health insurance, parent's education level is improving, better nutrition and meals, better access to medicine and mosquito nets.

Q2. How can we help to make this number zero?

A2. Take your child to get health care if they are sick, use mosquito nets, mothers should give birth in a health clinic, children need a balanced diet with vitamins and minerals.

SESSION #9 - FERTILITY RATE

Rwandan families today have fewer children, and as a result, children enjoy more attention and care from their parents (RDHS).

Duration: 10 min

Objective: The objective of this activity is to have students understand the decreasing number of children born per mother (decreasing family size) and the related benefits.

Activity Outline

Initially, the teacher does not show the graph below.

Student 1 has _____ children.

Student 2 has _____ children.

Student 3 has _____ children.

Add these numbers together and divide by 3.

The average number of children per family here is _____.

Now, you will make groups to show what you think the average for Rwanda is!

Figure 9: What is the average family size for this class?

The teacher demonstrates what an average family size means, asking three students, "How many children does your mother have??" The teacher takes those numbers and writes them on the board, adds them together and divides them by three to make an average. For example, if the students say 5, 6 and 7, these numbers are added to make 18, then divided by 3 to equal 6 children per mother.

The purpose of this is to ensure all students understand what an average number means. The teacher confirms the students' understanding by asking them to make groups of three and calculate their group's average number of children per family.

1	4	7
2	5	8
3	6	9

The diagram above shows how the classroom can be divided into areas where the students will stand to represent their guess.

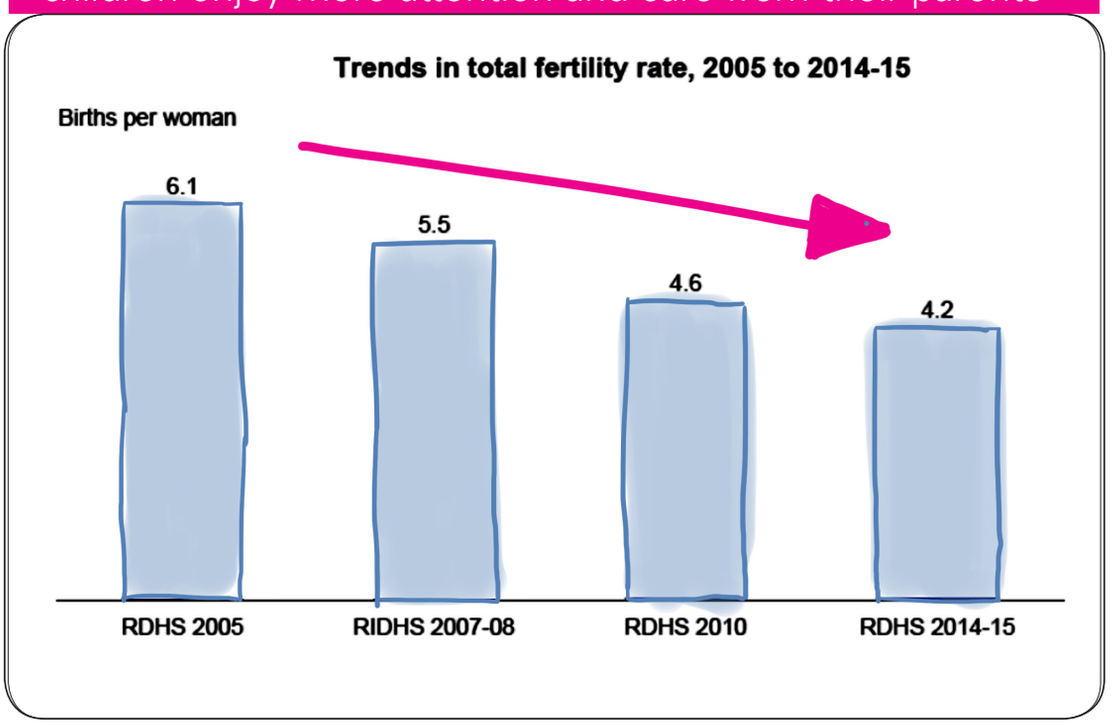
The teacher shows the students the numbered areas of the classroom (see diagram). The teacher asks, "How many children on average did a family have in 2005?" The teacher explains that the students must stand in the numbered areas which represents their guess. The teacher can model this with an example; for example, explain "If you think that in 2005 the average number of children per mother was 8, please stand here (area labelled 8)."

The teacher then asks students to stand in the area corresponding to their answer. Next, the teacher asks some students why they chose that number. The teacher then reveals the number (6.1 children).

The teacher then repeats this activity but for the year 2015 (4.2 children).

The teacher asks the students to sit down and reveals the bar chart to the students, showing the steady decrease from 6.1 in 2005 to 4.2 in 2015.

Today Rwandan mothers are giving birth to less children: children enjoy more attention and care from their parents



The teacher then asks the questions below.

Questions and Sample Answers

Q1. Why do you think the number of children mothers are having has decreased?

A1. Women are more educated, women are busy with work, it is expensive to raise a child, etc.

Q2. Why might fewer children be better for families?

A2. More care and attention can be given to children. Parents are more likely to send their children to school and pay for health insurance if there are less children to pay for.

Q3. What may the number of children born per mother be in 15 years' time?

A3. Maybe 2-3

SESSION #10 - BIRTH REGISTRATION

In 2014/2015, almost 7 out of 10 children had birth certificates in the Northern Province, but only half of children had birth certificates in the Southern Province (RDHS).

Duration: 8 min

Objective: The objective of this activity is to have students understand the rate of registered births in each region and why registering a birth has advantages.

Activity Outline

The teacher shows the slide below and asks, "What is a birth certificate?"

