Grade 5 Mathematics

Term 3 - 50 complete lesson plans

Ready to teach, in the KICD lesson-plan format | 35-minute lessons | PDF and editable Word

ABOUT THIS PACK

50 complete, ready-to-teach Grade 5 Mathematics lesson plans for Term 3, covering mass, time, money, lines, angles, three dimension (3-D) objects and data representation.

TOPICS IN THIS PACK

Topic	Name	Lessons
2.5	Mass	12
2.6	Time	8
2.7	Money	8
3.1	Lines	4
3.2	Angles	6
3.3	Three Dimension (3-D) Objects	6
4.1	Data Representation	6

INSIDE EVERY LESSON PLAN

- The specific learning outcomes, key inquiry question, core competencies, values and PCIs, and the resources needed.
- A timed lesson flow: what the teacher does and what the learners do, from introduction to summary.
- The key content (a worked example, notes or a practical with its expected results), then four practice questions with the answers for the teacher.
- The common mistake to watch for, and ideas for learners who need support and for those ready for more.
- A four-level CBC assessment rubric (EE, ME, AE, BE), homework, and a blank reflection space to fill in after teaching.

You also receive this pack as an editable Word file, so you can change any lesson to suit your class before you print it. Lessons follow the order of the KICD curriculum design.

CONTENTS

No.	Lesson	Topic	Page
1	The gramme as a unit of mass	2.5 Mass	4
2	Practical: measuring mass in grammes	2.5 Mass	7
3	Practical: estimating and then measuring mass	2.5 Mass	10
4	The relationship between kilogrammes and grammes	2.5 Mass	13
5	Converting kilogrammes to grammes	2.5 Mass	16
6	Converting grammes to kilogrammes	2.5 Mass	19
7	Adding kilogrammes and grammes without conversion	2.5 Mass	22
8	Adding kilogrammes and grammes with conversion	2.5 Mass	25
9	Subtracting kilogrammes and grammes without regrouping	2.5 Mass	28
10	Subtracting kilogrammes and grammes with regrouping	2.5 Mass	31
11	Multiplying kilogrammes and grammes by whole numbers	2.5 Mass	34
12	Dividing kilogrammes and grammes by whole numbers	2.5 Mass	37
13	The second as a unit of time	2.6 Time	40
14	Reading time in seconds	2.6 Time	43
15	The relationship between minutes and seconds	2.6 Time	46
16	Converting minutes to seconds and seconds to minutes	2.6 Time	49
17	Adding minutes and seconds with conversion	2.6 Time	52
18	Subtracting minutes and seconds with conversion	2.6 Time	55
19	Multiplying minutes and seconds by whole numbers	2.6 Time	58
20	Dividing minutes and seconds by whole numbers	2.6 Time	61
21	What a budget is	2.7 Money	64
22	Why a budget is important: needs and wants	2.7 Money	67
23	Preparing a simple budget	2.7 Money	71
24	Preparing a budget of up to five items	2.7 Money	74
25	What tax is and why it matters	2.7 Money	77
26	Services provided by banks	2.7 Money	81
27	Saving money wisely	2.7 Money	85
28	Budgeting, banks and taxes in real life	2.7 Money	89
29	Horizontal and vertical lines	3.1 Lines	93
30	Perpendicular lines	3.1 Lines	96
31	Parallel lines	3.1 Lines	99
32	Lines in the environment	3.1 Lines	102

33	Turns and angles	3.2 Angles	105
34	Reading a protractor in both directions	3.2 Angles	108
35	Measuring angles with a protractor	3.2 Angles	111
36	Measuring angles in degrees: smaller and larger than a right angle	3.2 Angles	114
37	Angles in the environment	3.2 Angles	117
38	Using angles in day-to-day life	3.2 Angles	120
39	3-D objects around us	3.3 Three Dimension (3-D) Objects	123
40	Faces, edges and vertices of cubes and cuboids	3.3 Three Dimension (3-D) Objects	126
41	Cylinders, cones and spheres	3.3 Three Dimension (3-D) Objects	129
42	Pyramids and prisms	3.3 Three Dimension (3-D) Objects	132
43	2-D shapes in 3-D objects	3.3 Three Dimension (3-D) Objects	135
44	3-D objects in the environment	3.3 Three Dimension (3-D) Objects	138
45	Project: collecting data from real life	4.1 Data Representation	141
46	Recording data in a table	4.1 Data Representation	144
47	Tally marks	4.1 Data Representation	147
48	Preparing a frequency table	4.1 Data Representation	150
49	Interpreting frequency tables	4.1 Data Representation	153
50	Project: data in real life	4.1 Data Representation	156

ELIMU254

The gramme as a unit of mass

Strand 2.0 Measurement > Sub-strand 2.5 Mass | Lesson 1 of 12 | 35 minutes

SCHOOL	TEACHER	DATE
CLASS / STREAM	TIME	ROLL (B / G)

SPECIFIC LEARNING OUTCOME(S)

By the end of the lesson, the learner should be able to: a) name the gramme as a unit for measuring light objects; b) read masses in g from packets

KEY INQUIRY QUESTION(S)

- What is the importance of measuring mass?

