Grade 5 Science and Technology

Term 3 - 40 complete lesson plans

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

ABOUT THIS PACK

40 complete, ready-to-teach Grade 5 Science and Technology lesson plans for Term 3, covering floating and sinking, sound energy and heat transfer.

TOPICS IN THIS PACK

Topic	Name	Lessons
3.1	Floating and Sinking	14
3.2	Sound Energy	14
3.3	Heat transfer	12

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

What floating and sinking mean

By the end of the lesson, the learner should be able to: a) explain what it means for an object to float; b) explain what it means for an object to sink

> **Floating and sinking**
> An object floats when it stays on or near the surface of water rather than going down. An object sinks when it goes down through the water toward the bottom instead of staying on the surface.
> Whether an object floats or sinks depends on what it is made of, and sometimes its shape - the rest of this sub-strand explores why.

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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What floating and sinking mean

Strand 3.0 Force and Energy > Sub-strand 3.1 Floating and Sinking | Lesson 1 of 14 | 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) explain what it means for an object to float; b) explain what it means for an object to sink

KEY INQUIRY QUESTION(S)

- Why do some materials float and others sink?
- How are floaters useful in day-to-day life?

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	**Integrity**	Learners record their own honest results and mark work truthfully.
VALUE	**Responsibility**	Learners look after shared materials and finish every task.
PCI	**Disaster risk reduction**	Developed through the activities in this lesson.

LEARNING RESOURCES

A large, clear container of water | A range of objects to test: a piece of wood, a stone, a plastic bottle cap, a coin or metal spoon, a piece of paper, a small ball of clay or foil

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

float | sink | density | buoyancy | displace

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: "If you dropped a stone and a piece of wood into a pond, what do you predict would happen to each?" 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 a large, clear container of water, a range of objects to test: a piece of wood, a stone, a plastic bottle cap, a coin or metal spoon, a piece of paper, a small ball of clay or foil. 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: "Predict: would a piece of dry wood float or sink in water?"	Say the key idea in their own words and answer the exit question in the exercise book.

WORKED EXAMPLE

Floating and sinking

An object floats when it stays on or near the surface of water rather than going down. An object sinks when it goes down through the water toward the bottom instead of staying on the surface.

Whether an object floats or sinks depends on what it is made of, and sometimes its shape - the rest of this sub-strand explores why.

PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

No.	Question	Answer
1	What does it mean for an object to float?	**It stays on or near the surface of water**
2	What does it mean for an object to sink?	**It goes down through the water toward the bottom**
3	Predict: would a stone float or sink in water?	**Sink**
4	Predict: would a piece of dry wood float or sink in water?	**Float**

WATCH OUT FOR

Learners think "float" only means "sits fully on top with nothing underwater". Clarify a floating object can be partly submerged, as long as it does not sink to the bottom.

ASSESSMENT RUBRIC - THE FOUR CBC LEVELS

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

SUPPORT AND EXTENSION

Learners who need support	Show a real example, like a piece of wood floating with part of it underwater, to illustrate.
Learners ready for more	Name one object you predict would float, and one you predict would sink, before testing them. (Answer: Any reasonable prediction, to be tested in the next lesson)
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 "what floating and sinking mean" 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.

Practical: testing objects for floating and sinking

Strand 3.0 Force and Energy > Sub-strand 3.1 Floating and Sinking | Lesson 2 of 14 | 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) test real objects to see if they float or sink; b) record results accurately

KEY INQUIRY QUESTION(S)

- Why do some materials float and others sink?
- How are floaters useful in day-to-day life?

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.
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LESSON FLOW

Stage	Minutes	The teacher	The learners
Introduction	5	Greet the class and ask: "Before you test each object, write down your prediction - will it float, or sink?" 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 a large, clear container of water, a range of objects to test: a piece of wood, a stone, a plastic bottle cap, a coin or metal spoon, a piece of paper, a small ball of clay or foil. 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.
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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: "Was there any object whose result surprised you compared to your prediction?"	Say the key idea in their own words and answer the exit question in the exercise book.

WORKED EXAMPLE

Practical: testing objects

Materials: a container of water, a range of objects; small groups.

Gently place each test object (wood, stone, plastic bottle cap, coin/spoon, paper, clay/foil ball) into the water, one at a time, and record whether it floats or sinks.

Comparing predictions with actual results is a genuine scientific process, and it is fine if some predictions turn out wrong - that is part of testing and learning.

PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

No.	Question	Answer
1	Did the piece of wood float or sink?	**Float**
2	Did the stone float or sink?	**Sink**
3	Did the metal object (coin or spoon) float or sink?	**Sink**
4	Was there any object whose result surprised you compared to your prediction?	**Answers vary; check the learner reflects honestly**