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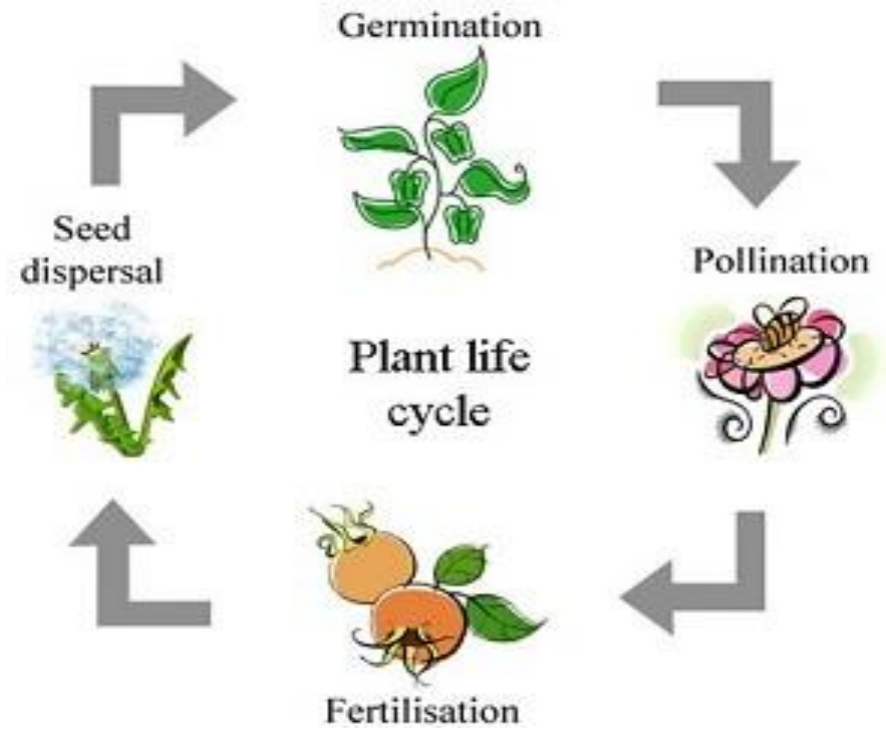
SEED DISPERSAL AND GERMINATION



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Objective : Describe the process of seed dispersal and germination in flowering plants

Resources : book page 168 – 169 /workbook page 73

Seed dispersal

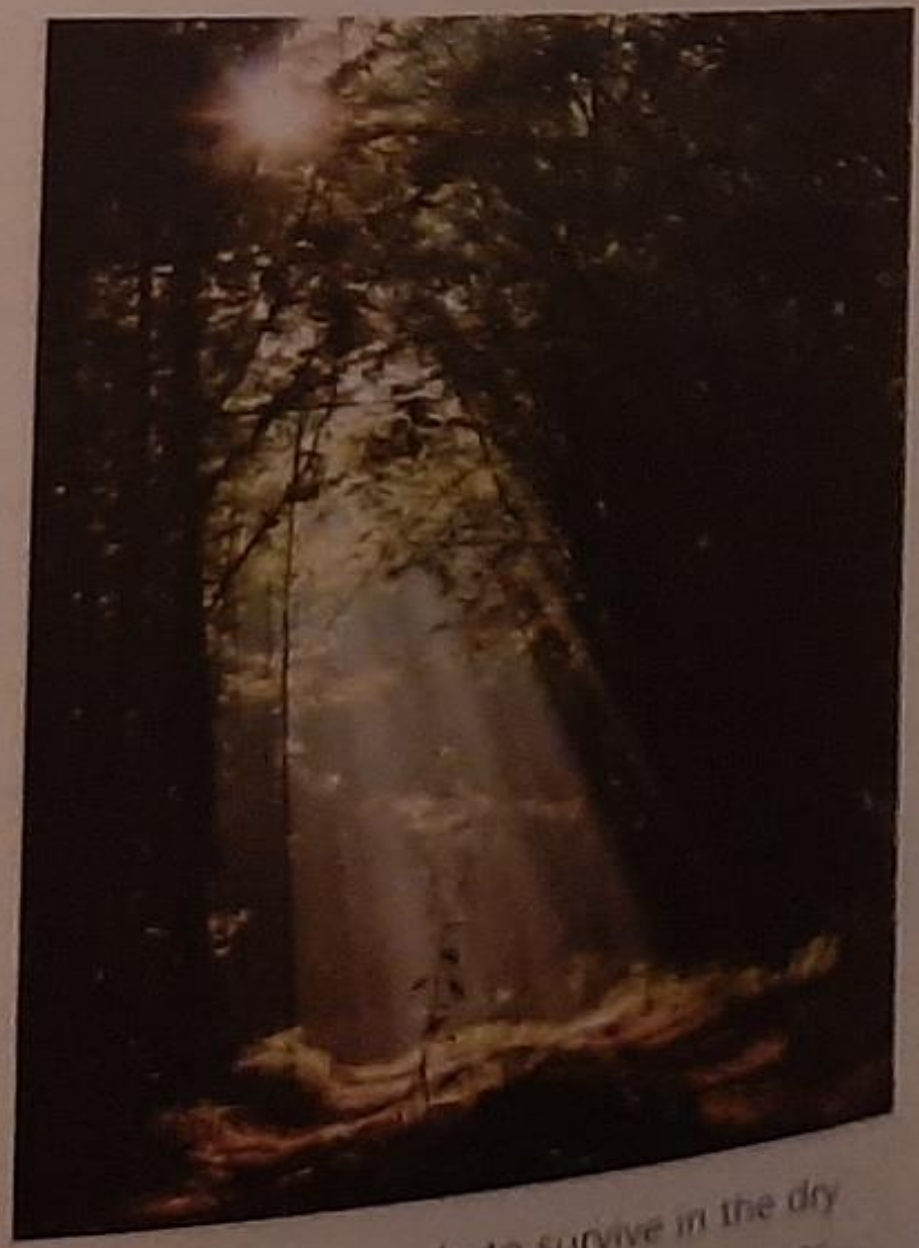
- Seed dispersal helps to reduce competition between plants of the same species
- Seeds can be spread by exploding seed pods , wind , water , or animals.
- Some animals deliberately collect seeds and nuts .
- Others carry sticky fruits and seeds accidentally .
- Many plants rely on their fruits being eaten and their seeds deposited elsewhere.

