

# Respiration Past Exam Questions

What is respiration?

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Summarise the differences between aerobic and anaerobic respiration.

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State 2 ways the energy produced in respiration is used by the body.

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Where in a cell does stage 1 of respiration occur? \_\_\_\_\_

What is stage 1 called \_\_\_\_\_

What is formed at the end of stage 1?

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What is the cytosol? \_\_\_\_\_

Where does stage 2 occur?

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Compare the energy amounts produced in stage 1 and stage 2.

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Compare the oxygen requirements for stage 1 and stage 2.

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In the second stage pyruvate (pyruvic acid) is broken down into  $\text{CO}_2$  and what other 2-carbon?

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The Acetyl group (Acetyl co-A) enters a series of reactions called what?

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What is released during krebs cycle? \_\_\_\_\_

Where in the cell does krebs cycle occur \_\_\_\_\_

Where in the mitochondria does krebs cycle occur? \_\_\_\_\_

Draw a labelled diagram of a mitochondria and indicate on the diagram where krebs cycle and the electron transport system are located.

Name a substance produced in aerobic respiration that is not produced in fermentation by yeast.

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What word is used to describe respiration when only stage 1 occurs?

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When would the human body be unable to engage in stage 2 of respiration?

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Name an end product of anaerobic respiration in animal muscle cells \_\_\_\_\_

When this substance builds up in the blood the person is said to be in oxygen debt. How can this debt be paid?

\_\_\_\_\_

Name the chemical end products of anaerobic respiration in yeast cells

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Name 2 other groups of organisms that can respire anaerobically\_\_\_\_\_

Describe with the aid of a diagram how to keep yeast cells under anaerobic conditions in the laboratory to allow them to produce alcohol.

Is this process affected by temperature? \_\_\_\_\_

Why is the process affected by temperature?

\_\_\_\_\_

What temperature should the water bath be kept at? \_\_\_\_\_

Why should the water used in the flask be boiled and cooled first?

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Name 2 different methods you could use to keep out air from the flask

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Describe a control you would use in this experiment.

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What is the purpose of the control?\_\_\_\_\_

Name a carbohydrate that you would supply to yeast as an energy source

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What chemical is used to detect alcohol? \_\_\_\_\_

What is the initial colour and final colour of the alcohol test? \_\_\_\_\_

How did you know that fermentation of the sugar by yeast had stopped?

\_\_\_\_\_

Why did fermentation cease? (stop) \_\_\_\_\_

What role does NAD play in respiration?

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What molecule accepts the electrons that pass along an electron chain in stage 2 of respiration?

\_\_\_\_\_

Energy is released as electrons pass along the transport chain. To what use is this energy put?

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Draw a diagram of the ATP cycle

What does ATP stand for? \_\_\_\_\_

Write the chemical equation for aerobic respiration

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Write a word equation for aerobic respiration by yeast.

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What is fermentation?

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Give an industrial application of fermentation by yeast.

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