

# Extended Homework Task

## Biology B9 - Respiration

### Aiming for Grade 6

Name .....

**Please hand in a completed printed version at the end of the topic**

The online text book access to support this homework can be accessed through your Kerboodle account at [www.kerboodle.com](http://www.kerboodle.com).

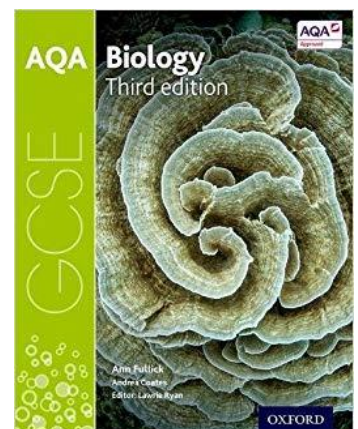
The username is your first initial and surname (no gap).

If you have not accessed the book before the password will be the same as your username. If you have logged on before you will have changed the password to your own choice.

Click onto the science 9-1 tile and then onto the digital book.

**Resources to support this homework can be found in the online student book**

- Respiration pages 134-143



# B9 Respiration – Aiming for Grade 6

## Aims

The aim of this homework is to help you revise the main topics in Chapter B9.

## Learning outcomes

After completing this homework, you should be able to:

- State the word equations for aerobic and anaerobic respiration.
- State the symbol equation for aerobic respiration.
- Describe the effects of exercise on respiration.
- Describe the uses of energy released from respiration.
- State the differences between aerobic and anaerobic respiration.

## Task

**Question 1** You will be explaining and drawing conclusions based on a number of examples of respiration.

**Question 2** You will be completing a mind map on the topics of aerobic and anaerobic respiration.

## Questions:

1 Observe the video clips or diagrams of experiments.. Answer the following questions.

**Task 1:** Breathe on the cold mirrors. Describe and explain what happens.

Breathe on the cold mirrors. – (Breathing on cold mirror –

<https://www.youtube.com/watch?v=Y0nCzFUegl8>)

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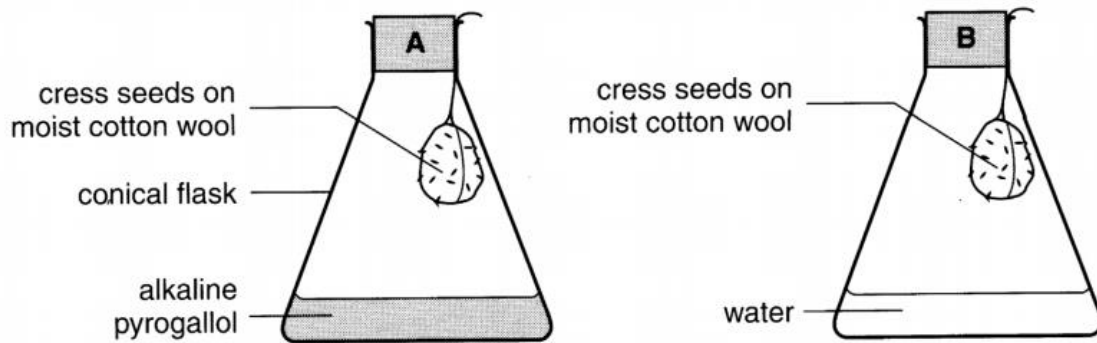
**Task 2:** Watch this clip - Breathing into limewater

<https://www.youtube.com/watch?v=xvQNaAFkE6c> (Science Experiment : **Carbon Dioxide and Limewater** Breath Test) Describe and explain what happens.

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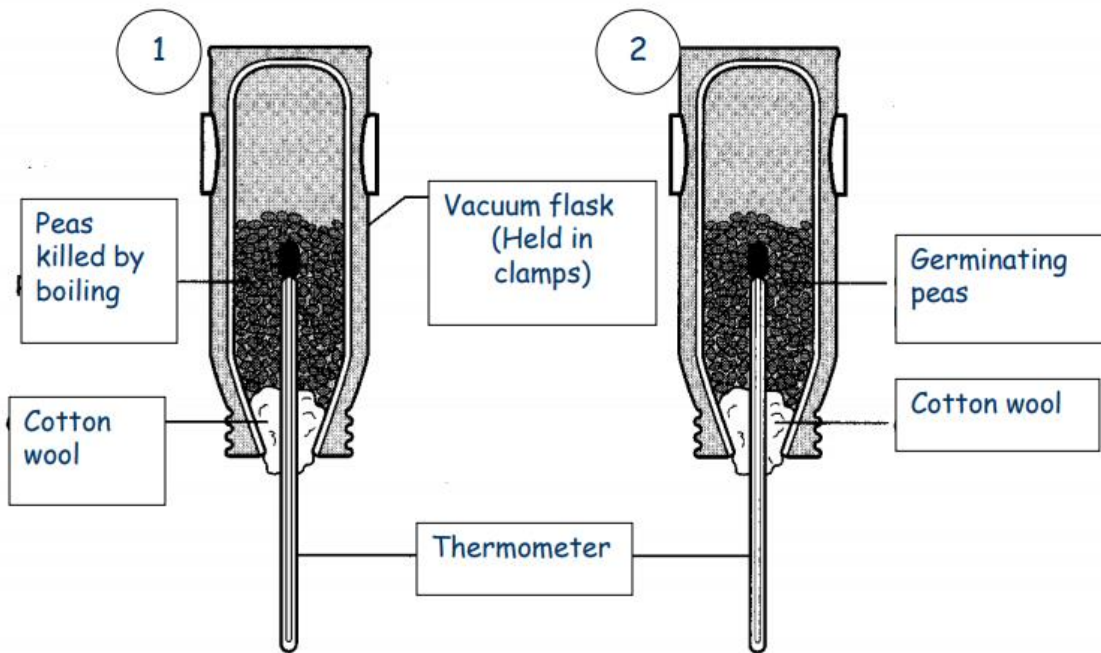
**Task 3:** Describe and explain the difference between the two flask. The cress seeds in flask A have not germinated, whilst the cress seeds in flask B have. (Hint: pyrogallol removes oxygen.)



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**Task 4:** Describe and explain the differences you might see between the two flasks.



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**Task 5:** Describe what is happening in this clip of respiring yeast. <https://www.youtube.com/watch?v=HFGJrOHvIb8> (Bread Rising Time Lapse — It's Alive!)

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## Question 2

Use your notes, the digital textbook and your own research to help you complete the revision sheet on aerobic and anaerobic respiration on the following page.

Aerobic respiration reactants:

Aerobic respiration products:

Exothermic/  
endothermic?

Aerobic respiration word and symbol equation:

Uses of energy:

Anaerobic respiration in animals  
reactant:

Anaerobic respiration in animals  
product:

Anaerobic respiration in animals equation:

Anaerobic respiration in yeast  
reactant:

Anaerobic respiration in yeast p:

Anaerobic respiration in yeast equation:

Where in the cell  
does respiration  
happen?

Describe changes to the body during exercise:

What is oxygen  
debt?

Write down differences between aerobic and anaerobic respiration: