

Oxygen and carbon dioxide

During respiration, animals take in oxygen from the atmosphere. Green plants give out oxygen during photosynthesis. In this way, plants provide animals with oxygen. Animals give out carbon dioxide during respiration; plants use the carbon dioxide to make food during photosynthesis.

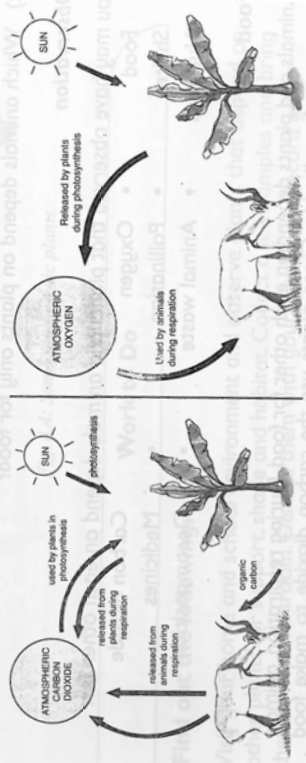


Fig. 4.6 : Plants and animals depend on each other for oxygen and carbon dioxide

(KLB; Primary Science Pupils' Book for Standard Seven P.48)

Decomposition

Decomposition is the process of breaking down decaying matter from dead plants and animals. This process releases nutrients. The nutrients contain minerals that make the soil fertile for plants. Small animals called bacteria help in this process of decomposition.

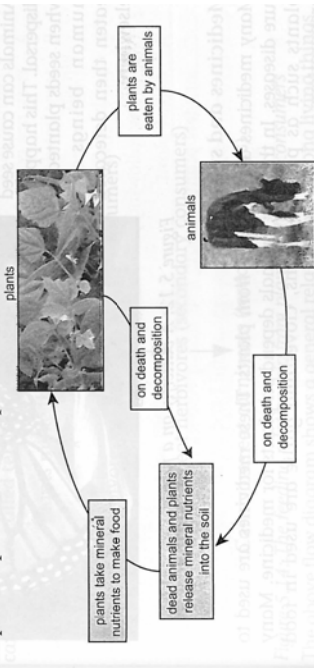


Figure 5.10: Interdependence among plants and animals on decomposition

(Oxford; Science in Action 7 P.41)

Pollination

Pollination

Many plants depend on animals for pollination. Insects such as bees and butterflies pollinate flowers as they move from one flower to another. Birds such as the sunbird also pollinate flowers.



(Longhorn; Understanding Science, Pupil's Book 7 P. 28)

Which animals do you notice visiting the flowers? Write their names in your exercise book.



Figure 4.11 Animals help in the pollination of plants by transferring pollen on their bodies

(Macmillan; Macmillan Primary Science, Pupil's book 7 P.45)

Shelter

Shelter

Some animals depend upon plants for shelter against rain and hot sun. Other animals such as birds, insects and monkeys make their homes on trees.



Fig. 4.8: Birds make their nests on trees; monkeys live on trees

(KLB; Primary Science Pupils' Book for Standard Seven P.49)

Furniture and building materials



People use trees as a source of fuel, either as charcoal or firewood. Trees are used as timber for building houses and making furniture.

Figure 5.13: Plants used for fuel and furniture

(Oxford: Science in Action 7 P.43)

Medicines and spices

Herbs have been used as medicine since ancient times. Different plants are used as herbal medicine by different communities for different illnesses. Table 2 lists some of these plants and the illnesses they are said to assist in healing.

Table 2: Some plants and illness they are said to assist in healing

Plant	Good for . . .
garcic (kitungu saumu)	intestinal parasites, ulcers, stomach ache, coughing and high blood pressure
ginger (tangawizi)	stomach ailments, sore throat, vomiting
dloe vera	stomach ulcers, toothache, joint pains, skin diseases, diabetes
pumpkin (seeds)	intestinal worms
sunflower (seeds)	helps digestion and joints
tomato	helps to control vomiting
stinging nettle	reduces fever and joint pains
wheat	body and joint pains, stomach problems and common cold
cabbage	stomach ulcers, common cold
carrot	stomach ulcers, intestinal worms
neem tree	is said to treat over 40 different diseases, among which are stomach ulcers, malaria, fever, etc.

(Macmillan: Macmillan Primary Science, Pupit's book 7 P.44)

Food chain

The dependence of animals on plants and other animals for their food can be shown as a food chain. For example, gazelles eat grass while lions eat gazelles. This can be written as a food chain:

grass → gazelle → lion

The arrows represent 'is eaten by'. Another example is:

grass → locust → lizard → hawk

In this food chain the locust eats the grass, the lizard eats the locust and the hawk eats the lizard. These food chains are illustrated in Figure 4.13.

