

GRADE 7

Answers to knowledge test and revision point

STRAND 4: NATURAL AND HISTORIC BUILT ENVIRONMENTS

Sub strand 4.1: Historical information

Knowledge test

1. – Conduct orientation briefings where you set the ground rules
 - Frame artefacts
 - Use positive signage
 - Use physical and visual barriers such as raised platforms, glass or acrylic displays or distinct floor texturing to define a clear boundary around sensitive objects.
 - Provide exact 3D-printed or artisan-made replicas that visitors can touch, hold and examine closely.
2. – Direct employment of people working in the museums
 - Local artisans can sell handmade crafts, traditional textiles, jewellery and art pieces directly to visitors.
 - Growth of the tourism and hospitality industry
 - Local musicians, dancers, storytellers and theatre troupes are hired for daily shows, festivals or private venue rentals.
 - Training youth in traditional crafts, heritage conservation, hospitality management and tour guiding to enhance employability.

Revision point

1. – Written, unwritten and electronic sources
2. Primary sources of historical information give first-hand accounts of events and developments which can reveal people's attitudes and emotions
3. Primary sources give first-hand information while secondary sources borrow information from primary sources. Primary sources record how the event took place at the time while secondary sources are created long after the event has taken place.
4. - Print materials are kept in dry and cool places free from dust and protected from direct sunlight.
 - Electronic sources can be locked up in metal boxes or stored in data centres.
 - Historical objects and artefacts are kept in clean, dust-free places with good circulation of air.
- 5.

Primary sources	Secondary sources
Folktales	Magazines
Smartphones	Journal
Personal journal	Textbook

Laptop	
Computer	
Audio recording	
Traditional songs.	

6. – They help preserve cultural identity
 - Original primary sources serve as verifiable evidence.
 - They facilitate future research and learning
 - They inform present and future decision-making processes, especially for policymakers.
 - They attract tourists who earn a country's foreign income.

Sub strand 4.2: Historical development of agriculture

Knowledge test

1. – Most farmers rely on rainfall for farming
 - Climate change effects
 - Farmers have embraced cash crop farming rather than subsistence farming.
 - Post-harvest losses due to poor storage, weak market networks and poor road networks
 - Smallholder farmers often lack affordable access to certified seeds, soil nutrients, modern machinery and climate-smart irrigation technologies, leaving yields per hectare below global averages.
 - Regional disputes and political unrest displace farming communities and prevent long-term investments in agricultural infrastructure.
2. – Farmers to embrace farming indigenous crops such as drought-resistant crops like cassava and sorghum.
 - Modern crop breeding can develop high-yield crop varieties that resist local pests, diseases and prolonged dry spells.
 - Crossbreeding livestock allows farmers to combine native disease and heat resistance with higher milk and meat yields.
 - Practise agroforestry
 - Educate farmers on soil management practises.

Revision point

2.

Region	Crops grown	Livestock
Nile valley	Wheat, barley, lentils, garlic, dates, peas, onions, watermelon	Cattle, sheep, goats

Nubia	Sorghum, wheat, barley, cowpeas, dates	Cattle, sheep, goats
Rift valley	Sorghum, cowpeas, yams and other tuber crops	Cattle, sheep, goats

3. - The rich alluvial soils along river valleys and the shores of lakes
 - The volcanic soils and adequate rainfall in the Ethiopian and Kenyan Highlands supported the cultivation of sorghum, millet and wheat.
 - Availability of water for irrigation and domestic use from the Nile River
 - The invention of the shadoof irrigation by Egyptian farmers made it possible to grow crops throughout the year.
4. – Overreliance on rain-fed agriculture
 - High cost of farm inputs
 - Low quality of farm inputs like seeds and fertilisers.
 - Lack of proper storage facilities
 - Post-harvest losses due to poor road networks
5. - Adopting climate-smart farming and irrigation infrastructure
 - Expanding direct-to-farmer digital subsidy programs
 - Farmers can also form cooperatives to buy inputs in bulk at wholesale prices, while strict government enforcement eliminates counterfeit inputs.
 - Connecting farmers directly to buyers via digital farm-to-market platforms eliminates brokers and guarantees fair pricing.
6. - It provided a foundation for the development of modern farming tools and equipment
 - The construction of modern methods of grain storage such as silos can be traced back to the period of early agriculture in Egypt.

Agricultural surplus led to the development of trade and trading centres that attracted traders from different regions of Africa and the Middle East.

 - The planning and measurement of land for irrigation led to the development of present land surveys and mathematics.

