EXAM READY GEOGRAPHY

Exam Ready Geography

GRADE 9

Study Guide, Worked Examples and Practice Tests for the Grade 9 Examination



- ✓ 8 units with clear key ideas, worked examples and “Watch out!” boxes
- ✓ 160 worked examples and 256+ practice questions at three levels
- ✓ 160 unit-quiz questions and 3 full mock exams (60 MCQ each)
- ✓ Diagnostic test · Key Facts Sheet · Top 20 Mistakes · teacher notes

Follows the units and order of the Ethiopian Grade 9 Geography textbook

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Grade 9 · Study Guide, Worked Examples and Practice Tests

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This is an independent study guide. It follows the units and order of the Ethiopian Grade 9 Geography student textbook, but it is not published or endorsed by the Ministry of Education. All explanations, examples and questions are original. Keep your textbook and your teacher's notes beside this book.

The answers were calculated and checked before printing, but no book is free of errors. If you find a mistake or disagree with an answer, please tell the author on Telegram (@Ermias_Wedaje) and it will be reviewed for the next edition.

How to Use This Book

Each unit follows the same pattern, so you always know where to look.

Key ideas
The rules and facts of the section, short and clear.

Worked examples
Step-by-step solutions. Cover the solution and try first.

⚠ Watch out!
The mistakes students make most often, and the right way.

Practice
Level 1 Basic · Level 2 Standard · Level 3 Challenge.

Unit quiz
20 multiple-choice questions in the style of the national examination.

For the Teacher
Timing, starters, misconceptions, activities and assessment.

For students

- Begin with the Diagnostic Test. It shows which units need the most work.
- Read the key ideas, then study each example with the solution covered.
- Do Level 1 and Level 2 practice for every section; try Level 3 when you are ready.
- Take each quiz in 30 minutes, mark it, and redo every question you got wrong.
- In the last weeks, learn the Key Facts Sheet and the Top 20 Mistakes page, and sit the three mock exams. Their answer keys show which unit each question comes from.

For teachers

- Each unit follows the textbook sections, so the book can sit beside your lessons.
- The “For the Teacher” page gives timing, starters, misconceptions and activities.
- The quizzes and mock exams can be used as class tests; every answer has a short reason.

For parents

- Ask your child to explain one worked example to you each day. Teaching is the best way to learn.
- Look at the quiz score after each unit, and celebrate progress, not only high marks.

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Diagnostic Test · Where Should I Start?

16 questions · 15 minutes. Take this test before you start the book. There are two questions on each unit. Your score only shows you where to spend your time.

1. Geography means
   A. study of rocks only
   B. study of stars
   C. study of laws
   D. writing about the earth

2. Population is studied in
   A. astronomy
   B. human geography
   C. geology
   D. physical geography

3. Weather is
   A. a river
   B. short-term atmospheric condition
   C. long-term average
   D. a rock

4. Humidity is
   A. pressure
   B. water vapour in air
   C. wind speed
   D. rainfall only

5. A renewable resource is
   A. gold
   B. water
   C. coal
   D. natural gas

6. The largest drainage system is the
   A. inland
   B. Rift
   C. south-eastern
   D. western (Nile)

7. Population is
   A. area in km²
   B. rainfall total
   C. animals in an area
   D. the number of people in an area

8. Birth rate is
   A. births per 1,000 per year
   B. people per km²
   C. migrants
   D. deaths per year

9. Farming is a
   A. tertiary activity
   B. secondary activity
   C. quinary activity
   D. primary activity

10. Mining is a
    A. secondary activity
    B. tertiary activity
    C. primary activity
    D. quinary activity

11. The three modes of human–environment interaction are
    A. dependence, adaptation, modification
    B. rain, wind, snow
    C. trade, sport, art
    D. birth, death, marriage

12. Drinking river water is
    A. pollution
    B. dependence
    C. adaptation
    D. modification

Unit 1 · Geological History and Topography of Ethiopia

By the end of this unit you will be able to:

- define geography and name its branches
- describe the absolute and relative location, size and shape of Ethiopia
- explain the geological eras and the rocks of Ethiopia
- describe the major landforms and the highest and lowest points

Before you start — check yourself. (a) What does the word geography mean? (b) Name two neighbours of Ethiopia. (c) Name the highest peak of Ethiopia.
Answers: (a) writing about the earth (b) Kenya and Sudan (c) Ras Dashen

Key words: geography · physical geography · human geography · absolute location · relative location · latitude · longitude · Precambrian · Cenozoic · Rift Valley