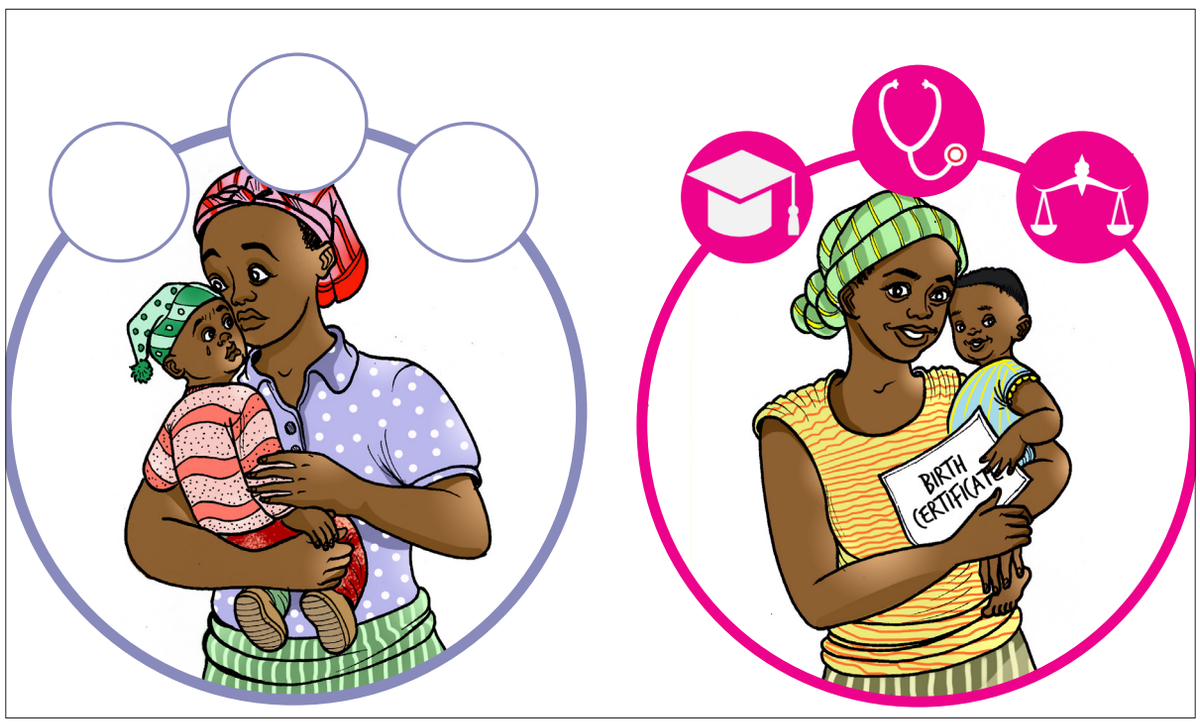
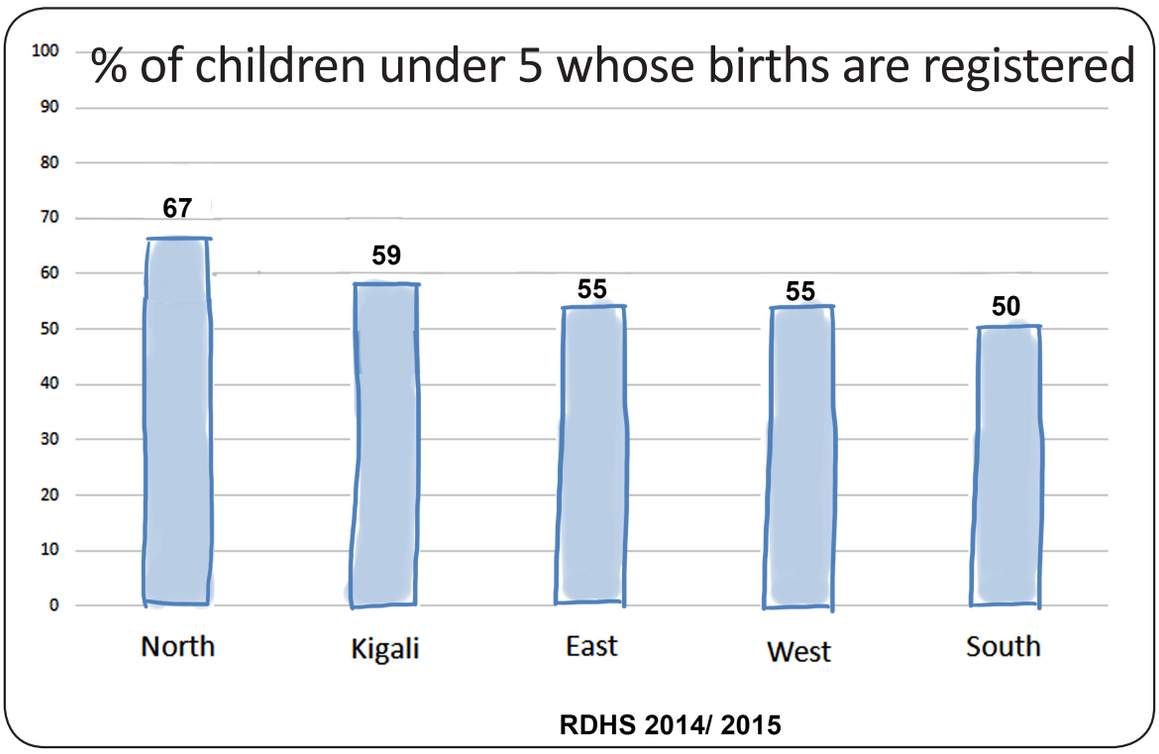


Figure 10: What is a birth certificate?

The teacher then asks, "Why is it important to have a birth certificate?"

The teacher then shows the bar chart and asks the remaining questions below.



Questions and Sample Answers

Q1. What is a birth certificate?

A1. A birth certificate is given when a child's birth is registered with the Government.

Q2. Why is it important to have a birth certificate?

A2. It allows you to more easily register for benefits such as health insurance and school admission.

Q3. What is the percentage of children under 5 with a registered birth in your region?

Q4. Why do you think the North has the highest rate of births registered?

SESSION #11 - OWNERSHIP OF MOSQUITO NETS

Since 2010, 8 out of 10 families have mosquito nets, compared to 1 out of 10 families in 2000. But which families are still left behind? (RDHS)

Duration: 10 min

Objective: The objective of this activity is to have students understand how the percentage of households with mosquito nets has risen dramatically over the last 10 years as well as the importance of mosquito nets in preventing diseases.

