

Objective : Explain the role of decomposers

Resources :

Book pages 188,189

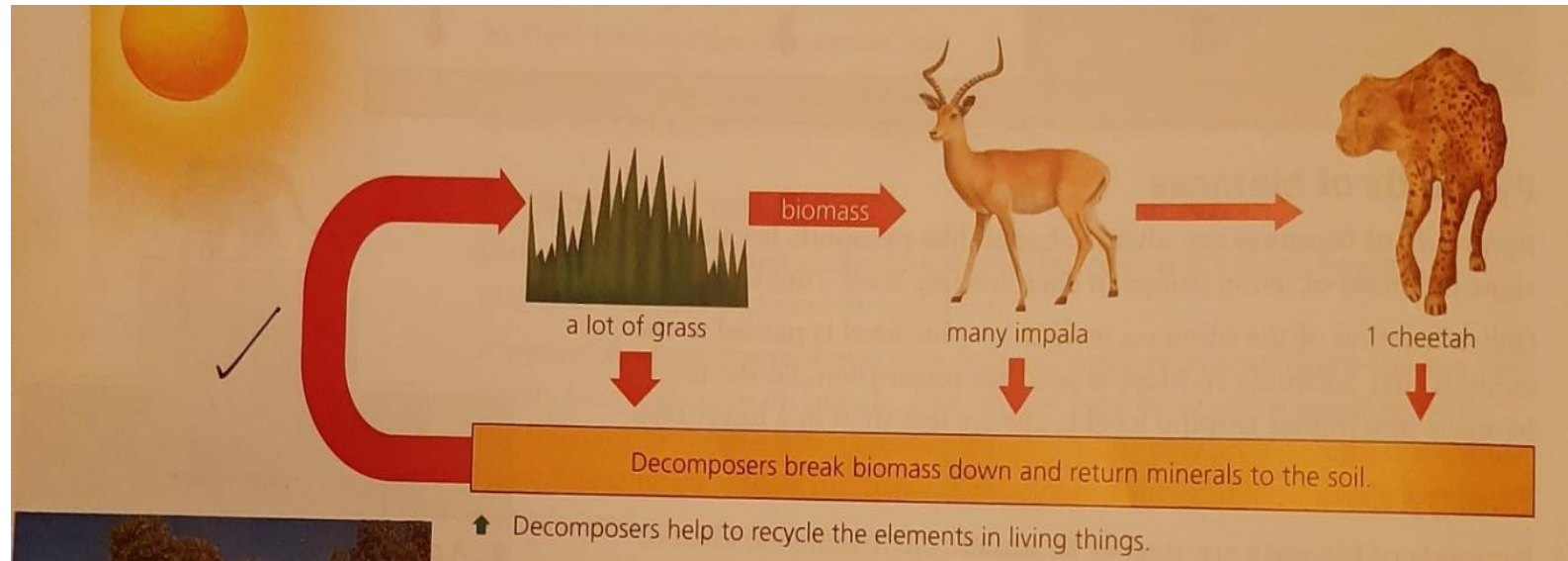
Workbook page 81

Decomposers :

Decomposers break down animal waste and dead plants and animals , these decomposers include fungi, bacteria and invertebrates such as worms ,slugs and snails.

