Grade 7 Mathematics

Term 3 - 50 complete lesson plans

Ready to teach, in the KICD lesson-plan format | 40-minute lessons | PDF and editable Word

ABOUT THIS PACK

50 complete, ready-to-teach Grade 7 Mathematics lesson plans for Term 3, covering temperature, money, angles, geometrical constructions and data handling.

TOPICS IN THIS PACK

Topic	Name	Lessons
3.6	Temperature	6
3.7	Money	14
4.1	Angles	8
4.2	Geometrical Constructions	12
5.1	Data Handling	10

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.

A TASTE OF LESSON 1

Temperature conditions around us

By the end of the lesson, the learner should be able to describe the temperature of the environment as hot, warm or cold

> **Describing temperature**
> Temperature is how hot or cold something is.
> Early morning is usually cold, midday hot, and evening warm or cool.

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.

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ELIMU254

Temperature conditions around us

Strand 3.0 Measurements > Sub-strand 3.6 Temperature | Lesson 1 of 6 | 40 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 describe the temperature of the environment as hot, warm or cold

KEY INQUIRY QUESTION(S)

- How does temperature affect our everyday lives?
- How do we measure temperature?

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	**Digital literacy**	Learners use a phone, tablet or the class computer to explore or check the idea.
VALUE	**Responsibility**	Learners look after shared materials and finish every task.
VALUE	**Integrity**	Learners record their own honest results and mark work truthfully.
PCI	**Self-awareness**	Developed through the activities in this lesson.
PCI	**Safety**	Learners follow safety rules when using materials and moving about.

LEARNING RESOURCES

Thermometer (clinical or laboratory, in °C) | Basins of cold, cool and warm (not hot) water | Weather reports from a newspaper, radio or phone | 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

temperature | thermometer | degrees Celsius (°C) | Kelvin (K) | hotter | colder | warmer | freezing point | boiling point

THE LESSON AT A GLANCE

Introduction	Teacher models	Guided practice	On their own	Wrap-up
6 min	9 min	10 min	9 min	6 min

LESSON FLOW

Stage	Minutes	The teacher	The learners
Introduction	6	Greet the class and ask: "Key question: how does temperature affect our everyday lives? Go outside. Is it hot, warm or cold? What clothes are people wearing?" 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	9	Work through the worked example on the next page, thinking aloud. Use thermometer (clinical or laboratory, in °C), basins of cold, cool and warm (not hot) water, weather reports from a newspaper, radio or phone. 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	10	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	9	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	6	Ask two or three learners to state the key idea in their own words. Give this exit question and check the answers: "Describe the temperature in your classroom now."	Say the key idea in their own words and answer the exit question in the exercise book.

WORKED EXAMPLE

Describing temperature

Temperature is how hot or cold something is.
Early morning is usually cold, midday hot, and evening warm or cool.
In the shade it feels cooler than in the sun.
Record in a table: time, place (sun or shade), how it feels.

PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

No.	Question	Answer
1	Is it usually hotter at 7 a.m. or at 1 p.m.?	**At 1 p.m.**
2	Why do we feel cooler under a tree?	**The shade blocks the sun's heat**
3	Name one way temperature affects what we wear.	**We wear sweaters when it is cold**
4	Describe the temperature in your classroom now.	**Answers will vary (warm, cold or hot)**

WATCH OUT FOR

Feelings differ between people; that is why we need thermometers.

ASSESSMENT RUBRIC - THE FOUR CBC LEVELS

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

SUPPORT AND EXTENSION

Learners who need support	Give picture cards of sun, cloud and sweater to sort.
Learners ready for more	Name two places in Kenya that are usually hotter than your area. (Answer: For example Lodwar, Garissa, Mombasa (answers depend on the area))
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 "temperature conditions around us" 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

Comparing temperatures

Strand 3.0 Measurements > Sub-strand 3.6 Temperature | Lesson 2 of 6 | 40 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 compare temperatures using hotter, warmer, colder and same as

KEY INQUIRY QUESTION(S)

- How does temperature affect our everyday lives?
- How do we measure temperature?

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	**Digital literacy**	Learners use a phone, tablet or the class computer to explore or check the idea.
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KEY WORDS

temperature | thermometer | degrees Celsius (°C) | Kelvin (K) | hotter | colder | warmer | freezing point | boiling point

THE LESSON AT A GLANCE

Introduction	Teacher models	Guided practice	On their own	Wrap-up
6 min	9 min	10 min	9 min	6 min

LESSON FLOW

Stage	Minutes	The teacher	The learners
Introduction	6	Greet the class and ask: "Dip a finger in each basin. Which is warmest?" 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	9	Work through the worked example on the next page, thinking aloud. Use thermometer (clinical or laboratory, in °C), basins of cold, cool and warm (not hot) water, weather reports from a newspaper, radio or phone. 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	10	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	9	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	6	Ask two or three learners to state the key idea in their own words. Give this exit question and check the answers: "Two cups are both at 22°C. How do they compare?"	Say the key idea in their own words and answer the exit question in the exercise book.

WORKED EXAMPLE

Practical: comparing water

Materials: three basins of cold, cool and warm tap water.

Basin A feels colder than basin B; basin C feels warmer than basin B.

Put one hand in cold water and the other in warm, then both in the cool basin. The cool basin feels warm to one hand and cold to the other.

So touch is not reliable: we need a thermometer.

Safety: never test hot or boiling water by touch.

PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

No.	Question	Answer
1	Water at 40°C and water at 25°C: which is warmer?	**40°C**
2	Is ice colder or warmer than tap water?	**Colder**
3	Which is hotter: tea or juice from a fridge?	**Tea**
4	Two cups are both at 22°C. How do they compare?	**Same temperature**

WATCH OUT FOR

Saying "hotter" for something only slightly warm; use warmer.