PHYSICS PAPER 1 REVISION

Wednesday, November 24, 2021

DO NOW-IN SILENCE – Retention quiz

Physics paper 1 equations

1. Write an equation that links kinetic energy, mass and velocity.
2. Write an equation that links gravitational potential energy, gravitational field strength and height.
3. Write an equation that links power, work done and time.
4. Write an equation that links power, energy and time
5. Write an equation that links efficiency, total power in and useful power out.
6. Write an equation that links charge current and time.
7. Write an equation that links potential difference, current and resistance.
8. Write an equation that links power, current and potential difference.
9. 8. Write an equation that links energy, charge and potential difference.
10. Write an equation that links power, current and resistance.
11. Write an equation that links density, mass and volume

Do Now

Explanation and or modelling

Questioning

Deliberate Practice

Feedback

Anwers

Wednesday, November 24, 2021

DO NOW-IN SILENCE – Retention quiz

Do Now

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$E_k = \frac{1}{2} \times m \times v^2$

$E_p = m \times g \times h$

$P = W/t$

$P = E/t$

Efficiency = useful power out / Total power in

$Q = It$

$V = IR$

$P = IV$

$E = QV$

$P = I^2R$

$p = m/v$

Practice

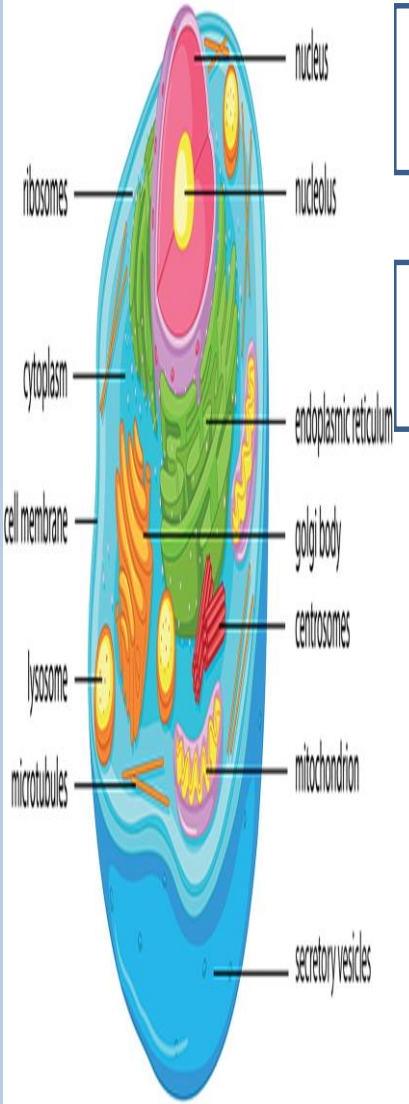
Feedback

BIOLOGY PAPER 1 REVISION

Do Now – Cell Biology

Wednesday, November 24, 2021

1. Define a prokaryotic cell.
2. Define a eukaryotic cell.
3. State the function of the mitochondria, ribosomes, chloroplasts and permanent vacuole.
4. State one feature of the sperm cells, root hair cells and xylem cells
5. State one advantage of therapeutic cloning.
5. Describe the stages of the cell cycle.
6. Compare an electron microscope and a light microscope.
7. Explain mitosis.
8. What are stem cells and why are they important?
9. What three factors affect the rate of diffusion?
10. Define osmosis.
11. Define active transport.