Sub strand 4.3: Maps and mapwork

Knowledge test

1. Africa is not a country. It is a continent. The country is Kenya. Kenya is in the continent of Africa
2. Africa lies astride the equator. It is divided by the equator into two parts. One is to the north and another to the south of the equator. Similarly, Africa is divided into two parts by the Greenwich meridian. One part lies to the west while the other lies to the east.
3. Australia lies to the southeast of Africa.

4. Africa is divided by the Tropics of Cancer and Capricorn into three parts. Capricorn runs across Africa in the south while Cancer runs across Africa in the north.
5. It will take 56 minutes.
6. The difference is 280 minutes, which is 4 hours 40 minutes.

Revision point

1. Africa is wider to the north and narrow to the south
2. Tanzania, Mozambique, South Africa, Madagascar, Namibia, Angola, Gabon, Congo and DRC lie partly to the north and partly to the south and have a coastline. Seychelles, Comoros and Mauritius are Island countries.
3. Location of the towns shown on the map, by latitude and longitude.
T – 10° N 10° W, Q – 10° N 30° E, R – 23 ½° N 0°, S – 10° N 45° E
4. Ghana is on the Greenwich meridian, 0°. It is 2.32 a.m. in Ghana.
5. The two places, Nairobi and Ghana, lie on different longitudes, with a difference of 37°.
6. 8.00 a.m.

Sub strand 4.4: Earth and the solar system

Knowledge test

1. The high speed of rotation of the part of the Earth that is around the equator causes the centrifugal force which forces the Earth to bulge at the equator. This gives the Earth a wider equatorial diameter and a shorter polar diameter.
2. When one travels round the earth in the same direction, one comes back to the starting point. This proves that the Earth is round.
3. It is the effect of rotation of the Earth. The Earth rotates from west to east. Places that are to the east receive sunrise earlier than those to the west.
4. This is the effect of tides. The high tide was the cause of the high-water level witnessed the night before. The low tide exposes the beach once again, making it visible to people.
5. In December, the sun is overhead at the Tropic of Capricorn, extending Sheila's shadow to the right. In July, the sun is overhead at the Tropic of Cancer; thus, the shadow is extended to the left.
6. The sun is overhead in the northern hemisphere. Days are therefore longer in the northern hemisphere where London is situated. The sun sets late and rises early, giving longer days and shorter nights during summer.
7. The boiling water is coming from inside the ground, where it is in contact with magma in the upper mantle. Magma, a hot liquid rock, heats the water to a very high temperature. The hot water reaches the surface of the Earth through cracks, fissures or lines of weakness.

8. When one crosses the IDL from east to west, one moves forward by a day, while on crossing the IDL from west to east, one moves back by a day.

Revision point

1. (a) 21st March and 23rd September.
(b) The earth is tilted at an angle on its axis; the apparent movement of the Sun within the tropics of Cancer and Capricorn and the revolution of the earth round the Sun.
2. (a) An imaginary line, running from north to south, showing how far a place is from east to west of the Greenwich meridian.
(b) The time is 12.40 p.m.
3. Revolution of the earth.
 - a) It will take 183 days
 - b) Summer
4.
 - a) When radioactive minerals such as uranium decay in the earth's interior, they produce a lot of heat, causing the interior of the earth to be hot.
 - b) The interior of the earth is believed to be cooling slowly since the formation of the earth.
 - c) The heavy weight of the crust causes pressure on the underlying layers, generating heat.

Sub strand 4.5: Weather

Knowledge test

1. Floodwaters may hide deep holes which may cause harm. River currents and water levels during floods fluctuate rapidly and the conditions can worsen at any time.
2. a) A tall lightweight truck lacks the downforce needed to maintain firm tyre contact with the road. Elevated bridges also lack windbreakers and therefore the truck may end up causing an accident.
b) A sudden crosswind can push the vehicle directly out of its lane or off the bridge structure entirely. The vehicle may also roll over due to the intense wind.
3. a) Avoid standing or walking near tall trees, power lines, unstable billboards or unfinished buildings. Wear warm clothes.
b) Wear heavy and warm clothes, use an umbrella when walking, avoid walking on flooded or obscured areas and find shelter indoors away from flood-prone areas.
c) Wear lightweight clothes, stay hydrated, avoid physical labour when the sun is at its peak and wear sunscreen to avoid sunburn.
4. - Strong rains cool surface temperatures and disrupt oxygen levels, causing fish species like Tilapia and Nile Perch to migrate to deeper waters.
- Heavy rainfall can damage the boats and gillnets.