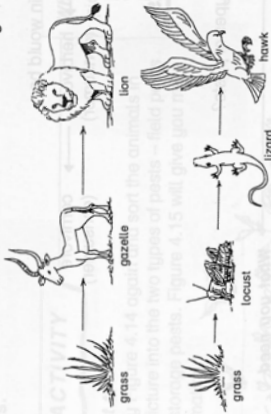


Figure 4.13 Examples of food chains

(Macmillan: Macmillan Primary Science, Pupit's book 7 P.47)

Crop Pests

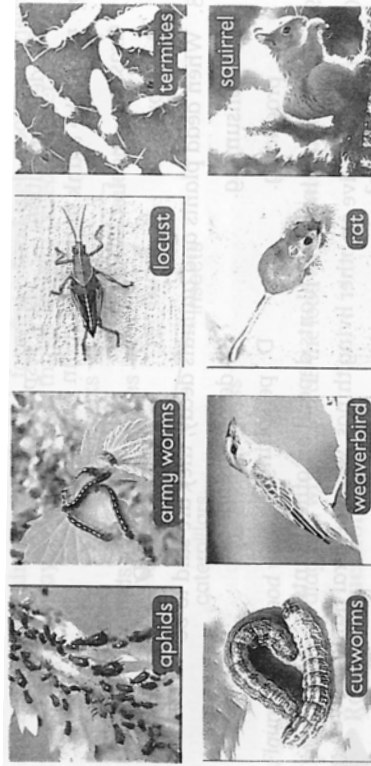






Figure 6.1: Examples of crop pests

(Oxford: Science in Action 7 P.46)

The table below shows some crop pests, crop attacked and part of crop

Pest	Crop attacked	Part of crop attacked
	Vegetables, beans, sorghum, carrots, peas, citrus fruits.	Suck plant sap on leaves and fruits. They leave brown marks on the leaves.
	Maize, beans, tomatoes, wheat, rice, cabbage etc.	They cut young stems at the ground level.
	Maize, sugarcane, sorghum	They make holes on stems.
	Maize, millet, rice, wheat, sorghum	They eat grains

(Longhorn; Understanding Science, Pupil's Book 7 P.32)

The table below shows some field pests, the crops they attack and the parts of the plant they attack.

Pests	Examples of crops attacked	Part of plant attacked
Aphids	Tobacco, beans, sorghum, groundnuts, peas, carrots, cabbages, citrus fruits.	Suck plant sap on leaves and fruits. They leave brown patches on the leaves.
Army worms	Grass, sorghum, wheat, rice, maize, millet, beans.	They eat the leaves.
Stalkborer	Maize, sugarcane, sorghum.	They make holes in the stems.
Cutworms	Maize, wheat, rice, cabbages.	They eat the stems at the ground level.
Locusts	Almost all plants.	They eat every available leaf.
Quelia, weaverbird, Termites	Cereals such as maize, wheat, sorghum, rice and millet. Maize, millet, sorghum, beans, wheat, rice.	They eat the grains. They eat all parts of the crop plants.

(Oxford; Science in Action 7 P.47)

Control of crop pests

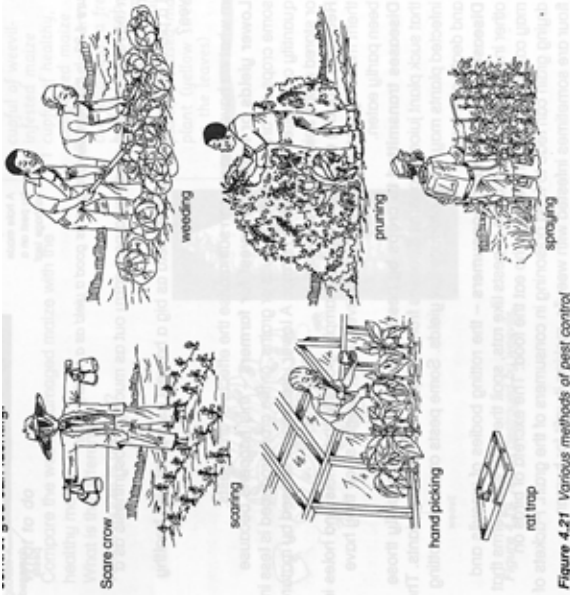


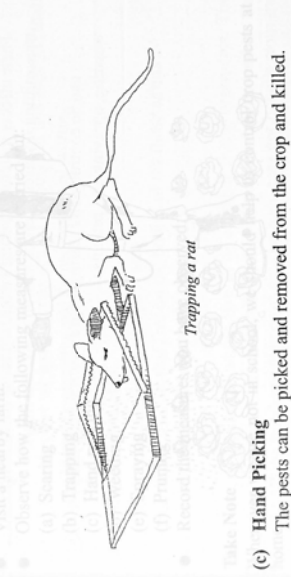
Figure 4.21 Various methods of pest control