Do Now

Explanation and or modelling

Making sense and Questioning

Deliberate Practice

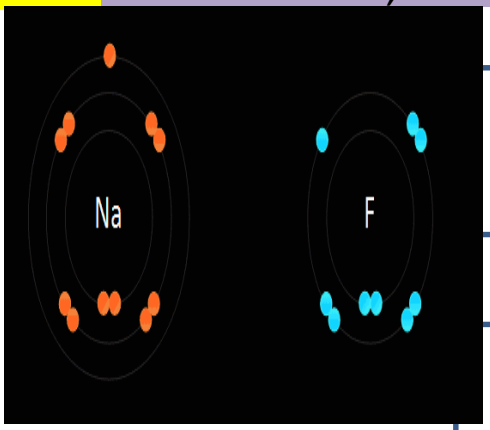
Feedback

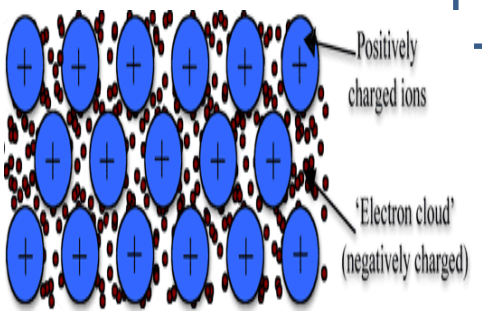
CHEMISTRY PAPER 1 REVISION

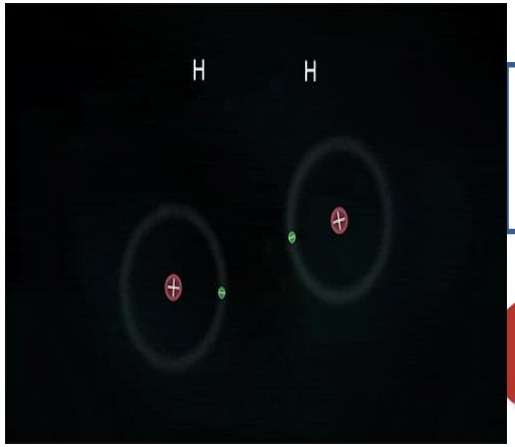
Do now- Bonding, structure and the properties of matter

Wednesday, November 24, 2021

1. Name the three types of chemical bonds.
2. Describe the bond between sodium and chlorine.
3. Describe the bond between nitrogen and hydrogen.
4. State the three states of matter and describe what happens in melting, boiling and condensing.
5. What do the following state symbols mean (s), (l), (g) and (aq)?
6. Describe the properties of ionic compounds.
7. Describe the properties of small molecules.
8. Why are polymers solid at room temperature?
9. Why are alloys stronger then pure metals?
10. Describe the structure of diamond.
11. Describe the structure of graphite.
12. Why are fullerenes useful?







