

Name _____ Class _____ Date _____

Your teacher may watch to see if you can:

- measure volumes using a measuring cylinder
- use chemicals safely.

Aim

To find out if plants respire.


Introduction

When organisms respire, they make a gas called carbon dioxide. If this gas is mixed with a chemical called limewater, it makes the limewater go 'milky'. So, if seeds respire, then they will make some limewater go milky.

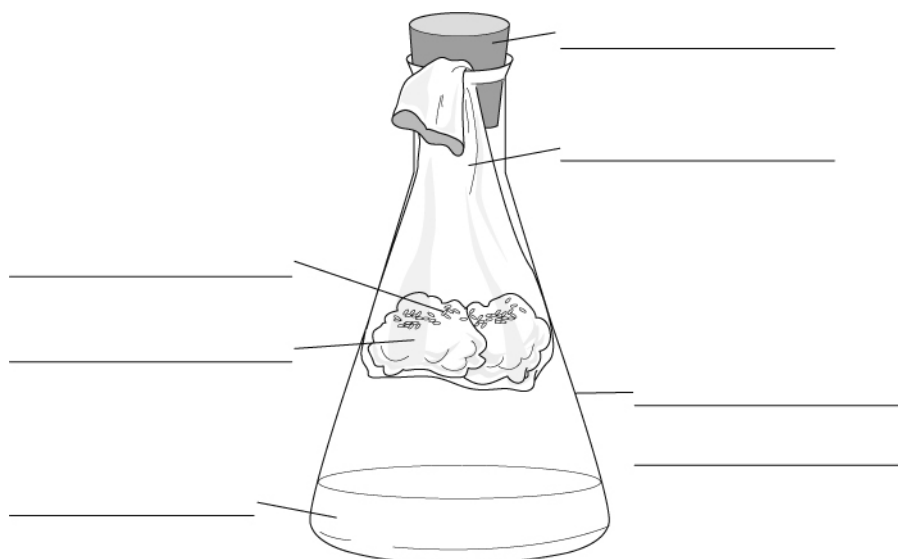
Method

Apparatus

- | | | |
|------------------|-----------------|----------------------|
| • bung | • conical flask | • cotton wool |
| • eye protection | • limewater | • measuring cylinder |
| • muslin bag | • seeds | |

 Take care with limewater. It can irritate your skin and eyes. Wear eye protection.

- A** Measure out 25 cm³ of limewater. Pour this into the conical flask.
- B** Place some damp cotton wool inside the muslin bag. Then place your seeds on top of the cotton wool.
- C** Lower the bag into the conical flask and put the bung in the flask. This will hold the bag in place, above the limewater, as shown in the diagram.
- D** Wash your hands.



E L3 Label the diagram and complete the sentences on the next page.

You may find these words helpful:

bung	carbon dioxide	conical flask	cotton wool	excreted	grow
limewater	measuring cylinder	muslin bag	respiration	seeds	

I measured out the limewater using a _____ . The seedlings will start to _____ from the _____. They will also release energy using _____. The waste gas produced by this process is _____ . Since this gas is a waste material it is _____. We will detect the presence of this gas using _____ .

Recording your results

1 **L3** After _____ days, the limewater _____

Considering your results/Conclusion

2 **L4** Tick *two* boxes.

- | | |
|--|---|
| <input type="checkbox"/> The limewater went milky. | <input type="checkbox"/> The limewater stayed clear. |
| <input type="checkbox"/> This is evidence that plants respire. | <input type="checkbox"/> This is evidence that plants do not respire. |

I can...

- use evidence to draw a conclusion.