Activity Outline

The teacher begins by asking, "Who sleeps under a mosquito net? Please put up your hand."

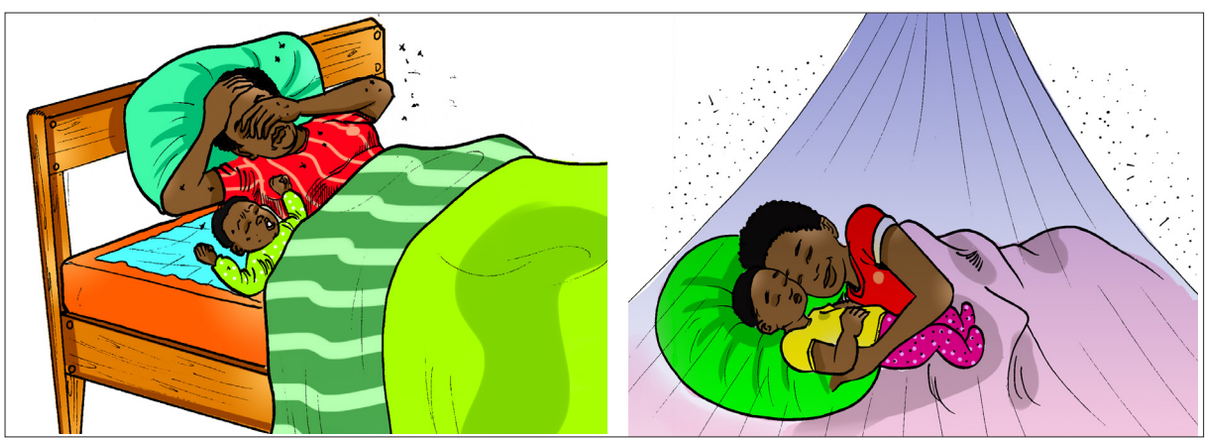
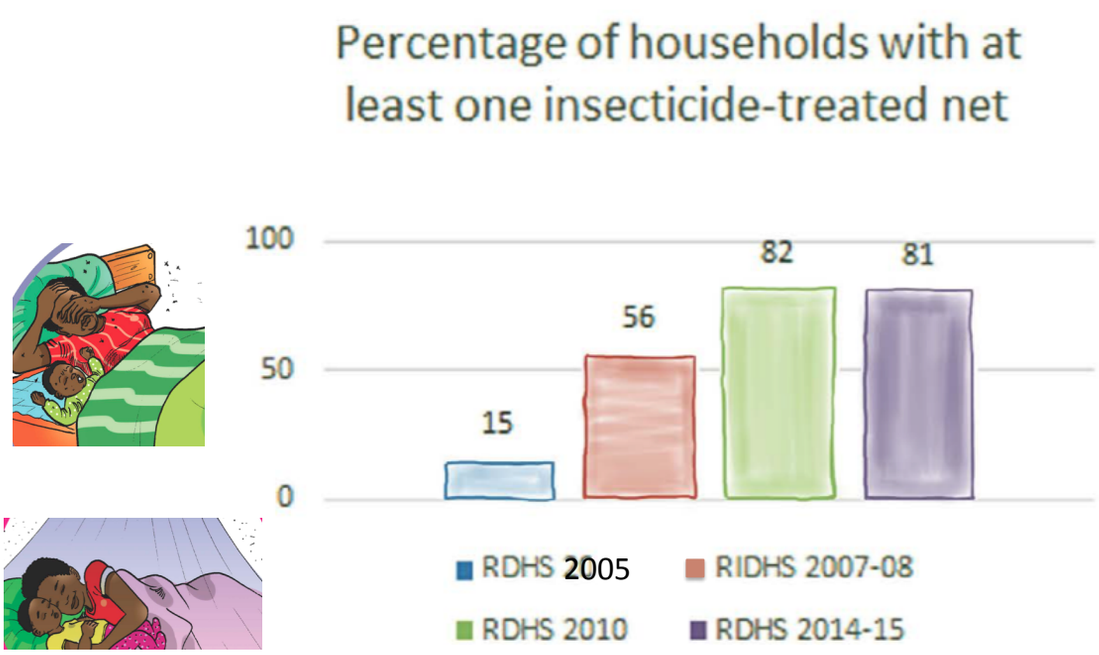


Figure 11: Who sleeps under a mosquito net?

The teacher then asks Questions 1 and 2.

Possession of mosquito net: since 2010, more than 8 out of 10 families have mosquito nets, but who are still left behind?



Finally, the teacher shows the graph and asks Questions 3 and 4.

Questions and Sample Answers

Q1. Why are mosquito nets important?

A1. Because they prevent mosquitos from biting people. Mosquitos transmit diseases such as malaria, which can cause serious sickness or even death.

Q2. Why don't we need mosquito nets in the day time?

A2. Because mosquitos mainly come out at night time after sunset.

Q3. Why have we seen a big increase in the number of households with mosquito nets in the last 10 years?

Q3. The Government has been supplying them to families across the country to reduce the rates of malaria and other diseases spread by mosquitoes.

Q4. What can you do if your family doesn't have mosquito nets?

SESSION #12 - DELIVERY AT A HEALTH FACILITY

In 2014/2015, 91% of deliveries happened in health facilities (RDHS).

Duration: 10 min

Objective: : The objective of this activity is to have students understand how the percentage of deliveries in a health facility has increased and to understand the benefits of giving birth in a health facility.

The number line activity will be used in this activity to allow students to be physically active while learning and sharing their opinions.

Activity Outline

Initially, the teacher does not show the graph below.

Prior to this activity, the teacher needs to prepare the 'number line.' This can either be across the length of the classroom or outside. The number line will be a straight line with 0% written at one side and 100% written at the other side.