Seed dispersal

read.

Seedlings would struggle to grow in the space between these tree trunks. There is too much competition for light and water. Older trees block off most of the light and extract nearly all the water from the soil. Any seedlings that germinated here would not survive for long. To increase their chance of survival, they need to get a long way from their parents.

Spreading seeds away from the parent plants is called **seed dispersal**. Some plants rely on the wind, or water, to carry the seeds away. Some use animals. Others simply shoot their seeds into the air.



Seedlings struggle to survive in the dry soil and dim light between these trees

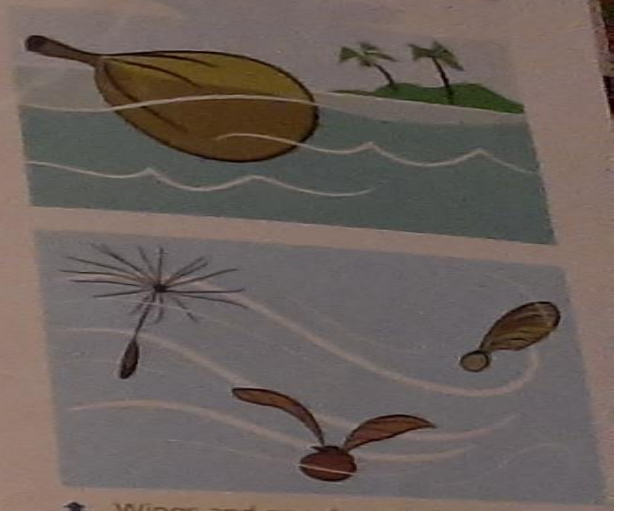
Exploding pods, wind, and water

Pea seeds are produced in dry fruits called pods. When the seeds are ripe, the pods burst and peas scatter in every direction.

Coconut palms and mangrove trees grow near water. Their fruits float. When they roll into the sea they can be carried across oceans.

When pods explode, seeds can be thrown long distances

Seeds dispersed by the wind are small and light. Some have wings. Others have feathery parachutes. They are usually produced in very large numbers.



Wings and parachutes keep seeds in the air longer so they can travel further

Using animals to spread seeds

Some fruits stick to animals' feet. Others have hooks. They stick to animals' fur. Fruits like these can be carried a long way before they rub off.

Many insects and small animals collect seeds and nuts. They hide them for later. The ones they forget about can germinate in their hiding places.

Other seeds attract animals by producing sweet juicy fruits. When the animals eat the fruits, any large seeds are thrown away. Smaller seeds can pass through animals' digestive systems without being damaged. They are carried wherever the animal goes and deposited in their faeces.

