Grade 5 Agriculture and Nutrition

Term 1 - 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 Agriculture and Nutrition lesson plans for Term 1, covering soil conservation, water conservation, conserving wild animals, growing vegetables and uses of domestic animals.

TOPICS IN THIS PACK

Topic	Name	Lessons
1.1	Soil Conservation	8
1.2	Water Conservation	9
1.3	Conserving Wild Animals	6
2.1	Growing Vegetables	9
2.2	Uses of Domestic Animals	8

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

Identifying sites with poor soil

By the end of the lesson, the learner should be able to: a) identify signs of poor soil in the school or community; b) select a suitable site for soil improvement

> **Signs of poor soil**
> Poor soil often looks pale or grey, feels hard and compact, grows only weak or stunted plants, and may be found where rubbish has been dumped or where the same crop has been grown for a long time without rest. Good soil is usually dark, crumbly, and supports healthy plant growth.

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	Identifying sites with poor soil	1.1 Soil Conservation	4
2	Why organic waste improves soil	1.1 Soil Conservation	7
3	Planning the organic waste pit	1.1 Soil Conservation	10
4	Constructing the organic waste pit	1.1 Soil Conservation	13
5	Demonstrating plant remains for soil improvement	1.1 Soil Conservation	16
6	Checking and maintaining the pit	1.1 Soil Conservation	19
7	Applying pit soil to a real planting site	1.1 Soil Conservation	22
8	Appreciating soil improvement	1.1 Soil Conservation	25
9	Why water conservation matters	1.2 Water Conservation	28
10	Mulching	1.2 Water Conservation	31
11	Cover cropping and shading	1.2 Water Conservation	34
12	Practical: applying mulch	1.2 Water Conservation	37
13	Practical: growing a cover crop	1.2 Water Conservation	40
14	Practical: constructing a simple shade	1.2 Water Conservation	43
15	Experimenting: comparing mulched and unmulched soil	1.2 Water Conservation	46
16	Sharing experiences on water conservation	1.2 Water Conservation	49
17	Appreciating water conservation in the community	1.2 Water Conservation	52
18	Wild animals and property damage	1.3 Conserving Wild Animals	55
19	Safe ways of repelling wild animals	1.3 Conserving Wild Animals	58
20	Innovating a smoke or smell repellent	1.3 Conserving Wild Animals	61
21	Practical: making and applying a smell repellent	1.3 Conserving Wild Animals	64
22	Checking the repellent's effectiveness	1.3 Conserving Wild Animals	67
23	Living better with wild animals	1.3 Conserving Wild Animals	70
24	Gardening practices for growing vegetables	2.1 Growing Vegetables	73
25	What a nursery bed is and why it is used	2.1 Growing Vegetables	76
26	Preparing and sowing a nursery bed	2.1 Growing Vegetables	79
27	Caring for seedlings in the nursery	2.1 Growing Vegetables	82
28	Preparing to transplant	2.1 Growing Vegetables	85
29	Practical: transplanting seedlings	2.1 Growing Vegetables	88
30	Caring for transplanted seedlings	2.1 Growing Vegetables	91
31	Presenting on the importance of growing vegetables	2.1 Growing Vegetables	94
32	Appreciating vegetables for healthy meals	2.1 Growing Vegetables	97

33	Bees and rabbits in food production	2.2 Uses of Domestic Animals	100
34	Camels and fish in food production	2.2 Uses of Domestic Animals	103
35	Pigs and donkeys in food production	2.2 Uses of Domestic Animals	106
36	Dogs and cats in food production	2.2 Uses of Domestic Animals	109
37	Matching domestic animals to their uses	2.2 Uses of Domestic Animals	112
38	Preparing a class presentation	2.2 Uses of Domestic Animals	115
39	Delivering the class presentation	2.2 Uses of Domestic Animals	118
40	Appreciating domestic animals in food production	2.2 Uses of Domestic Animals	121

Identifying sites with poor soil

Strand 1.0 Conservation of Resources > Sub-strand 1.1 Soil Conservation | Lesson 1 of 8 | 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 signs of poor soil in the school or community; b) select a suitable site for soil improvement

KEY INQUIRY QUESTION(S)

- How can we improve the soil using suitable organic wastes?

CORE COMPETENCIES, VALUES AND PCIS IN THIS LESSON

COMPETENCY	**Critical thinking and problem solving**	Learners choose a method, check their answers and give reasons for their choices.
VALUE	**Unity**	Learners share materials fairly and work as one team.
PCI	**Environmental education**	Examples link to caring for the school and home environment.

LEARNING RESOURCES

A picture or diagram of a residue/waste pit | A patch of poor soil in the school compound to examine

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

soil improvement | organic waste | residue pit | compost | nutrients

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: "Have you noticed a patch of ground where crops or grass grow poorly? What do you think is wrong with the soil there?" 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 picture or diagram of a residue/waste pit, a patch of poor soil in the school compound to examine. 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: "Why might soil become poor if the same crop is grown on it for a long time?"	Say the key idea in their own words and answer the exit question in the exercise book.

WORKED EXAMPLE

Signs of poor soil

Poor soil often looks pale or grey, feels hard and compact, grows only weak or stunted plants, and may be found where rubbish has been dumped or where the same crop has been grown for a long time without rest. Good soil is usually dark, crumbly, and supports healthy plant growth.

A good site for soil improvement is one showing these poor signs, that is also easy for the class to reach and safely work on regularly.

PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

No.	Question	Answer
1	Name one sign of poor soil.	**Any of: pale/grey colour, hard and compact, only weak plants grow, rubbish dumped there**
2	What does good soil usually look like?	**Dark and crumbly**
3	Why should a chosen site be easy to reach?	**So the class can work on it and check on it regularly**
4	Why might soil become poor if the same crop is grown on it for a long time?	**The crop keeps using up the same nutrients without giving the soil time to recover**

WATCH OUT FOR

Learners pick a site only because it looks "empty" rather than checking it actually shows signs of poor soil. Guide them to check for the real signs first.

ASSESSMENT RUBRIC - THE FOUR CBC LEVELS

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

SUPPORT AND EXTENSION

Learners who need support	Walk the school compound together as a class and point out one real example of poor soil and one of good soil.
Learners ready for more	Describe one patch of soil near your home. Is it good or poor soil, and how do you know? (Answer: Any genuine, reasonable observation with a correct reason)
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 "identifying sites with poor soil" 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.

Why organic waste improves soil

Strand 1.0 Conservation of Resources > Sub-strand 1.1 Soil Conservation | Lesson 2 of 8 | 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 why organic waste improves soil; b) name examples of organic waste suitable for soil improvement

KEY INQUIRY QUESTION(S)

- How can we improve the soil using suitable organic wastes?

CORE COMPETENCIES, VALUES AND PCIS IN THIS LESSON

COMPETENCY	**Critical thinking and problem solving**	Learners choose a method, check their answers and give reasons for their choices.
VALUE	**Unity**	Learners share materials fairly and work as one team.
PCI	**Environmental education**	Examples link to caring for the school and home environment.

LEARNING RESOURCES

A picture or diagram of a residue/waste pit | A patch of poor soil in the school compound to examine

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

soil improvement | organic waste | residue pit | compost | nutrients

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: "What happens to dry leaves that fall under a tree and are left there for many months?" 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 picture or diagram of a residue/waste pit, a patch of poor soil in the school compound to examine. 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: "Should plastic or metal waste be added to improve soil?"	Say the key idea in their own words and answer the exit question in the exercise book.

WORKED EXAMPLE

Organic waste and soil

Organic waste, such as dry leaves, plant residue, and suitable kitchen food remains, breaks down over time and adds nutrients back into the soil, making it darker, crumblier, and better for growing crops. This natural process is why soil under a tree, covered in fallen leaves, is often richer than bare, exposed soil.

Not all waste is suitable - only organic (once-living) material breaks down this way; plastic and metal waste do not improve soil and should never be added.

PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

No.	Question	Answer
1	What is organic waste?	**Waste from once-living material, such as plant matter and suitable food remains**
2	Give one example of organic waste suitable for soil improvement.	**Dry leaves, plant residue, or suitable kitchen food remains**
3	Why is soil under a tree covered in fallen leaves often richer?	**The decomposing leaves add nutrients back into the soil**
4	Should plastic or metal waste be added to improve soil?	**No, only organic (once-living) waste improves soil**