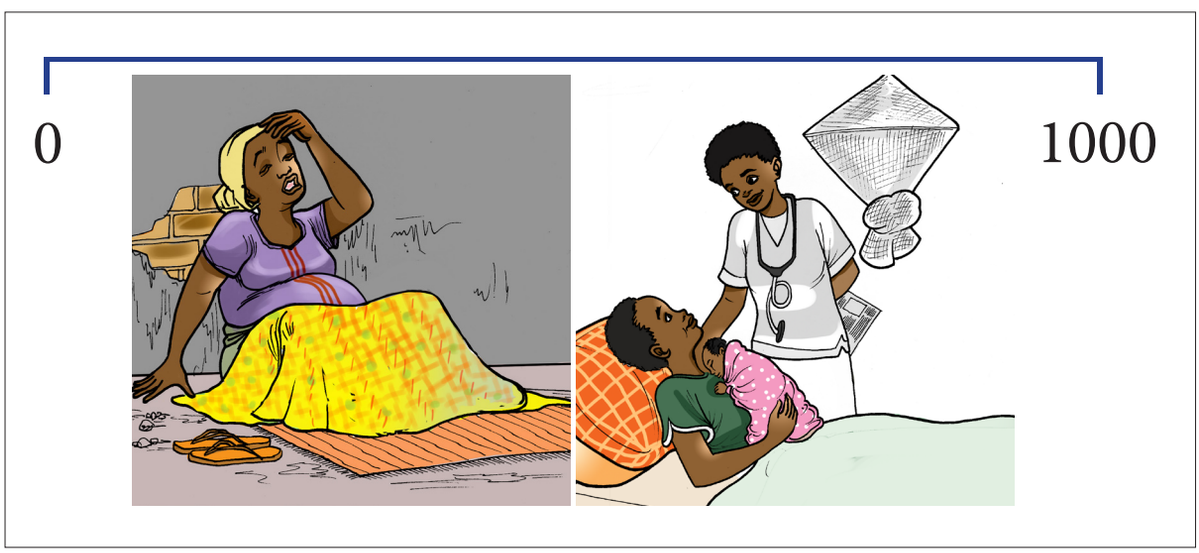
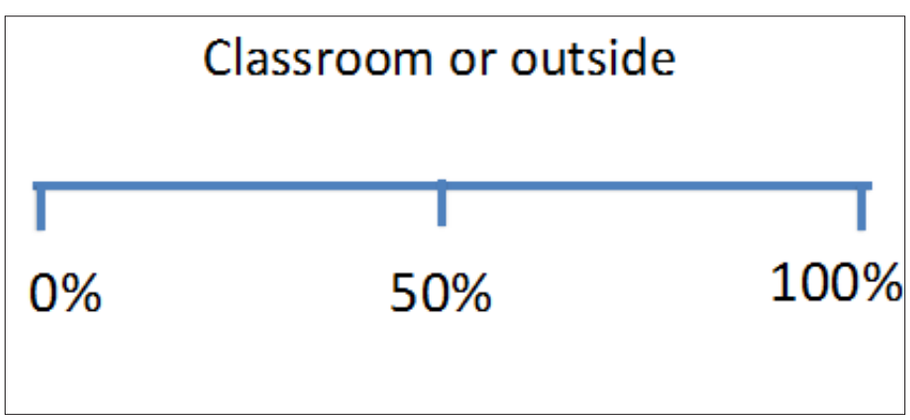


Figure 12: Let's make another number line!

The teacher may wish to include other divisions, such as 50% in the centre (see diagram).

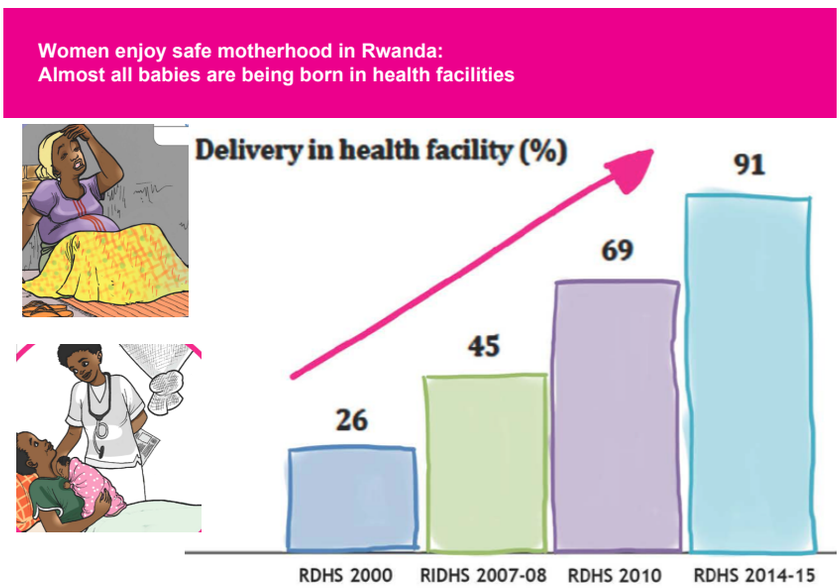


The teacher explains, "A health facility is a place where mothers can give birth in a clean and safe environment with health care available for the mother and baby."

The teacher then asks, "In the year 2000, what percentage of children do you think were born in a health facility?"

The students then stand at the corresponding position on the number line. The teacher asks some students why they chose their number from different positions on the line, and then tells them the answer (26%).

The teacher then repeats this process for the year 2014-2015. Students may underestimate this number (this shows a large increase).



Data from the graph is provided below

2000 – 26%

2007/2008 – 45%

2010 – 69%

2014/2015 – 91%

Teacher then shows graph and asks follow up questions.

Questions and Sample Answers

Q1. Do you think it is a good idea to give birth at home?

A1. Homes may not be fully sterilised. If there is a problem, there will be no doctor or nurse who can help. Medication is not available at home.

Q2. What do you think are the reasons for the huge increase in mothers giving birth in health facilities?

A2. Greater awareness of benefits of health facilities through education. More mothers have health insurance now.

Q3. What do you hope to see in 2030 for this data?

SESSION # 13 - PERCENTAGE OF HOUSEHOLDS USING IMPROVED SANITATION

Household access to improved sanitation has significantly increased, but regional disparities still exist (EICV).

Duration: 10 min

Objective: The objective of this activity is to have students understand what 'improved sanitation' is and how regions within Rwanda have shown these improvements.