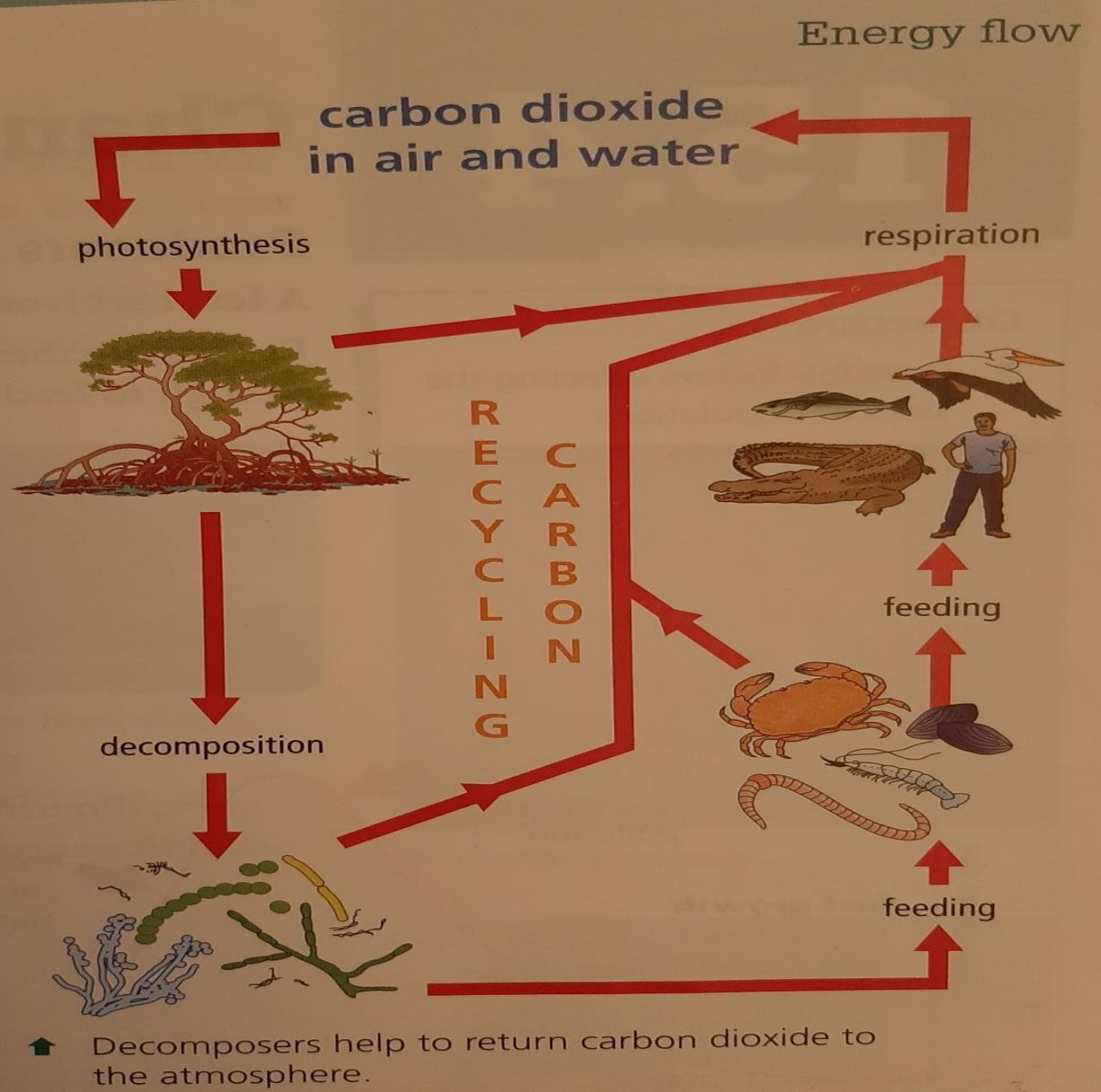
As they break down the waste , **decomposers return minerals to the soil** . Then plants absorb the minerals and build new biomass .

So decomposers are recycles



For example : As the decomposers respire carbohydrates in a plant are broken down to carbon dioxide and water, so **CO₂** is added to the air .

When forests are cleared , decomposers break down the roots and branches left behind, so deforestation adds a massive amount of CO₂ to the atmosphere.