Most of the plants in tropical forests use animals to spread their seeds – mainly birds, bats and monkeys.

Hooked fruits are carried accidently by nuts are deliberately collected

Q

1. What conditions are needed to make a seed germinate?
2. Explain why seedlings have a better chance of survival if they grow a long way from their parent plant.
3. Sketch fruits that could be carried by the wind, water, and animals. Label any useful characteristics they have.

- Seed dispersal helps to reduce competition betwee plants of the same species
- Seeds can be spread by exploding seed pods, wind, water, or animals.
- Some animals deliberately collect seeds and nuts.
- Others carry sticky fruits a seeds accidentally.
- Many plants rely on their fruits being eaten and the

6

Seed dispersal

persal in

Germination

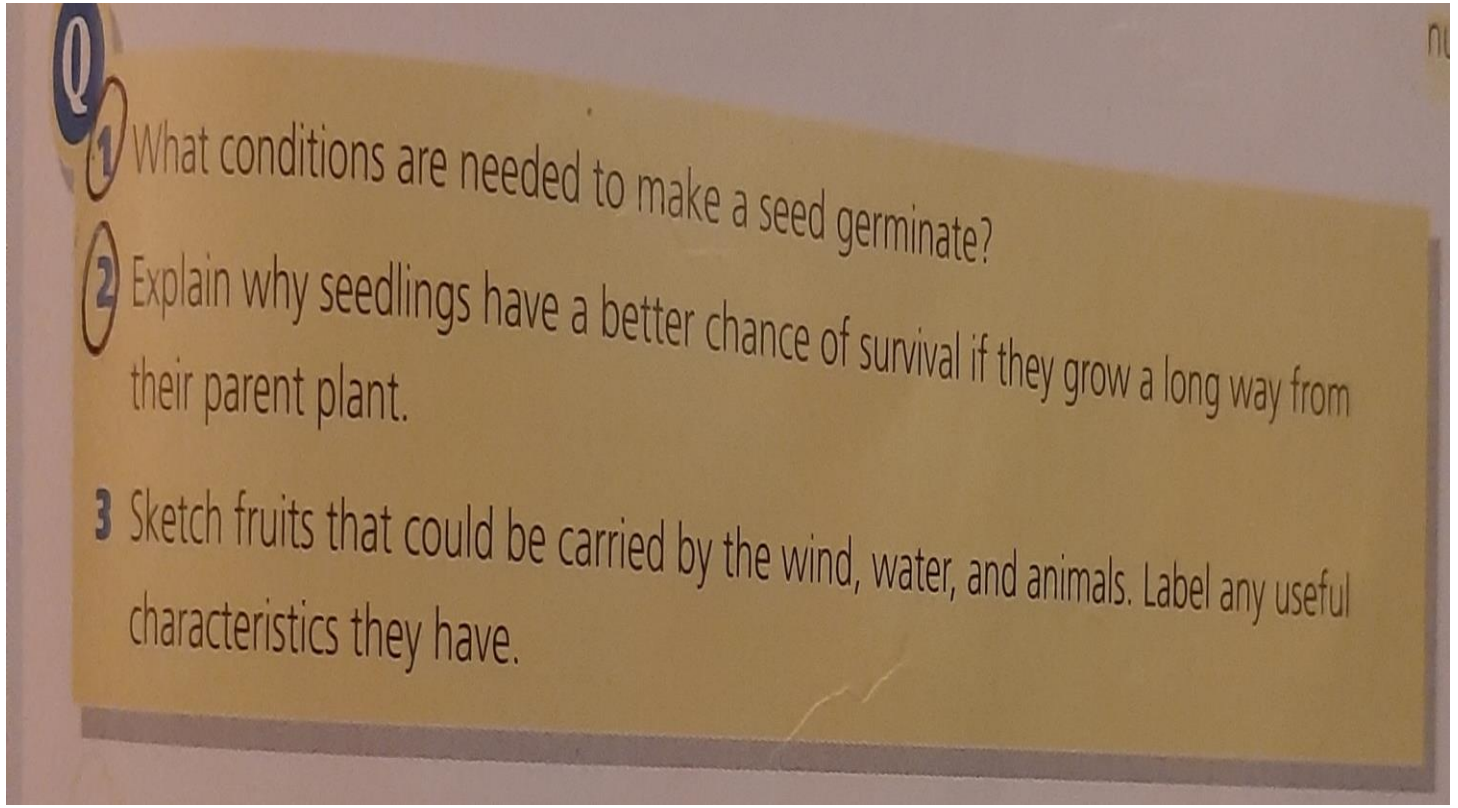
Cool, dry seeds can last for years. The embryos inside them are **dormant**. That means they are alive but not growing. They start to grow when they have water, a suitable temperature, and oxygen. This is **germination**. Some seeds also need light to germinate.

