# Grade 11 Geography

## Term 3 - 51 complete lesson plans

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

### ABOUT THIS PACK

51 complete, ready-to-teach Grade 11 Geography lesson plans for Term 3, covering water cycle and action of rivers, agriculture, wildlife, tourism and transport and communication.

### TOPICS IN THIS PACK

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| 2.7 | Water Cycle and Action of Rivers | 11 |
| 3.1 | Agriculture | 12 |
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### 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

**The processes of the water cycle**

By the end of the lesson, the learner should be able to: a) describe the processes of the water cycle; b) draw a labelled diagram of the water cycle

> **The water (hydrological) cycle**
> The water cycle is the continuous movement of water between the oceans, the atmosphere and the land. Evaporation: the sun heats water in oceans, lakes and rivers, changing it to water vapour. Transpiration: plants release water vapour through their leaves (together: evapotranspiration).

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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# The processes of the water cycle

Strand 2.0 Natural Systems and Processes > Sub-strand 2.7 Water Cycle and Action of Rivers | Lesson 1 of 11 | 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: a) describe the processes of the water cycle; b) draw a labelled diagram of the water cycle

## KEY INQUIRY QUESTION(S)

- What are the issues related to rivers in the contemporary world?

## 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. |
| COMPETENCY | **Learning to learn** | Learners say what they found easy or hard and decide their next step. |
| VALUE | **Respect** | Learners listen while others explain and accept correction politely. |
| VALUE | **Responsibility** | Learners look after shared materials and finish every task. |
| PCI | **Environmental education** | Examples link to caring for the school and home environment. |
| PCI | **Citizenship education** | Learners connect the work to their rights and duties in the community. |

## LEARNING RESOURCES

Charts of the water cycle, river features and drainage patterns | Topographical map extracts showing rivers | Digital devices for videos (where available)

## ORGANISATION OF LEARNING

Whole class for videos and introductions; think-pair-share; pairs for drawings; two teams for the debate; groups of five for the river field study with roles; individual essays.

## KEY WORDS

water cycle | evaporation | transpiration | condensation | precipitation | infiltration | surface runoff | hydraulic action | abrasion | attrition | saltation | meander | ox-bow lake | levee | delta | drainage pattern

## 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: "Where was the water in your cup a month ago? Trace a possible journey." 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 | Take learners through "The water (hydrological) cycle" (key ideas on the next page), explaining as you go. Use charts of the water cycle, river features and drainage patterns, topographical map extracts showing rivers, digital devices for videos (where available). Ask learners to predict what comes next 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: "Name the process that forms clouds." | Say the key idea in their own words and answer the exit question in the exercise book. |

## KEY IDEAS

**The water (hydrological) cycle**

The water cycle is the continuous movement of water between the oceans, the atmosphere and the land.

Evaporation: the sun heats water in oceans, lakes and rivers, changing it to water vapour. Transpiration: plants release water vapour through their leaves (together: evapotranspiration).

Condensation: rising vapour cools and changes into tiny droplets, forming clouds.

Precipitation: droplets grow and fall as rain, hail or snow.

On land: interception (by vegetation), infiltration (soaking into the soil), percolation (moving down to groundwater), surface runoff (flowing over the ground into rivers), throughflow and groundwater flow back to rivers, lakes and the sea.

Diagram: sea, sun, clouds, mountain, vegetation, river and groundwater with labelled arrows for each process.

## PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

| No. | Question | Answer |
|---|---|---|
| 1 | Define the water cycle. | **The continuous movement of water between the oceans, atmosphere and land.** |
| 2 | Differentiate evaporation from transpiration. | **Evaporation changes surface water to vapour; transpiration is water vapour released by plants.** |

| | | |
|---|---|---|
| 3 | What is infiltration? | **Water soaking into the soil.** |
| 4 | Name the process that forms clouds. | **Condensation.** |

## WATCH OUT FOR

Learners draw arrows in one direction only. The cycle is continuous with many paths.

## ASSESSMENT RUBRIC - THE FOUR CBC LEVELS

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

## SUPPORT AND EXTENSION

| | |
|---|---|
| **Learners who need support** | Give a diagram with blank labels. |
| **Learners ready for more** | Why does more surface runoff occur on tarmac than on a grassy field? (Answer: Tarmac does not let water infiltrate, so most rain runs off) |
| **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 "the processes of the water cycle" 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.

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# Significance of the water cycle in the community

Strand 2.0 Natural Systems and Processes > Sub-strand 2.7 Water Cycle and Action of Rivers | Lesson 2 of 11 | 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: a) examine the significance of the water cycle; b) explain how human activities affect the water cycle

## KEY INQUIRY QUESTION(S)

- What are the issues related to rivers in the contemporary world?

## 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. |
| COMPETENCY | **Learning to learn** | Learners say what they found easy or hard and decide their next step. |
| VALUE | **Respect** | Learners listen while others explain and accept correction politely. |
| VALUE | **Responsibility** | Learners look after shared materials and finish every task. |
| PCI | **Environmental education** | Examples link to caring for the school and home environment. |
| PCI | **Citizenship education** | Learners connect the work to their rights and duties in the community. |

## LEARNING RESOURCES

Charts of the water cycle, river features and drainage patterns | Topographical map extracts showing rivers | Digital devices for videos (where available)

## ORGANISATION OF LEARNING

Whole class for videos and introductions; think-pair-share; pairs for drawings; two teams for the debate; groups of five for the river field study with roles; individual essays.

## KEY WORDS

water cycle | evaporation | transpiration | condensation | precipitation | infiltration | surface runoff | hydraulic action | abrasion | attrition | saltation | meander | ox-bow lake | levee | delta | drainage pattern

## 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: "Think, pair and share: what would happen to our community if the water cycle stopped?" 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 | Take learners through "Significance" (key ideas on the next page), explaining as you go. Use charts of the water cycle, river features and drainage patterns, topographical map extracts showing rivers, digital devices for videos (where available). Ask learners to predict what comes next 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: "Why is groundwater recharge important?" | Say the key idea in their own words and answer the exit question in the exercise book. |

## KEY IDEAS

**Significance**

Supplies fresh water through rain to rivers, lakes and groundwater for drinking, farming, livestock and industry.
Supports plant growth, forests and food production.
Distributes heat around the Earth (evaporation and condensation move energy) and influences weather and climate.
Recharges groundwater (boreholes and springs).
Purifies water naturally through evaporation and filtering by soils.
Supports hydroelectric power (e.g. Seven Forks dams on the Tana) and fishing.
Human effects: deforestation reduces transpiration and rainfall and increases runoff and floods; paving and building increase runoff; dams and irrigation change river flows; pollution enters the cycle; climate change alters rainfall patterns.

## PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

| No. | Question | Answer |
|---|---|---|
| 1 | Give four ways the water cycle is significant to the community. | **For example: fresh water supply, farming, groundwater recharge, climate regulation, HEP, fishing.** |
| 2 | How does deforestation affect the water cycle? | **It reduces transpiration and infiltration and increases runoff, causing floods and drier rivers.** |