15.3

Decomposers

Objective

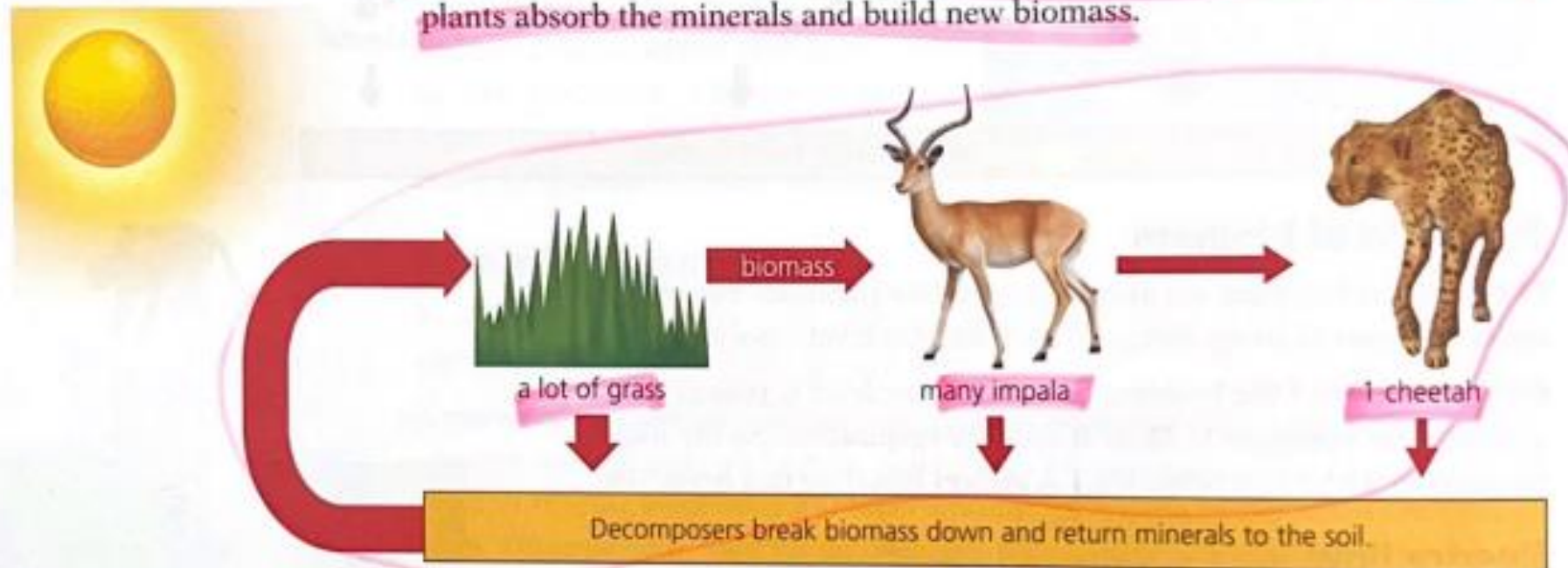
- Explain the role of decomposers

Recycling minerals

As energy flows along food chains, it gradually leaks away as waste heat. But the atoms in living things are constantly recycled.

Decomposers break down animal waste and dead plants and animals. These decomposers include fungi and bacteria (see page 31) and invertebrates such as worms, slugs, snails, and fly larvae.

As they break down the waste, decomposers return minerals to the soil. Then plants absorb the minerals and build new biomass.



↑ Decomposers help to recycle the elements in living things.

Recycling carbon

The food that plants make consists of carbon compounds. Some of these carbon compounds are used for respiration. Others are passed to the next link in the food chain.

Each consumer in turn uses some carbon compounds for respiration, and others are passed along the food chain. The respiration of all the organisms in the food chain returns carbon dioxide to air and to the oceans.

