Grade 4 Science and Technology

Term 3 - 38 complete lesson plans

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

ABOUT THIS PACK

38 complete, ready-to-teach Grade 4 Science and Technology lesson plans for Term 3, covering force and its effects, light and heat.

TOPICS IN THIS PACK

Topic	Name	Lessons
3.1	Force and its effects	12
3.2	Light	14
3.3	Heat	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 is a force

By the end of the lesson, the learner should be able to explain what a force is

> **Force**
> A force is a push or a pull that can make an object start moving, stop moving, speed up, slow down, or change direction or shape.
> Forces are all around us, even when we do not notice them - like gravity constantly pulling objects down.

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 is a force

Strand 3.0 Force and Energy > Sub-strand 3.1 Force and its effects | 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 explain what a force is

KEY INQUIRY QUESTION(S)

- How does force affect objects?

CORE COMPETENCIES, VALUES AND PCIS IN THIS LESSON

COMPETENCY	**Learning to learn**	Learners say what they found easy or hard and decide their next step.
COMPETENCY	**Communication and collaboration**	Learners explain their thinking to a partner and report their findings to the group.
VALUE	**Love**	Learners help a classmate who is stuck.
VALUE	**Unity**	Learners share materials fairly and work as one team.
PCI	**Citizenship**	Learners connect the work to their rights and duties in the community.

LEARNING RESOURCES

A ball, a toy car or similar wheeled object | A magnet and some metal/non-metal objects | Manila paper and marker pens

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

force | push | pull | gravity | friction | magnetism

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

Inside this plan: the step-by-step lesson flow with what the teacher and learners do, the key content, practice questions with answers, a common mistake to watch for, an assessment rubric on the four CBC levels, support and extension ideas, homework and a reflection page.

LESSON FLOW

Stage	Minutes	The teacher	The learners
Introduction	5	Greet the class and ask: "When you push a door open or pull a drawer, what are you doing to that object?" 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 ball, a toy car or similar wheeled object, a magnet and some metal/non-metal objects, manila paper and marker pens. 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: "Give a real example of you applying a pull."	Say the key idea in their own words and answer the exit question in the exercise book.

WORKED EXAMPLE

Force

A force is a push or a pull that can make an object start moving, stop moving, speed up, slow down, or change direction or shape.

Forces are all around us, even when we do not notice them - like gravity constantly pulling objects down.

PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

No.	Question	Answer
1	What is a force?	**A push or a pull**
2	Name one thing a force can do to an object.	**Any of: start it moving, stop it, speed it up, slow it down, change its direction or shape**
3	Give a real example of you applying a push.	**Answers vary; check it is genuine.**
4	Give a real example of you applying a pull.	**Answers vary; check it is genuine.**

WATCH OUT FOR

Learners think force only means a strong, dramatic action. Show that even a gentle push or pull is still a force.

ASSESSMENT RUBRIC - THE FOUR CBC LEVELS

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

SUPPORT AND EXTENSION

Learners who need support	Demonstrate a simple push and pull (moving a chair, opening a drawer) to make the idea concrete.
Learners ready for more	Why might holding a book still in your hand also involve a force, even though nothing is moving? (Answer: Your hand applies an upward force to balance gravity's downward pull, keeping the book still rather than falling)
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 is a force" 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.

Push and pull forces

Strand 3.0 Force and Energy > Sub-strand 3.1 Force and its effects | 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 describe push and pull as types of force

KEY INQUIRY QUESTION(S)

- How does force affect objects?

CORE COMPETENCIES, VALUES AND PCIS IN THIS LESSON

COMPETENCY	**Learning to learn**	Learners say what they found easy or hard and decide their next step.
COMPETENCY	**Communication and collaboration**	Learners explain their thinking to a partner and report their findings to the group.
VALUE	**Love**	Learners help a classmate who is stuck.
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LESSON FLOW

Stage	Minutes	The teacher	The learners
Introduction	5	Greet the class and ask: "Is kicking a ball a push or a pull? What about pulling a rope in a tug-of-war?" 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 ball, a toy car or similar wheeled object, a magnet and some metal/non-metal objects, manila paper and marker pens. 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: "Is pulling a rope in tug-of-war a push or a pull?"	Say the key idea in their own words and answer the exit question in the exercise book.

WORKED EXAMPLE

Push and pull

A push moves an object away from you (like kicking a ball, or pushing a door). A pull moves an object towards you (like pulling a rope, or pulling a drawer open).

Many everyday actions are a push or a pull, or sometimes a combination of both.

PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

No.	Question	Answer
1	What direction does a push move an object?	**Away from you**
2	What direction does a pull move an object?	**Towards you**
3	Is kicking a ball a push or a pull?	**A push**
4	Is pulling a rope in tug-of-war a push or a pull?	**A pull**

WATCH OUT FOR

Learners confuse push and pull in less obvious examples, like opening vs closing a door. Practise sorting a range of real examples.