The other objective of the exercise is to have students create their own maps, which will give them a better understanding of regional variations in 'improved sanitation.'

Activity Outline

The teacher starts by showing the first slide and asking students, "What does sanitation mean?"

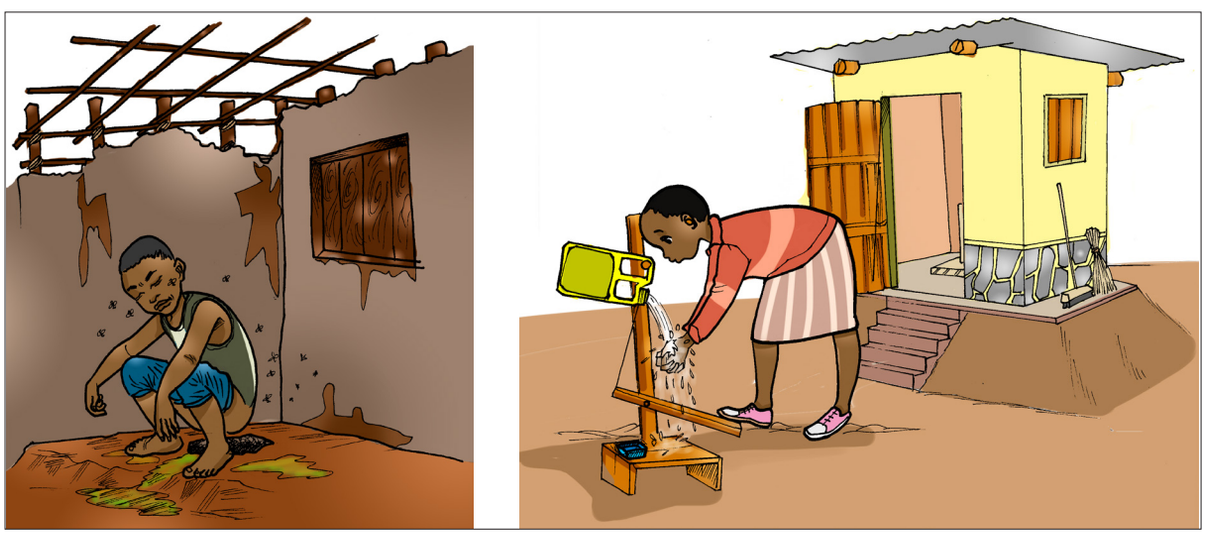
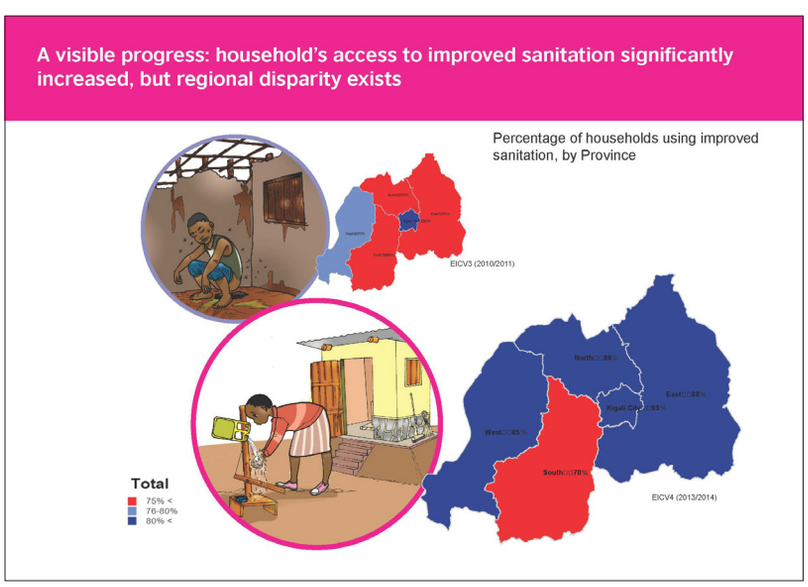


Figure 13: What does sanitation mean?

The pictures on the screen will assist the students. The teacher clarifies that 'improved sanitation' means cleaner and more hygienic toilets and hand-washing facilities.

The teacher then tells the students that they will be creating their own maps to see how sanitation conditions have improved across Rwanda.



The teacher hands out the map worksheet.

The students choose three different colours for the key and then colour the map according to the colours in the key for the data provided.

The top map is for 2010/2011 and the bottom map is for 2013/2014.

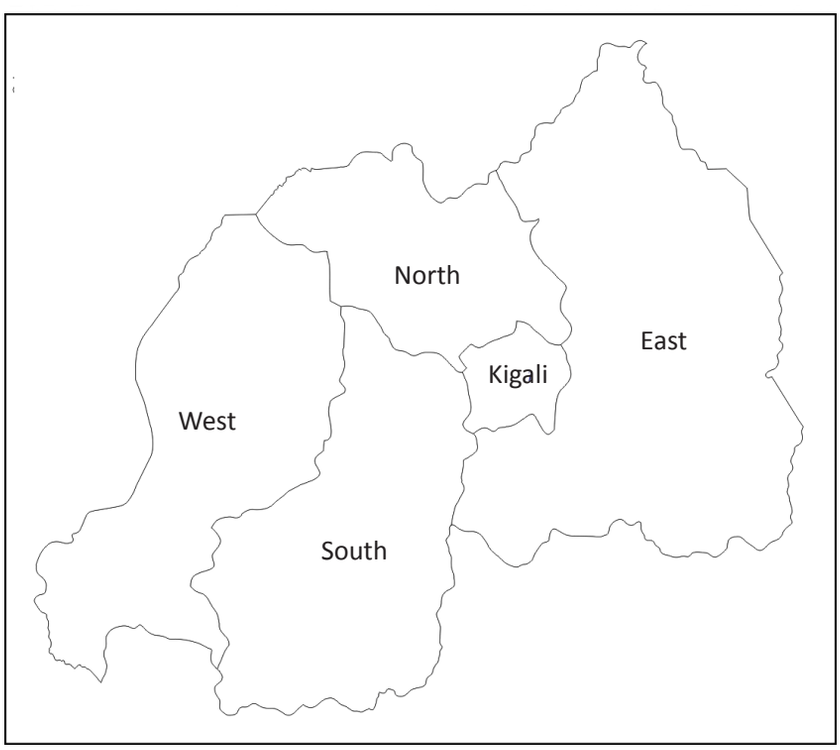
Percentage of households using improved sanitation (2010/2011)

Region	%
North	74
South	66
East	75
West	79
Kigali	89

Key (colour): <75%☐ 76-80%☐ >80%☐

Percentage of households using improved sanitation (2013/2014)

Region	%
North	86
South	70
East	88
West	85
Kigali	93



Key (colour): <75%☐ 76-80%☐ >80%☐

Once the maps are completed, the teacher shows the second slide of the maps and asks students to compare with their maps for errors.