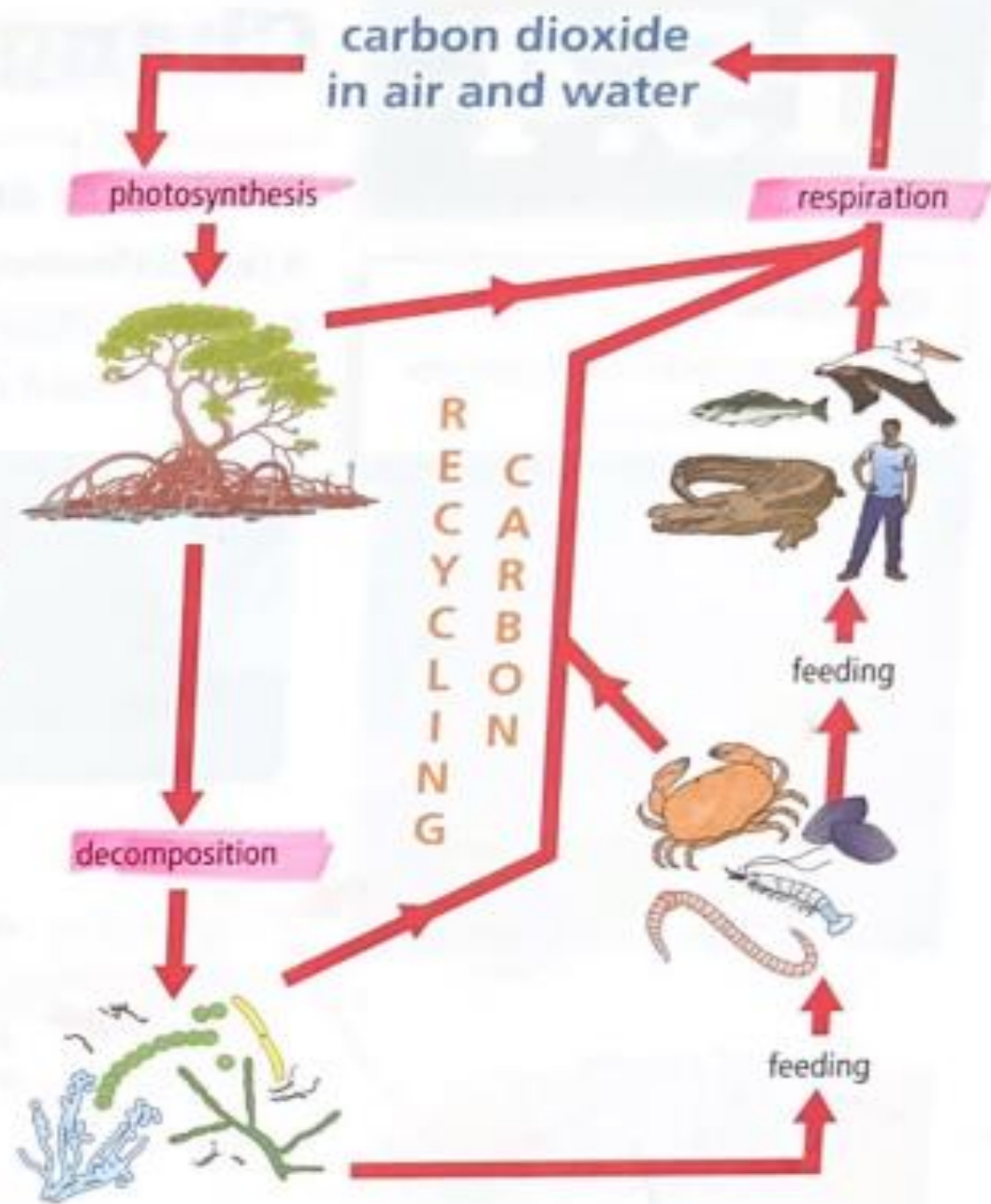
Dead plants and animals are broken down by decomposers. Decomposers also respire so they also return carbon dioxide to the air.

When forests are cleared, decomposers break down the roots and branches left behind. So deforestation adds a massive amount of carbon dioxide to the atmosphere.

The importance of minerals

Mangrove forests provide building materials, fuel, medicines, and food, and the waters around them are rich fishing grounds. They produce new biomass as fast as tropical rainforests, but why are they so productive?

Plants need light, water, carbon dioxide, minerals, and a suitable temperature. If any of these is in short supply, photosynthesis slows down.



↑ Decomposers help to return carbon dioxide to the atmosphere.

Questions 1,6 page 189

- 1 Name two sorts of decomposer.
- 2 Most of the food chains in the mangroves depend on decomposers. Explain why.
- 3 Why are mangrove forests important to local people?
- 4 Why are mangrove forests important to the Earth as a whole?
- 5 Decomposers break down carbon compounds in rotting leaves. Suggest two ways the carbon in these leaves could get back into the air.
- 6 Explain why life on Earth couldn't continue if there were no decomposers.
- 7 **Extension:** explain why phytoplankton grow faster in shallow coastal waters than they do in the middle of the ocean.

Answers questions 1,2,6

Q1. Any two from: fungi and bacteria; invertebrates such as worms, slugs, snails, and fly larvae.

Q6. 1. Decomposers are recycles

2. They clean the environment from dead plants and animals and their wastes .

Workbook page 81 question 1

1 Fill the gaps in the following paragraph with words from the box below.

On land most plants are eaten by In mangrove forests, most plant material feeds decomposers. Decomposers break down organic waste to release Organic waste is made by things. It includes dead plants and and waste products like Decomposition is important because it returns to the soil. Most decomposers are fungi or

faeces

minerals

living

herbivores

bacteria

animals

energy

The missing words are: herbivores, energy, living, animals, faeces, minerals, bacteria

Changing populations:

- ❖ The population of an animal species might suddenly increase if they move into a new environment, where there is plenty of food and no predators.
- ❖ Three things that could reduce the population of an animal species **are lack of food, disease, or pollution (or predators).**