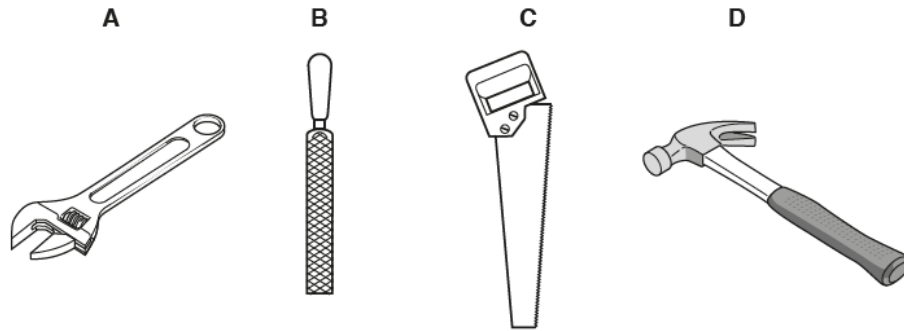


AGRICULTURE GRADE 11 (FORM 5)

Section A

1. The diagram shows tools commonly used in construction.



(a) State the letter of the tool which would be best used to:

- (i) smooth the edges of iron sheets
- (ii) tighten bolts on a farm gate.

(b) Describe how garden tools should be maintained.

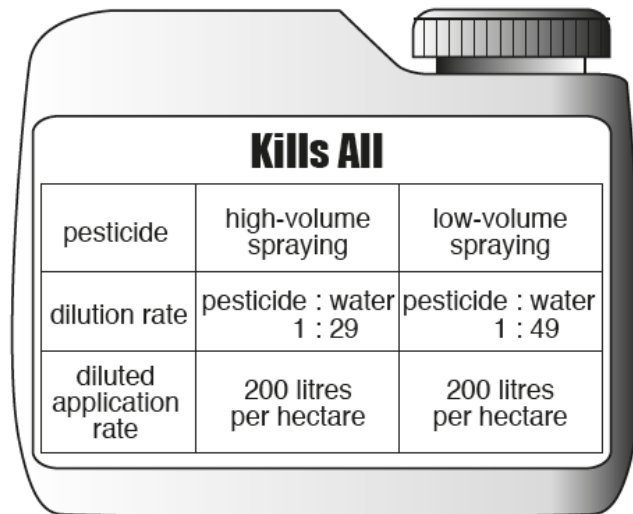
(c) The following materials are available to build the walls and roof of an animal house.

combination	building materials	
	walls	roof
A	brick	thatch
B	concrete blocks	iron sheets
C	earth	wood
D	wood	slates

Which would be the best combination of building materials to give walls resistance to high winds and to keep the house cool in hot weather?

2. (a) It is important for farmers to harvest crops at the correct time.
- Name a crop and state how a farmer recognises that this crop is ready to be harvested.
 - State how a farmer could harvest the crop named in (a)(i).
 - State how the crop named in (a)(i) should be stored after harvesting.
- (b) Describe two ways crops can be damaged during storage.
- (c) Which kind of pest are grasshoppers, locusts, termites, leaf miners and beetles?
- biting and chewing
 - piercing and sucking
 - root borers
 - stem borers
3. Pests can be controlled using systemic pesticides.
- (a) Explain how a systemic pesticide controls crop pests.

The diagram shows some instructions for the use of a pesticide.

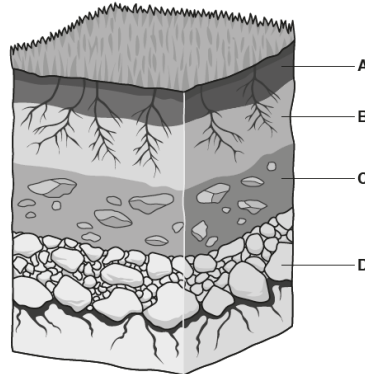


Kills All		
pesticide	high-volume spraying	low-volume spraying
dilution rate	pesticide : water 1 : 29	pesticide : water 1 : 49
diluted application rate	200 litres per hectare	200 litres per hectare

- (b) Calculate the volume of undiluted pesticide needed to spray one hectare at low volume. Include a unit in your answer.
- Show your working.

- (c) Describe precautions which should be taken to prevent damage to the environment when spraying pesticide.

4. The diagram shows a soil profile.



- (a) Select one letter from the diagram that represents each of the following.
- (i) underlying material
 - (ii) the labelled layer with most organic matter
- (b) State two living things found in layer A of a soil profile.
- (d) Describe how soil is formed during the process of biological weathering.

5. (a) State what is meant by the term sexual reproduction.
- (b) State three differences between the structures of bean and maize flowers.
- (c) The following are stages of sexual reproduction in plants.

- A fertilisation occurs
- B pollen lands on the stigma
- C pollen tube enters ovary
- D pollen tube grows through style

Using the letters A, B, C and D put these stages in the correct order.

- (d) Describe the process of fertilisation in a plant.
- (e) Some flowers are able to self-pollinate.
Suggest why it is still important that insects, such as bees, pollinate flowers.

Section B

6. (a) Explain what is meant by pollination.
- (b) Compare the characteristics of wind-pollinated flowers with those of insect-pollinated flowers.
- (c) Describe the steps involved in propagating plants asexually by stem cuttings in the sweet potato.
7. For a named farm animal (not poultry):
- (a) draw a labelled diagram to show the structure of the female reproductive system .
- (b) discuss the advantages of using Artificial Insemination (AI) compared with the natural service of the female animal.
8. (a) Describe what is meant by the term genetically modified (GM) crop.
- (b) Describe the advantages and disadvantages of genetically modified crops.
- (c) Explain how selective breeding can improve crop varieties.