The teacher then asks the follow up questions provided.

Questions and Sample Answers

Q1. What is the difference between the two maps?

A1. Both maps show significant improvements in all provinces between 2010/2011 and 2013/2014, except the South, which is still somewhat behind.

Q2. Why do you think there has been such an improvement in sanitation and toilets?

Q3. What do you hope to see for sanitation by the year 2030?

SESSION # 14 - ACCESS TO IMPROVED WATER SOURCE

Household access to an improved drinking water source has significantly improved (EICV).

Duration: 5 min

Objective: The objective of this activity is to have students understand what an 'improved water source' is and how regions within Rwanda have shown these improvements.

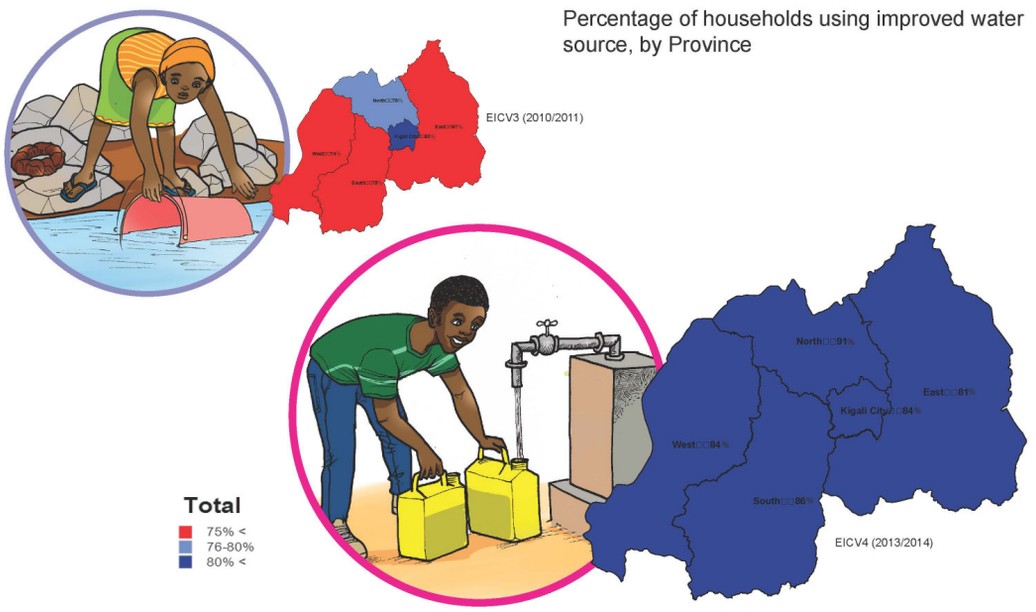
Activity Outline

The teacher shows the first slide and asks, 'What do you think an improved water source means?'

Figure 14: What does ' improved water source' mean?

The teacher explains, "It means that the place where you collect your water is protected from contamination like bacteria or mud. This could be for a pump, a well, or a tap."

A visible progress: households' access to improved drinking water source significantly improved



The teacher then shows the next slide and asks the questions below.

Questions and Sample Answers

Q1. What do you notice between the maps between 2010 and 2013?

A1. All districts in Rwanda have seen an increase in access to improved water sources.

Q2. How do you think this increase happened?

Q3. What would you like to happen for access to clean and safe water by 2030?

SESSION #15 - HOUSEHOLDS USING ELECTRICITY AS THE MAIN SOURCE OF LIGHTING

In 2013/2014, more than 70% of households had access to electricity in Kigali City compared to 9% in the Southern Province (EICV).

Duration: 5 min

Objective: There are two objectives for this activity. The first is to have students understand the difference in households using electricity across different districts.

The other objective is for students to understand that more families had access to electricity in 2013 than in2010.

Activity Outline

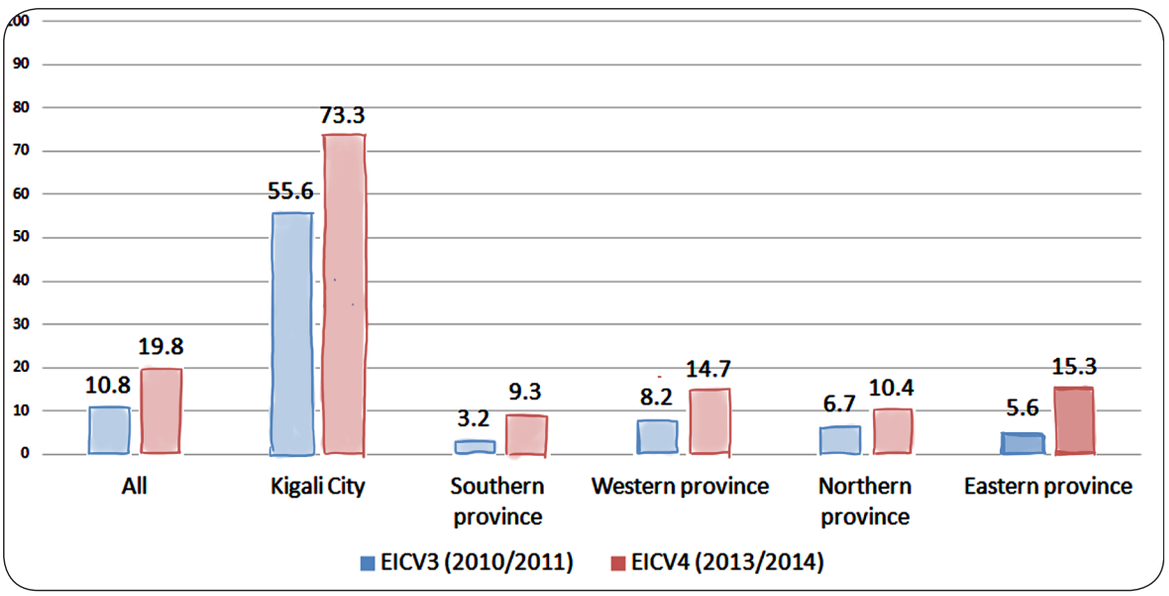
First, the teacher shows the cartoon of the children (without the bar chart). The teacher uses the 'Think-Pair-Share' technique for this activity.