CORE COMPETENCIES, VALUES AND PCIS IN THIS LESSON

COMPETENCY	**Communication and collaboration**	Learners explain their thinking to a partner and report their findings to the group.
COMPETENCY	**Critical thinking and problem solving**	Learners choose a method, check their answers and give reasons for their choices.
VALUE	**Respect**	Learners listen while others explain and accept correction politely.
VALUE	**Integrity**	Learners record their own honest results and mark work truthfully.
PCI	**Social cohesion**	Learners work in harmony, include everyone and settle differences peacefully.
PCI	**Financial literacy**	Examples use shillings and cents, shopping, saving and simple budgets.

LEARNING RESOURCES

Packets labelled in g and kg (salt, tea leaves, sugar, flour) | Kitchen scale or spring balance | Chalkboard and chalk | Learners' exercise books

ORGANISATION OF LEARNING

Whole class for the introduction and the summary; pairs or groups of four to five for guided practice; individual work for the independent tasks.

KEY WORDS

mass | gramme | kilogramme | g | kg | weighing scale | beam balance | estimate | convert

THE LESSON AT A GLANCE

Introduction	Teacher models	Guided practice	On their own	Wrap-up
5 min	8 min	9 min	8 min	5 min

LESSON FLOW

Stage	Minutes	The teacher	The learners
Introduction	5	Greet the class and ask: "Look at a packet of salt and a bag of maize flour. What do "g" and "kg" on the labels mean?" Take two or three answers, link them to earlier work, then state today's outcome.	Answer the starter question, recall what they already know and read the outcome aloud.
Step 1: Teacher models	8	Work through the worked example on the next page, thinking aloud. Use packets labelled in g and kg (salt, tea leaves, sugar, flour), kitchen scale or spring balance, chalkboard and chalk. Ask learners to predict each step before you show it.	Watch, predict the next step, ask questions and note the key steps in their exercise books.
Step 2: Guided practice	9	Give questions 1 and 2. Move round the groups, ask "How do you know?" and correct errors kindly on the spot.	Work in pairs or small groups, explain each step to a partner and check one another's answers.
Step 3: Independent practice	8	Set questions 3 and 4 for individual work. Mark as you walk round and note who needs help in the next lesson.	Work on their own, then swap books with a partner to check.
Summary and conclusion	5	Ask two or three learners to state the key idea in their own words. Give this exit question and check the answers: "Name two items at home sold in grammes."	Say the key idea in their own words and answer the exit question in the exercise book.

WORKED EXAMPLE

Grammes and kilogrammes on labels

Mass tells us how heavy something is. Heavy things are measured in kilogrammes (kg); light things in grammes (g).

A packet of salt may be 500 g, a small packet of tea leaves 100 g, and a bag of flour 2 kg.

A gramme is very light: a paper clip has a mass of about 1 g.

PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

No.	Question	Answer
1	Which unit would you use for the mass of a pencil: g or kg?	**g**
2	Which unit would you use for the mass of a bag of cement: g or kg?	**kg**
3	A packet reads 250 g. What does this tell you?	**Its contents have a mass of 250 grammes.**
4	Name two items at home sold in grammes.	**For example salt, tea leaves, spices, a bar of soap.**

WATCH OUT FOR

Learners think a bigger object always has a greater mass. Compare a large pillow with a small stone.

ASSESSMENT RUBRIC - THE FOUR CBC LEVELS

Level	What the learner can do
Exceeds expectations (EE)	Can name the gramme as a unit for measuring light objects confidently and accurately, explain the method used, and apply the idea to new or unfamiliar problems.
Meets expectations (ME)	Can name the gramme as a unit for measuring light objects accurately in familiar situations; notices and corrects slips without help.
Approaches expectations (AE)	Can partly name the gramme as a unit for measuring light objects, or does so with prompts from the teacher or a partner; makes some errors.
Below expectations (BE)	Cannot yet name the gramme as a unit for measuring light objects without direct help; needs the idea taught again with concrete objects.