- Heavy rainfall stops the drying process of fish such as *omena* leading to rapid rotting and total loss of harvest.
- Muddy, flooded feeder roads prevent fish from reaching markets quickly.
- Heavy runoff carries agricultural sediments, pollutants and nutrients into shoreline waters. This triggers algal blooms and the spread of water hyacinth, hindering boat engine operation and increasing waterborne health risks in fishing communities.

Revision point

1. Rainfall, sunshine, cloud cover, wind, air pressure, humidity and temperature.
2. Rain gauge
3. - The site must be in an open area away from tall buildings and trees.
 - The area should be on gently sloping land that is free from flooding.
 - The location should be easily accessible to observers for daily reading, recording and maintenance of weather instruments.
 - The site needs to be secured to protect delicate instruments from theft, vandalism or damage by domestic animals and wildlife.
4. - Clear all drainage channels such as culverts around the compound to allow free water flow.
 - Move valuable belongings, electronics, and food reserves off the floor to elevated racks or higher rooms.
 - Prepare an emergency evacuation kit
 - Identify safe high ground in case sudden evacuation is ordered.
 - Monitor radio broadcasts or emergency weather alerts regularly to get early warnings about rising water levels.
5. A wind vane measures the direction of wind while a windsock measures both the strength and direction of wind.
6. To protect delicate instruments from theft, vandalism or damage by domestic animals and wildlife. A mesh also allows free circulation of wind and sunlight and does not interfere with the weather readings.
7. - Slow driving allows the driver to see clearly and detect danger easily since heavy rains obscure vision.
 - Wet roads increase braking distance significantly compared to dry pavement.
 - It helps avoid hidden road dangers such as debris falls and potholes.
 - High speeds on wet roads cause total loss of steering and braking traction.
8. a) 22.4 °C
b) 485 mm
c) Monday
d) 5.5

e) 80.8 mm

Sub strand 4.6: Fieldwork

Knowledge test

1. Investigating why yields per unit area of land in an area have gone down. The procedure will focus on:
 1. Collecting information on yields of the last few years to establish the rate of decline. Main methods of doing this may include interviews and questionnaires.
 2. Finding out if farming methods/techniques have remained the same or not. Interviews and questionnaires may be used.
 3. Analysing the information collected. This may include calculating the average/mean of yields per unit area.
 4. Determining the rate of decline in yields per year from the analysis.
 5. Comparing the techniques used in production to the level of yields. Calculation of the mode may be required.
 6. Concluding the findings.
2. How to achieve a goal of increased meat production in an area? The information below should be brought out:
 7. Finding out the current status of meat production. The population of animals kept for meat can be established. Farmers can be interviewed for information. Statistics at slaughterhouses can also be collected from records.
 8. Determine the carrying capacity of the land to find out if there is optimum use of land. Calculation of averages/means can be made.
 9. Finding out the methods of rearing in practice to see if there is room for improvement. In addition to interviews and questionnaires, observations may also be made.
 10. Analysing the data collected to help find out areas where action is required.
 11. Setting the targets and outlining the actions to take to achieve the targets.

Revision point

1. a)

12. Interviewing parents/teachers/medical staff on age and size.

13. Using questionnaires to find out sizes and ages.

b)

14. Wrong information from interviewees.

15. Illiteracy among respondents when using questionnaires.

16. Language/communication barrier

2. - Participants are usually people relevant to and well-versed in the topic of discussion.

17. Conclusions are usually without bias because they are arrived at through controlled conversations.

3. - It is only concerned with the value in the middle while values on either side may vary greatly.

18. Since there will always be two values in the middle when the data set is even, getting the average of the two values may give inappropriate results, for example, when dealing with population data.

4. - To get accurate numbers of people to benefit.

19. To find out the neediest areas where aid is required.

20. To determine the urgency of the issues to influence timelines.

21. To involve the people so that they embrace the project and own it.

22. To establish quantities and quality of materials required.

5. - It is difficult to follow up when given wrong feedback.

23. Some targeted respondents may have challenges with language.

24. Some of the information given is usually in a wide range or brackets thus compromising accuracy.

6. - Unclear responses can be followed up with questions immediately.

25. It helps to establish good rapport between interviewer and interviewees.

26. Responses are usually spontaneous and often reflect the exact attitudes and convictions.

7. - It provides first-hand information and impressions.

27. The researcher actually experiences the reality on the ground and the real feelings of the people and issues affecting an area such as soil erosion.

28. Helps in strengthening human relationships during interactions.

29. Can help to improve other skills like observation and drawing.