How this unit is examined

Question types that appear again and again in Ethiopian model examinations:

- Meaning, Scope and Branches of Geography
- Location, Size and Shape of Ethiopia
- Geological History of Ethiopia
- Landforms and Topography of Ethiopia

1.1 Meaning, Scope and Branches of Geography

Key ideas

- **Geography** comes from the Greek words **geo** (earth) and **graphos** (writing): "writing about the earth". It studies the **earth's surface, its natural features, people and the relationships between them**, and answers where things are, why they are there and how they are connected (**spatial** distribution).
- **Scope:** it studies the lithosphere (land), hydrosphere (water), atmosphere (air) and biosphere (life), and the human use of them.
- **Two main branches: physical geography** (natural features: landforms, climate, soils, vegetation, water) and **human geography** (people: population, settlement, economic activities, culture). **Regional geography** studies places as units.
- **Importance:** geography helps us use resources wisely, plan settlements, prevent disasters, and understand other places and cultures.

Example 1.1 — Define

What does geography mean?

Solution. Writing about the earth (geo = earth, graphos = writing).

Example 1.2 — Classify

Physical or human: rainfall, population density, mountains, trade.

Solution. Physical: rainfall, mountains. Human: population density, trade.

Example 1.3 — Scope

Name the four spheres studied in geography.

Solution. Lithosphere, hydrosphere, atmosphere and biosphere.

Example 1.4 — Exam Booster · Use

Give two uses of geographic knowledge.

Solution. Using resources wisely and planning settlements.

Example 1.5 — Exam Booster · Branch

Which branch studies settlement patterns?

Solution. Human geography.

⚠ Watch out!

× Wrong	✓ Right
Geography studies only maps.	It studies the earth, people and their relationships.
Climate belongs to human geography.	Climate is physical geography.
Geography means “study of the sky”.	It means “writing about the earth”.

Practice 1.1

Level 1 — Basic

1. Meaning of geo?
2. Meaning of graphos?
3. Name a branch.

Level 2 — Standard

4. What is human geography?
5. What is spatial?
6. Name a sphere.

Level 3 — Challenge

7. Explain the scope of geography.
8. Distinguish physical from human geography.

1.2 Location, Size and Shape of Ethiopia

Key ideas

- **Absolute (mathematical) location** is given by **latitude and longitude**. Ethiopia lies between about **3°N and 15°N** latitude and **33°E and 48°E** longitude, so it is in **eastern Africa** (the Horn) and in the **tropics**.
- **Relative location:** (i) **vicinal** – in relation to neighbours: **Eritrea** (north), **Djibouti** (north-east), **Somalia** (east and south-east), **Kenya** (south), **South Sudan** (west) and **Sudan** (north-west); (ii) **strategic** – close to the **Red Sea** and the Middle East, near the Bab-el-Mandeb route, but **landlocked** since 1993.
- **Size:** about **1,106,000 km²**, the **tenth largest country in Africa**. Large size gives varied climate, vegetation, wildlife, people and arable land, but makes administration and transport costly.
- **Shape:** more or less **compact** (distances from the centre to the borders are about equal); compact shape makes defence, administration and communication easier than an elongated or fragmented shape.

Example 1.6 — Locate

Give the absolute location of Ethiopia.

Solution. About 3°N–15°N and 33°E–48°E.

Example 1.7 — Neighbours

Name the neighbour to the south and the neighbour to the west.

Solution. South: Kenya. West: South Sudan.

Example 1.8 — Size

Give the area of Ethiopia and its rank in Africa.

Solution. About 1,106,000 km²; tenth largest.

Example 1.9 — Exam Booster · Shape

Give one advantage of a compact shape.

Solution. Easier administration, defence and transport.

Example 1.10 — Exam Booster · Strategic

Why is Ethiopia's strategic location important?

Solution. It is near the Red Sea route and the Middle East.