SUPPORT AND EXTENSION

Learners who need support	Let the learner hold a 1 kg packet in one hand and a paper clip in the other.
Learners ready for more	Arrange from lightest: a 2 kg flour bag, a 100 g tea packet, a 1 g paper clip, a 500 g salt packet. (Answer: 1 g paper clip, 100 g tea packet, 500 g salt packet, 2 kg flour bag)
Inclusion	Seat learners with low vision near the board and read aloud whatever you write; use large, clear, tactile materials; allow extra time; pair with a patient partner; use gestures or Kenyan Sign Language for the key words.

HOMEWORK AND FOLLOW-UP

Redo questions 3 and 4 neatly in the exercise book. Then tell someone at home what you learned about "the gramme as a unit of mass" and bring one question of your own to ask next lesson.

TEACHER SELF-CHECK

- Did every learner get a turn to handle materials or explain their thinking?
- Did most learners meet the outcome? Write down the names of those who did not.
- Was the pace right — did any step take too long or too short a time?
- Which competency and value did I see learners showing?
- What will I change the next time I teach this lesson?

REFLECTION ON THE LESSON / SELF-REMARKS

Write this after teaching - what worked, what to change, which learners need follow-up.

ELIMU254

Practical: measuring mass in grammes

Strand 2.0 Measurement > Sub-strand 2.5 Mass | Lesson 2 of 12 | 35 minutes

SCHOOL	TEACHER	DATE
CLASS / STREAM	TIME	ROLL (B / G)

SPECIFIC LEARNING OUTCOME(S)

By the end of the lesson, the learner should be able to: a) read the scale on a kitchen scale or spring balance; b) measure the mass of objects in g

KEY INQUIRY QUESTION(S)

- What is the importance of measuring mass?

CORE COMPETENCIES, VALUES AND PCIS IN THIS LESSON

COMPETENCY	**Communication and collaboration**	Learners explain their thinking to a partner and report their findings to the group.
COMPETENCY	**Critical thinking and problem solving**	Learners choose a method, check their answers and give reasons for their choices.
VALUE	**Respect**	Learners listen while others explain and accept correction politely.
VALUE	**Integrity**	Learners record their own honest results and mark work truthfully.
PCI	**Social cohesion**	Learners work in harmony, include everyone and settle differences peacefully.
PCI	**Financial literacy**	Examples use shillings and cents, shopping, saving and simple budgets.

LEARNING RESOURCES

Kitchen scale or spring balance marked in grammes | A simple beam balance with standard masses (or labelled packets) | Small classroom objects to weigh (books, pencils, stones, fruit) | Learners' exercise books

ORGANISATION OF LEARNING

Whole class for the introduction and the summary; pairs or groups of four to five for guided practice; individual work for the independent tasks.

KEY WORDS

mass | gramme | kilogramme | g | kg | weighing scale | beam balance | estimate | convert

THE LESSON AT A GLANCE

Introduction	Teacher models	Guided practice	On their own	Wrap-up
5 min	8 min	9 min	8 min	5 min

LESSON FLOW

Stage	Minutes	The teacher	The learners
Introduction	5	Greet the class and ask: "How could we find the mass of this exercise book in grammes?" Take two or three answers, link them to earlier work, then state today's outcome.	Answer the starter question, recall what they already know and read the outcome aloud.
Step 1: Teacher models	8	Work through the worked example on the next page, thinking aloud. Use kitchen scale or spring balance marked in grammes, a simple beam balance with standard masses (or labelled packets), small classroom objects to weigh (books, pencils, stones, fruit). Ask learners to predict each step before you show it.	Watch, predict the next step, ask questions and note the key steps in their exercise books.
Step 2: Guided practice	9	Give questions 1 and 2. Move round the groups, ask "How do you know?" and correct errors kindly on the spot.	Work in pairs or small groups, explain each step to a partner and check one another's answers.
Step 3: Independent practice	8	Set questions 3 and 4 for individual work. Mark as you walk round and note who needs help in the next lesson.	Work on their own, then swap books with a partner to check.
Summary and conclusion	5	Ask two or three learners to state the key idea in their own words. Give this exit question and check the answers: "Record the mass of one object you weighed."	Say the key idea in their own words and answer the exit question in the exercise book.

WORKED EXAMPLE

Practical: weighing classroom objects

Materials: kitchen scale or spring balance, small objects.

Check that the pointer is at 0 before putting anything on the scale.

Place the object gently in the middle and read the number the pointer shows, looking straight at the scale. Suppose an exercise book reads 150 g.

Record each object and its mass in a table. Handle the scale gently so it stays accurate.

PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

No.	Question	Answer
1	Why must the pointer start at 0?	**Otherwise every reading will be wrong by that amount.**
2	A scale is marked every 50 g. The pointer is one mark after 300 g. What is the reading?	**350 g**
3	Two books of 150 g each are put on the scale. What does it read?	**300 g**
4	Record the mass of one object you weighed.	**Answers will vary.**