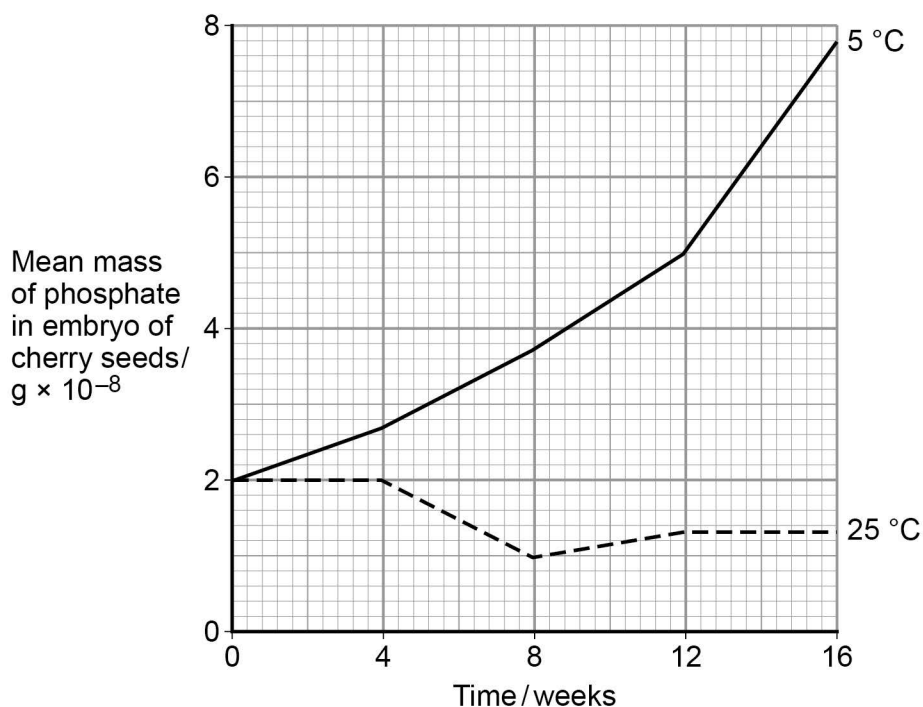


0 5

The seeds of some plant species require chilling (exposure to low temperatures) before the embryos they contain grow into plants. During chilling, storage molecules in the seed that contain phosphate are broken down and phosphates are transported to the embryo. Scientists investigated the change in the mass of phosphate in the embryos of cherry seeds exposed to two different temperatures for 16 weeks.

Figure 6 shows their results.

Figure 6



0 5 . 1

Phospholipids are one of the storage molecules found in cherry seeds.

Name the type of reaction used to break down phospholipids to release phosphate.

[1 mark]



0 5 . **2**

The scientists concluded that an increase in phosphate in the embryo was linked to growth of the embryo.

Suggest **two** reasons why an increase in phosphate can be linked to growth of the embryo.

[2 marks]

1 _____

2 _____

0 5 . **3**

Calculate the ratio of the mean mass of phosphate found at 5 °C to the mean mass of phosphate found at 25 °C after 9 weeks of chilling.

[1 mark]

Ratio = _____

Question 5 continues on the next page

