

Q2c(ii)

Mark scheme:

temperature (1) affects enzymes (1)  
or water / moisture (1) solvent / activates enzymes / dissolve chemicals / reactions (1)  
or oxygen (1) respiration (1)  
or (sun)light (1) phytochrome (1)  
or pH (1) affects enzymes (1)

1 temperature

2 ~~de disease~~ disease light intensity.

1 water because the plants would not  
be dehydrated

2 Sunlight because because they could produce starch

1 Oxygen level, which is needed for seeds to carry out respiration to release  
energy.

2 Water, which is needed for chemical reactions in seed to activate and break  
down insoluble food to soluble.

### Q9d

Mark scheme:

An explanation that makes reference to the following points:

- control (1)
- carbon dioxide not absorbed / plant has carbon dioxide / CO<sub>2</sub> in bell jar / carbon dioxide needed for photosynthesis / show bell jar allows photosynthesis / bell jar allows starch production (1)

The leave will turn blue black because the plant can carry out photosynthesis to make food, so there will be starch in the leaves. Carbon dioxide is present so plant can undergo photosynthesis. This can be act as a control and allow comparison which increase the reliability of results. This can prove the result is valid.

It replicates replicates the conditions in the atmosphere, while limiting the amount of carbon dioxide. This acts as a control so the student can compare the results.

This improves the student's investigation because water does not take in carbon dioxide, so the plants can photosynthesis. This shows the plants can not photosynthesis because of the potassium hydroxide take away the carbon dioxide not due to the bell jar.