The teacher asks students to take 30 seconds on their own to consider what the picture means (THINK). After 30 seconds, the teacher then allows the students to pair and discuss their ideas with the student next to them (PAIR) for one minute. Finally, the teacher asks pairs of students to share their ideas with the class (SHARE).

The picture illustrates that lighting and electricity at home has many advantages, such as allowing children to read at night.

All the children want to enjoy reading at night

Percentage (%) of households using electricity as main source of lighting are increasing, but still a long way to go



The teacher then shows the next slide and asks the following questions.

Questions and Sample Answers

Q1. Which province has the highest percentage of households with access to electricity? Why?

A1. Kigali City, because it is the capital and has the infrastructure for households to easily install electricity.

Q2. Why do the other districts have far less households with electricity?

A2. Because the infrastructure may not be available for houses to connect to electricity.

SESSION # 16 - PERCENTAGE OF HOUSEHOLDS WITH ACCESS TO INTERNET

From 2010/2011 to 2013/2014, the proportion of households which had access to the Internet almost tripled. However, only 1 out of 10 households had internet access in 2013/2014 (EICV).

Duration: 5 min

Objective: The objective of this activity is to have students understand that Rwanda has growing access to the Internet, but still only a small proportion of families have access.

Activity Outline

Teacher shows first slide and says, "Put your hand up if you have used the internet before."

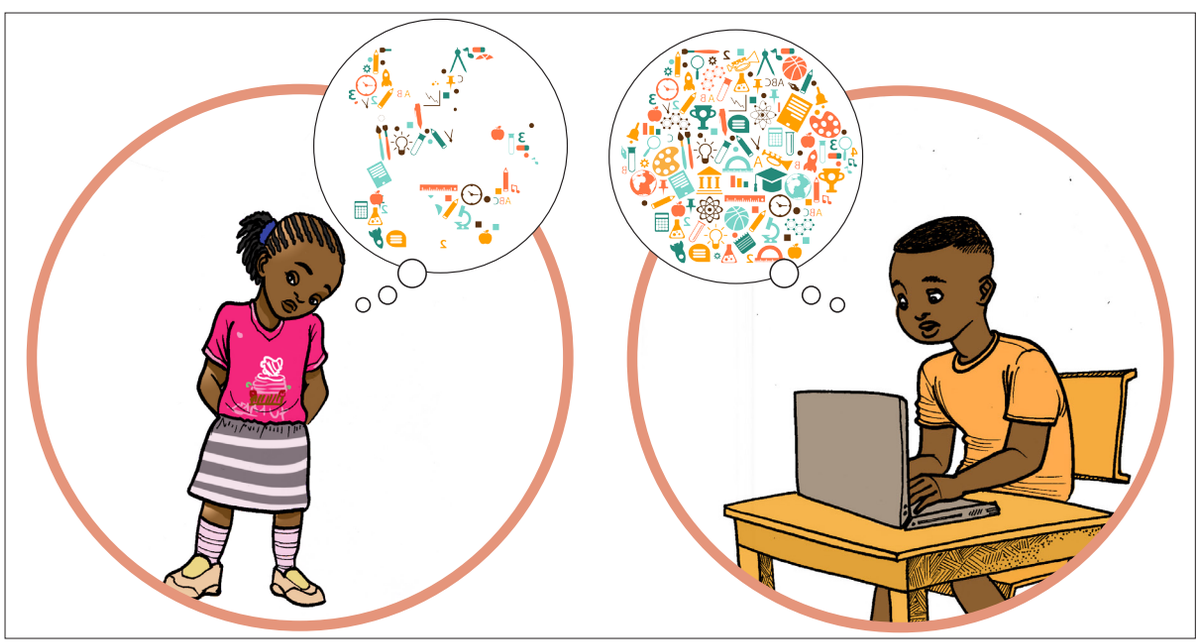
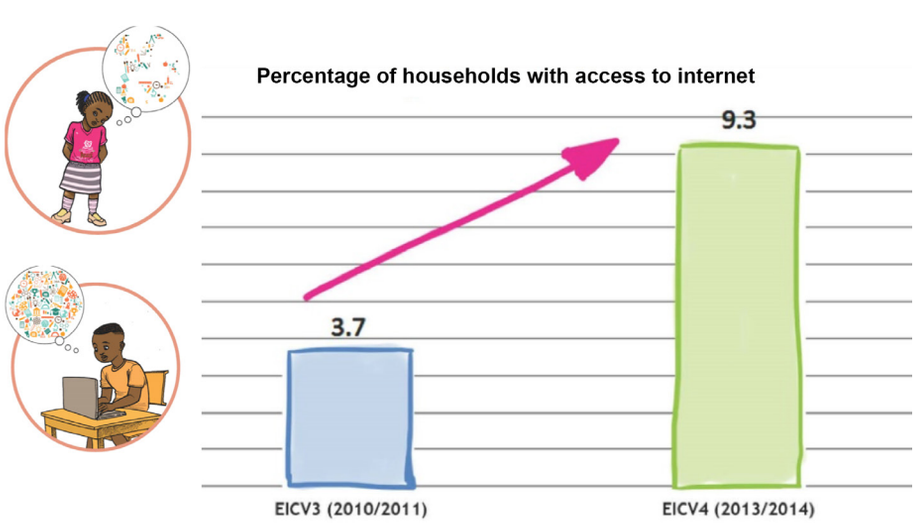


Figure 15: Put your hand in the air if you have used the internet

The teacher follows up by saying, "Put your hand up if you have access to the internet at home."