(Macmillan; Macmillan Primary Science, Pupil's book 7 P.54)

(b) Trapping

Some pests like moles and rats can be trapped using special traps. The trap is placed in the path of the pest with a bait. As the animal comes for the bait it is caught.

How are rats and moles trapped in your area?

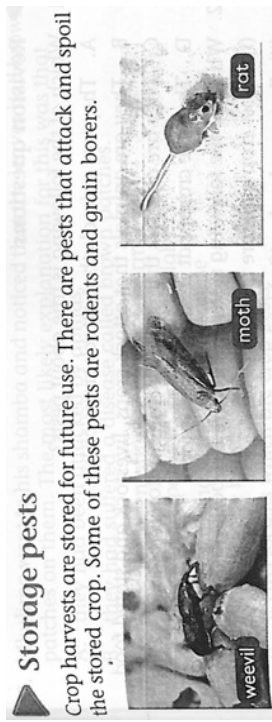


(c) Hand Picking

The pests can be picked and removed from the crop and killed.

(JKF; Primary Science Education Foundation Science 7 P.43)

Storage Pests



(Oxford; Science in Action 7 P.49)

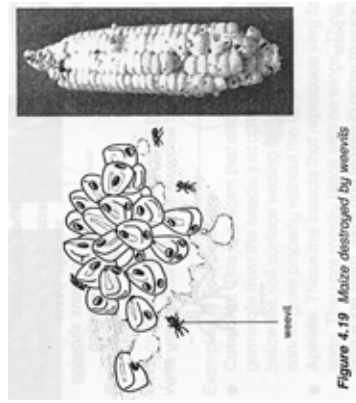


Figure 4.19 Maize destroyed by weevils

(Macmillan; Macmillan Primary Science, Pupil's book 7 P.52)

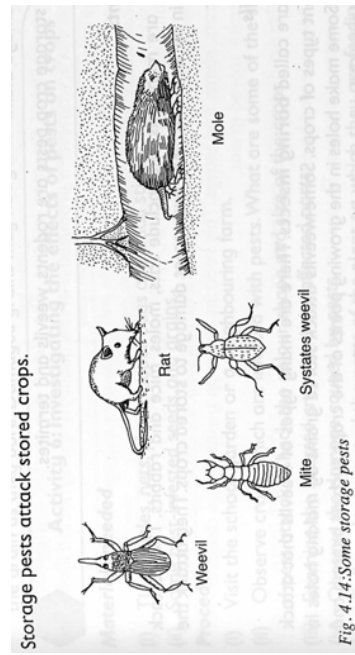


Fig. 4.14: Some storage pests

(KLB; Primary Science Pupils' Book for Standard Seven P.57)

Effects of external livestock parasites
The table below shows examples of external livestock parasites, the animals they attack and their effects on livestock.

Parasites	Animals attacked	Effects on the animals
Ticks	Cattle, sheep, goats, horses, camels, pigs and donkeys.	<ul style="list-style-type: none"> • Cause loss of blood • Irritate the skin. • Damage the skin and hides. • Transmit diseases such as East Coast Fever.
Fleas	Poultry, rabbits, pigs, cows, goats, sheep.	<ul style="list-style-type: none"> • Irritate the skin. • Make the host weak.
Lice	Sheep, goats, horses, cattle, pigs, poultry.	<ul style="list-style-type: none"> • Irritate the skin. • Cause loss of blood.
Mites	Cattle, sheep, goats, poultry, donkeys, horses.	<ul style="list-style-type: none"> • Damage skins and hides. • Cause discomfort to the animals. • Cause sores on the skin. • Damage wool on sheep. • Loss of weight.
Tsetse flies	Cattle, sheep, goats, donkeys, camels, horses.	<ul style="list-style-type: none"> • Cause loss of blood. • Irritate the animal. • Their bites are painful. • Transmit diseases such as trypanosomiasis.

(Oxford; Science in Action 7 P.53)