A seed germinates it starts to grow.

Questions 1,4 page 169

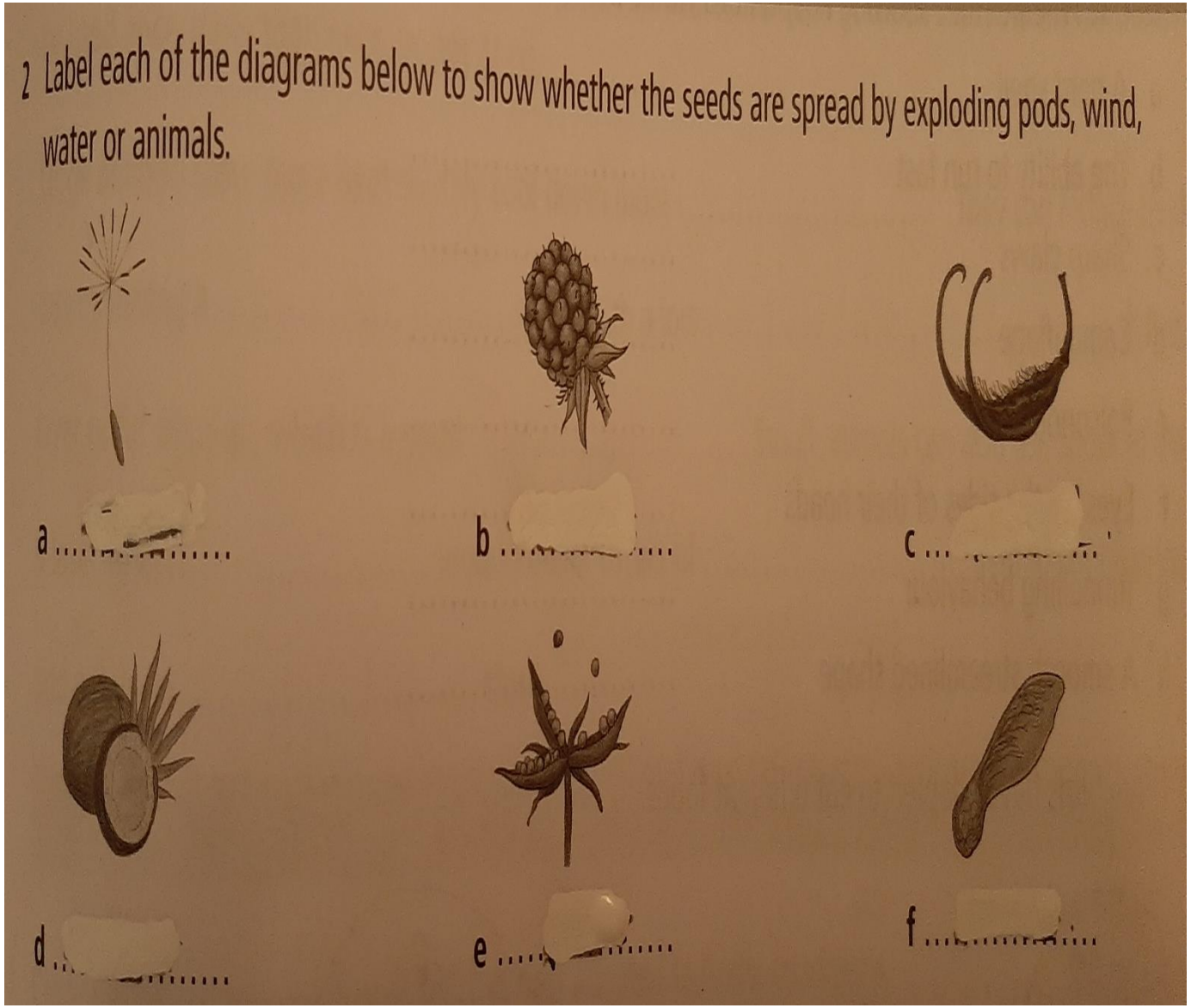
Q1. Water , temperature , oxygen

Q2. because this reduces competition for water , sunlight and nutrients between plants