Internet access brings huge opportunities for children's learning: since 2010, the proportion of families which have access to internet almost tripled, however, only 1 out of 10 families has internet access



The teacher then shows the bar chart and asks the questions below.

Question and Sample Answers

Q1. What does the bar chart show?

A1. It shows that internet access has tripled between 2010 and 2013, however most households still do not have access to the internet.

Q2. Why is the internet important?

A2. It allows you to learn independently, learn new things about the world, set up your own business, and communicate with the world and share ideas, etc.

WRAP UP SESSION: FROM MDGs TO SDGs

Duration: 30 mins

Objective: The objective of this activity is to have students understand the Sustainable Development Goals (SDGs).

Activity outline:

The students have learned so far that Rwanda has made significant achievements in human development during the time of the Millennium Development Goals. World leaders are now deliberating on more ways to make a better future for children through the SDGs.

Gahunda y'Intego z'Iterambere Rirambye zigamijwe kugerwaho mu mwaka w' 2030

Intego 17 z'Iterambere Rirambye :

1. Kurandura ubukene burundu mu buryo bugaragaramo bwose no mu duce twose tw'isi.
2. Kurandura burundu inzara, kugera ku kwihaza mu biribwa,kugira imirire iboneye kandi ihagije no guteza imbere ubuhinzi burambye.
3. Guteza imbere ubuzima buzira umuze n'imibereho myiza kuri bose hatitawe ku kigero cy'imyaka barimo.
4. Guharanira uburezi bufite ireme budaheza kandi busaranganyije kuri bose no guha abantu bose amahirwe yo guhora bunguka ubumenyi mu buzima bwabo bwose.
5. Kwimakaza uburinganire hagati y'abagabo n'abagore no kongerera ubushobozi abagore n'abana b'abakobwa.
6. Kugeza amazi meza kuri bose ndetse no kubungabunga ku buryo burambye ibikorwa by'amazi n'isukura kuri bose.

Gahunda y'Intego z'Iterambere Rirambye zigamijwe kugerwaho mu mwaka w' 2030

7. Guharanira ko haboneka ingufu z'amashanyarazi zihendutse, zizewe, zirambye kandi zigezweho kuri bose.
8. Guharanira izamuka ry'ubukungu rihamye, ridaheza kandi rirambye kuri bose no guharanira ko abantu bose babona akazi kabaha umusaruro no gukora umurimo ubanogeye.
9. Kubaka ibikorwa remezo bihamye, guteza imbere ikwirakwizwa ry'inganda ku nyungu za bose kandi zirambye no guteza imbere umuco wo guhanga udushya.
10. Kugabanya ubusumbane hagati y'abaturage imbere mu bihugu no hagati y'ibihugu ubwabyo.
11. Gutunganya imijyi n'insisiro bitagira uwo biheza,bidafite ingaruka mbi ku buzima, bihamye kandi birambye.
12. Guharanira ko abatuye isi bashaka ibibatunga batabangamiye ibikorwa bisanzwe biriho n'urusobe rw'ibinyabuzima muri rusange.

Gahunda y'Intego z'Iterambere Rirambye zigamijwe kugerwaho mu mwaka w' 2030

13. Gufata ingamba zihutirwa mu rwego rwo kurwanya imihindagurikire y'ikirere n'ingaruka zayo.

14. Kubungabunga no gukoresha inyanja, ibiyaga, inzuzi,imigezi n'urusobe rw'ibinyabuzima biba mu mazi ku buryo burambye hagamijwe iterambere rirambye.

15. Kurengera,gusana no gusubiranya indiri y'urusobe rw'ibinyabuzima byo ku butaka no guteza imbere imikoreshereze irambye y'urwo rusobe, gucunga amashyamba, kurwanya ubutayu, guhagarika no gusubiza inyuma iyangirika ry'ubutaka ndetse no guhagarika igabanyuka ry'urusobe rw'ibinyabuzima.

16. Guharanira ko abatuye isi babana mu miryango yuje amahoro kandi idaheza hagamijwe iterambere rirambye, guharanira ubutabera kuri bose no kubaka inzego zihamye, zikora neza kandi zitagira uwo ziheza.

17. Gushimangira ubufatanye mu batuye isi mu gushyira mu bikorwa iyi migambi no kongera guha imbaraga ubwo bufatanye hagamijwe amajyambere arambye.

Izi ntego n'ibikorwa binini bizishamikiyeho bizaba umusemburo w'ibigomba kuzakorwa mu myaka cumi n'itanu iri imbere mu nzego zifitiye akamaro kanini isi n'abayituye.

By using the teaching videos and slides, the teacher facilitates the SDG discussion among students.

SDGs education video:

1. **The World We Want: A Guide to the Goals for Children and Young People**

http://worldslargestlesson.globalgoals.org/

2. **HippoWorks – save the climate series**

https://www.youtube.com/playlist?list=PLc60yDvQRr7gyWp0UGTYo4gG1qexELhli

Questions and Sample Answers

Q1. What are SDGs?

A1. The Sustainable Development Goals (SDGs), officially known as "Transforming our World: the 2030 Agenda for Sustainable Development", are a set of seventeen aspirational "Global Goals" with 169 targets between them.

Q2. Do you think that SDGs will affect your life? If so, in what way?

A2. All 17 Sustainable Development Goals (SDGs) and their 169 targets in the new 2030 Agenda for Sustainable Development are relevant to children's lives.

The goals that relate to issues such as health, education or access to water, sanitation and hygiene may be the obvious links to children's rights and well-being. However, actions taken to combat climate change, safeguard oceans and ecosystems, create sustainable cities, invest in energy and infrastructure, bolster institutions and forge partnerships will also shape children's lives and the world in which they live.

Q3. What can you do to help achieve the SDGs?

Q4. What should the Government of Rwanda do to achieve the SDGs?

Notes