# Grade 5 Science and Technology

## Term 1 - 48 complete lesson plans

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

### ABOUT THIS PACK

48 complete, ready-to-teach Grade 5 Science and Technology lesson plans for Term 1, covering classification of plants, invertebrates and the human breathing system.

### TOPICS IN THIS PACK

| Topic | Name | Lessons |
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| 1.1 | Classification of plants | 14 |
| 1.2 | Invertebrates | 16 |
| 1.3 | The Human Breathing system | 18 |

### 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 a plant is**

By the end of the lesson, the learner should be able to: a) identify examples of plants in the environment; b) explain why plants are classified into groups

> **Plants around us**
> Plants are living things found almost everywhere - trees, grasses, shrubs, ferns, and mosses are all plants, even though they look very different from each other.
> Because there are so many different kinds of plants, scientists classify (group) them by shared features, which makes them easier to study and understand.

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 a plant is

Strand 1.0 Living Things and their Environment > Sub-strand 1.1 Classification of plants | 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) identify examples of plants in the environment; b) explain why plants are classified into groups

## KEY INQUIRY QUESTION(S)

- How are plants classified?

## CORE COMPETENCIES, VALUES AND PCIS IN THIS LESSON

| | | |
|---|---|---|
| COMPETENCY | **Creativity and imagination** | Learners make up their own examples, patterns or ways of showing the idea. |
| COMPETENCY | **Digital literacy** | Learners use a phone, tablet or the class computer to explore or check the idea. |
| VALUE | **Unity** | Learners share materials fairly and work as one team. |
| PCI | **Environmental conservation** | Examples link to caring for the school and home environment. |

## LEARNING RESOURCES

Pictures of flowering plants (hibiscus, bean, mango tree) and non-flowering plants (fern, moss, algae) | Real plant samples from the school compound, if available

## 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

flowering plant | non-flowering plant | petal | sepal | stamen | pistil | pollination

## 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: "Name three plants you can see around your school or home." 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 pictures of flowering plants (hibiscus, bean, mango tree) and non-flowering plants (fern, moss, algae), real plant samples from the school compound, if available. 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: "Do all plants look the same?" | Say the key idea in their own words and answer the exit question in the exercise book. |

## WORKED EXAMPLE

**Plants around us**

Plants are living things found almost everywhere - trees, grasses, shrubs, ferns, and mosses are all plants, even though they look very different from each other.

Because there are so many different kinds of plants, scientists classify (group) them by shared features, which makes them easier to study and understand.

## PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

| No. | Question | Answer |
|---|---|---|
| 1 | Name one plant you can see around your school. | **Any real, correct plant name** |
| 2 | Are trees, grasses and ferns all plants? | **Yes** |
| 3 | Why do scientists classify plants into groups? | **It makes them easier to study and understand** |
| 4 | Do all plants look the same? | **No, they look very different from each other** |

## WATCH OUT FOR

Learners think only trees and flowers count as "plants". Broaden the idea to include grasses, ferns and mosses too.

## ASSESSMENT RUBRIC - THE FOUR CBC LEVELS

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

## SUPPORT AND EXTENSION

| | |
|---|---|
| **Learners who need support** | Walk around the school compound and point out five real plants together. |
| **Learners ready for more** | List five different plants you can find in your own compound at home. (Answer: Any reasonable, genuine list) |
| **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 a plant is" 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.

# What flowering plants are

Strand 1.0 Living Things and their Environment > Sub-strand 1.1 Classification of plants | 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) define a flowering plant; b) name examples of flowering plants

## KEY INQUIRY QUESTION(S)

- How are plants classified?

## CORE COMPETENCIES, VALUES AND PCIS IN THIS LESSON

| | | |
|---|---|---|
| COMPETENCY | **Creativity and imagination** | Learners make up their own examples, patterns or ways of showing the idea. |
| COMPETENCY | **Digital literacy** | Learners use a phone, tablet or the class computer to explore or check the idea. |
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## LEARNING RESOURCES

Pictures of flowering plants (hibiscus, bean, mango tree) and non-flowering plants (fern, moss, algae) | Real plant samples from the school compound, if available

## 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

flowering plant | non-flowering plant | petal | sepal | stamen | pistil | pollination

## THE LESSON AT A GLANCE

| Introduction | Teacher models | Guided practice | On their own | Wrap-up |
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| 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: "Have you seen a bean plant, a hibiscus, or a mango tree flower?" 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 pictures of flowering plants (hibiscus, bean, mango tree) and non-flowering plants (fern, moss, algae), real plant samples from the school compound, if available. 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: "Are most food crops flowering plants?" | Say the key idea in their own words and answer the exit question in the exercise book. |

## WORKED EXAMPLE

**Flowering plants**

A flowering plant is a plant that produces flowers at some point in its life, which later develop into fruits containing seeds. Examples include beans, hibiscus, mango trees, maize, and roses.

Flowering plants are the largest group of plants on Earth, and most food crops - like maize, beans, and fruit trees - are flowering plants.

## PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

| No. | Question | Answer |
|---|---|---|
| 1 | What is a flowering plant? | **A plant that produces flowers, which later develop into fruits containing seeds** |
| 2 | Name one example of a flowering plant. | **Any of: beans, hibiscus, mango tree, maize, rose** |
| 3 | What do a flowering plant's flowers later develop into? | **Fruits containing seeds** |
| 4 | Are most food crops flowering plants? | **Yes** |