Unit 2 · Climate of Ethiopia

By the end of this unit you will be able to:

- distinguish weather from climate
- describe the elements and controls of climate
- explain the climatic regions, agro-climatic zones and seasons of Ethiopia
- describe how weather elements are measured

Before you start — check yourself. (a) Is "it rained today" weather or climate? (b) Which instrument measures rainfall? (c) Name one season of Ethiopia.
Answers: (a) weather (b) rain gauge (c) Kiremt

Key words: weather · climate · temperature · rainfall · altitude · ITCZ · Kolla · Dega · Kiremt · rain gauge

How this unit is examined

Question types that appear again and again in Ethiopian model examinations:

- Weather, Climate and their Elements
- Controls of Climate in Ethiopia
- Agro-climatic Zones and Seasons
- Measuring Weather and Climate

2.1 Weather, Climate and their Elements

Key ideas

- **Weather** is the condition of the atmosphere (temperature, rainfall, pressure, wind, humidity, cloud) at a place over a **short time**, changing hour to hour and day to day. **Climate** is the **pattern of weather over a long period (usually 30 years or more)** in an area. A large area has one type of climate.
- **Elements of weather and climate: temperature**, **precipitation** (rain, hail, snow), **atmospheric pressure**, **wind**, **humidity** and **cloud cover/sunshine**.
- **Examples:** "It is hot and sunny this afternoon" is weather; "Dire Dawa is hot and dry" is climate.
- **Why they matter:** farming, building, health, clothing and transport depend on weather and climate.

Example 2.1 — Classify

Weather or climate: (a) heavy rain today, (b) Lalibela is cool and wet in summer, (c) The Afar region is hot.

Solution. (a) weather; (b) climate; (c) climate.

Unit 5 · Major Economic and Cultural Activities in Ethiopia

By the end of this unit you will be able to:

- classify economic activities
- explain subsistence and cash-crop farming and the problems of agriculture
- describe trade and transport and road safety
- describe cultural landscapes and tourism

Before you start — check yourself. (a) Name a primary economic activity. (b) Name a cash crop of Ethiopia. (c) Name a world heritage site in Ethiopia.
Answers: (a) farming (b) coffee (c) Lalibela

Key words: primary activity · secondary activity · tertiary activity · subsistence farming · cash crop · trade · transport · road safety · world heritage · tourism

How this unit is examined

Question types that appear again and again in Ethiopian model examinations:

- Economic Activities and Agriculture
- Subsistence Farming, Cash Crops and Agricultural Problems
- Trade, Transport and Road Safety
- Cultural Landscapes and Tourism

5.1 Economic Activities and Agriculture

Key ideas

- An **economic activity** is the production and distribution of goods and services. Five groups: **primary** (taking from nature: farming, fishing, forestry, mining, hunting), **secondary** (making: manufacturing, construction, power), **tertiary** (services: trade, transport, tourism, banking, education, health), **quaternary** (information, research, technology) and **quinary** (top decision-making).
- **Agriculture** is the science and art of cultivating the soil and rearing livestock. More than **80%** of Ethiopians work in agriculture; it is **smallholder, rain-fed and subsistence** in character. Two types: **arable (crop) farming** and **pastoral farming** (livestock rearing in lowlands by Afar, Somali, Borana).
- **Other primary activities: fishing** (lakes, rivers; still undeveloped), **forestry** (wood, coffee, honey) and **mining** (gold, salt, potash).
- **Secondary** examples: textile, cement, food processing, leather and sugar factories.

Unit 7 · Contemporary Geographic Issues and Public Concerns in Ethiopia

By the end of this unit you will be able to:

- describe the causes and effects of natural resource degradation
- explain conservation measures for soil, water and forests
- describe the Ethiopian Green Legacy Movement

Before you start — check yourself. (a) What is deforestation? (b) Name one way to reduce soil erosion. (c) Who plants trees in the Green Legacy?
Answers: (a) clearing forests (b) terracing (c) the whole community

Key words: degradation · deforestation · soil erosion · leaching · afforestation · reforestation · agroforestry · terracing · water pollution · Green Legacy

How this unit is examined

Question types that appear again and again in Ethiopian model examinations:

- Soil Degradation and Conservation
- Forest and Water Degradation
- Conservation Measures
- The Ethiopian Green Legacy Movement

7.1 Soil Degradation and Conservation

Key ideas

- **Natural resource degradation** is the loss in quality or quantity of a resource. **Soil degradation** is the decline in soil quality through **erosion** (wearing away and transport of soil by water, wind, ice or waves) and **leaching** (washing of nutrients down below the root zone). Erosion by running water is the most serious soil problem in Ethiopia.
- **Causes:** deforestation, overgrazing, steep-slope farming, ploughing up and down slopes, heavy rain, bare land, population pressure and poor farming. **Effects:** loss of fertile topsoil, falling yields, gullies, siltation of dams and rivers, flooding, food shortage and poverty.
- **Soil conservation: terracing** (steps on slopes), **contour ploughing** (across slope), **stone and soil bunds**, **check dams**, **cover crops** and **mulching**, **crop rotation**, **fallowing**, **manure/compost**, **agroforestry**, **afforestation** and controlled grazing.
- **Example:** terraces slow runoff, so water soaks in instead of washing the soil away.