Question 2 / workbook page 73

a. **Wind**
b. **Animal**
c. **Animal**
d. **Water**
e. **Exploding pods**
f. **Wind**



Review Question 8 page 171

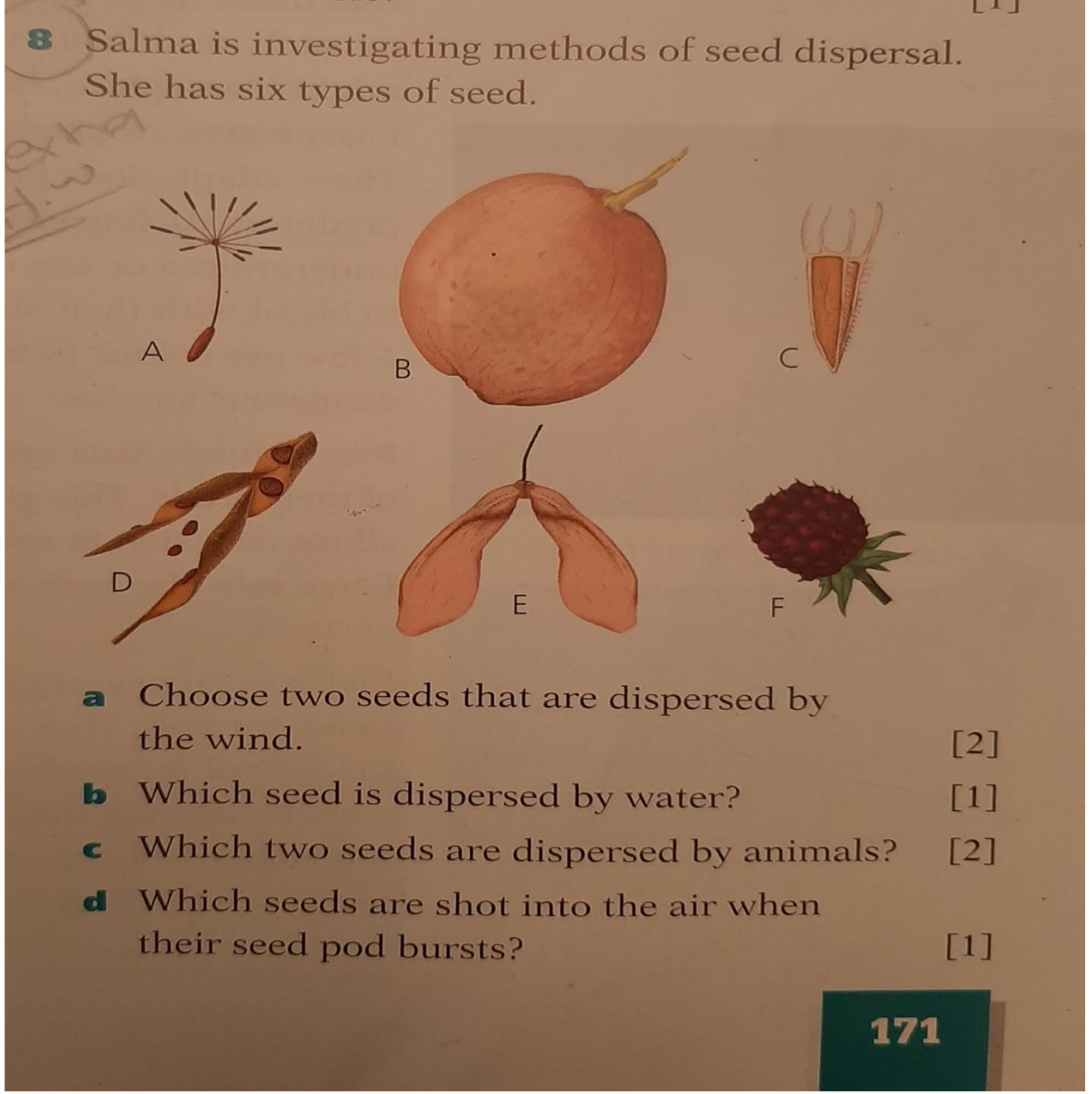
Q8.

a .A, E

b. B

c. C, F

d. D



8 Salma is investigating methods of seed dispersal. She has six types of seed.

A B C D E F

a Choose two seeds that are dispersed by the wind. [2]

b Which seed is dispersed by water? [1]

c Which two seeds are dispersed by animals? [2]

d Which seeds are shot into the air when their seed pod bursts? [1]

171

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Thank you

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