Key Facts Sheet

Learn these by heart. Cover the right-hand side and say each fact from memory.

Unit 1 · Geology and topography

Ethiopia 3°N–15°N, 33°E–48°E ; area 1,106,000 km² ; tenth in Africa

Neighbours: Eritrea, Djibouti, Somalia, Kenya, South Sudan, Sudan

Precambrian basement ; Paleozoic peneplanation ; Mesozoic seas ; Cenozoic Rift Valley

Ras Dashen 4,620 m ; Kobar Sink 116 m below sea level

Unit 2 · Climate

Weather short-term ; climate long-term

Temperature falls 6.5°C per 1,000 m

Wurch >3,300 ; Dega 2,300–3,300 ; Woina Dega 1,500–2,300 ; Kolla 500–1,500 ; Bereha <500

Kiremt Jun–Sep ; Meher ; Bega Dec–Feb ; Belg Mar–May

Mean = (max+min)/2 ; range = max − min

Unit 3 · Natural resources

Three drainage systems: western (60%), south-eastern, inland

Awash ends in Lake Abe ; Omo in Lake Turkana

Tana: largest lake ; nitosol fertile ; vertisol black clay

Potash Afar ; gas Ogaden ; tantalum Kenticha

Endemic: Walia ibex, Ethiopian wolf

Unit 4 · Population

About 114.9 million ; second in Africa ; growth 2.6%

Natural increase = birth rate − death rate

Density = population ÷ area

About 80% rural

Young population: broad-based pyramid

Unit 5 · Economic activities

Primary, secondary, tertiary, quaternary, quinary

More than 80% depend on agriculture

Coffee: main export ; subsistence: family use

Trade balance = exports − imports

Road: main mode ; Djibouti: main port

Heritage: Lalibela, Aksum, Harar, Gondar

Unit 6 · Human–environment

Dependence, adaptation, modification

Optimum: best size for resources

Over: too many ; under: unused resources

Rapid growth: deforestation, erosion, unemployment

Unit 7 · Conservation

Erosion removes soil ; leaching washes nutrients

Terracing, contour ploughing, mulching

Afforestation: new trees ; reforestation: replant

Green Legacy started 2019

Unit 8 · Map skills

Map parts: title, scale, key, north arrow

1:50,000 → 1 cm = 0.5 km

Grid: eastings first

Bearing clockwise from north: E 090°, S 180°, W 270°

Line graph: trend ; pie: shares

Mock Examination 1

60 multiple-choice questions · 90 minutes · one mark each. Circle one answer. Mark with the answer key at the back and use the unit number to see where to revise.

1. Geography means
   A. study of rocks only
   B. study of stars
   C. study of laws
   D. writing about the earth

2. The two main branches are physical and
   A. sky
   B. human geography
   C. regional only
   D. political only

3. Climate is studied in
   A. human geography
   B. physical geography
   C. economics
   D. history

4. Population is studied in
   A. astronomy
   B. human geography
   C. geology
   D. physical geography

5. Absolute location is given by
   A. rivers
   B. neighbours
   C. latitude and longitude
   D. towns

6. Ethiopia lies between latitudes
   A. 3°N and 15°N
   B. 3°S and 15°S
   C. 30°N and 45°N
   D. 10°S and 5°N

7. Ethiopia lies between longitudes
   A. 3°E and 15°E
   B. 60°E and 75°E
   C. 33°W and 48°W
   D. 33°E and 48°E

8. Ethiopia is in the
   A. West Africa
   B. Horn of Africa
   C. North America
   D. Europe

9. Weather is
   A. a river
   B. short-term atmospheric condition
   C. long-term average
   D. a rock

10. Climate is
    A. one day's wind
    B. one afternoon's heat
    C. long-term pattern of weather
    D. one storm

11. An element of weather is
    A. soil
    B. river
    C. rock
    D. rainfall

12. Humidity is
    A. pressure
    B. water vapour in air
    C. wind speed
    D. rainfall only

13. The most important control of Ethiopian climate is
    A. minerals
    B. altitude
    C. rivers
    D. longitude

14. Temperature falls per 1,000 m by about
    A. 65°C
    B. 6.5°C
    C. 0.65°C
    D. 16°C