Do Now

Explanation and or modelling

Making sense and Questioning

Deliberate Practice

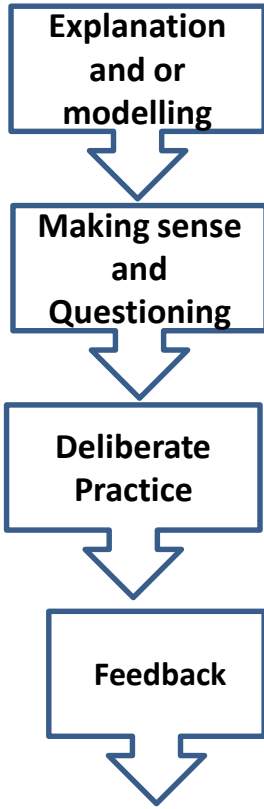
Feedback

Revision technique – 1

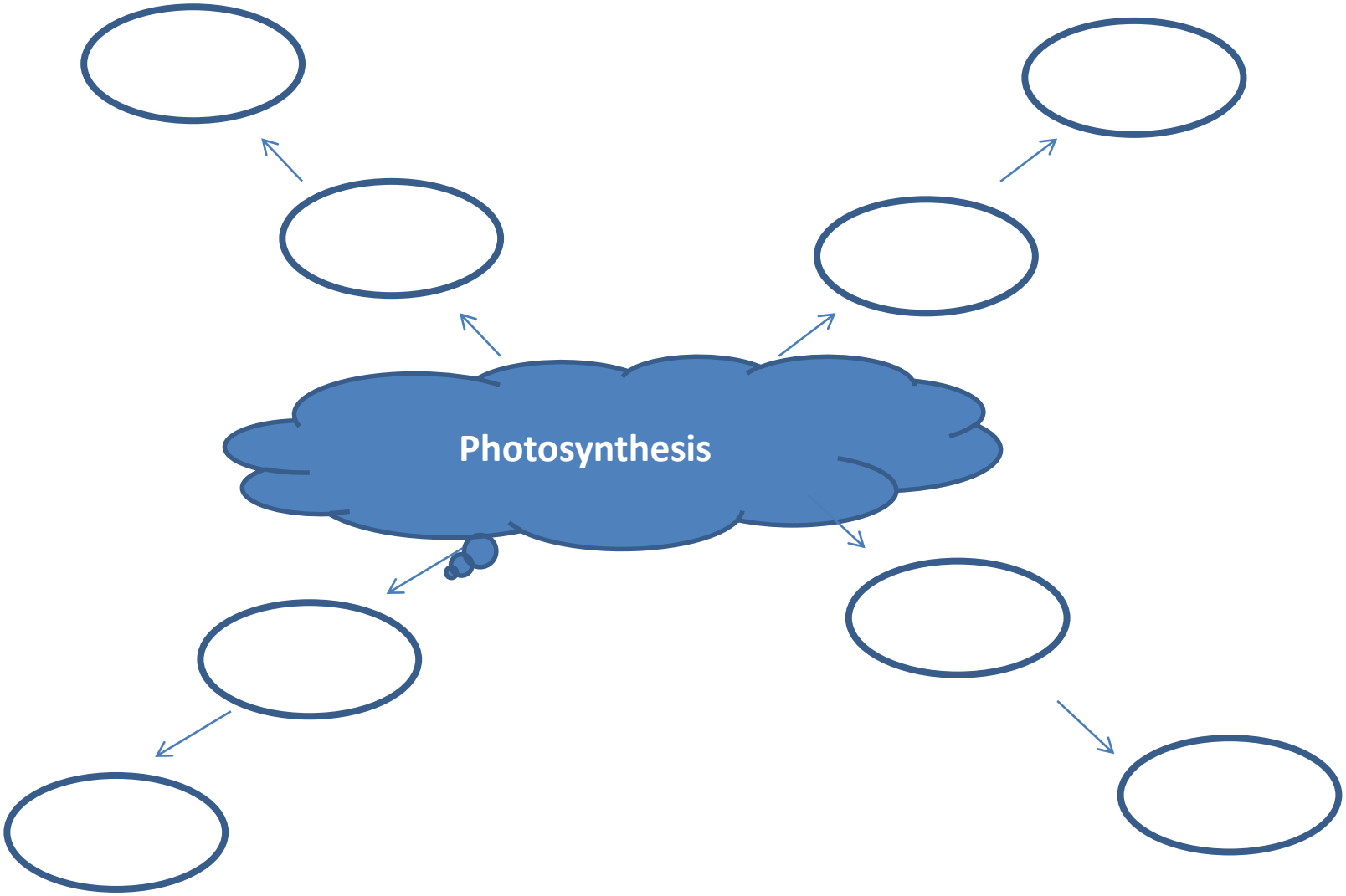
Do Now

Higher Thinking Mind Maps

- Brief information goes on the end of the linking lines
- Try and link more things together
- On the linking lines write how the 2 things are related



Higher Thinking Mind Maps



Limestone and its uses

Balancing Equations – There must be the same number of ATOMS of each type on each side of the chemical equation
e.g. $2Mg + O_2 \rightarrow 2MgO$

Mixture of powdered limestone, clay and other minerals are heated and then crushed

Cement mixed with sand and water

Concrete

Cement mixed with sand, water and crushed rocks. It is very strong.

Other metal carbonates get broken down (decompose) in a similar way e.g. Magnesium, Copper, Zinc and Sodium

Used as a façade for modern buildings

Cement

Mortar

Limestone can be used to make

Glass

Cement mixed with sand, limestone and sodium carbonate. It's weatherproof.

Calcium Carbonate

$CaCO_3$

When this is broken down by heating – thermal decomposition takes place

Calcium Oxide is produced (CaO)

This is also called **QUICKLIME**

This can be made in a rotary lime kiln

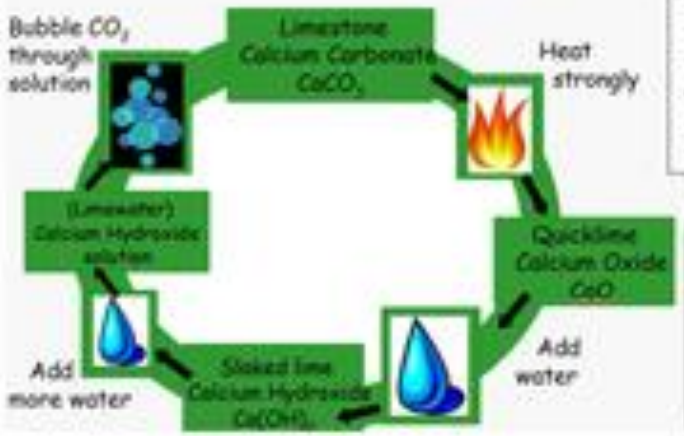
The Limestone cycle

Used for statues

Limestone Quarry

-Noisy
-unsightly
-Destruction of existing habitat
-Heavy lorries to transport product

-Limestone can be taken out and used to make cement, concrete etc.
-Jobs will become available.
-Economic stimulus for town e.g. more shops, more homes



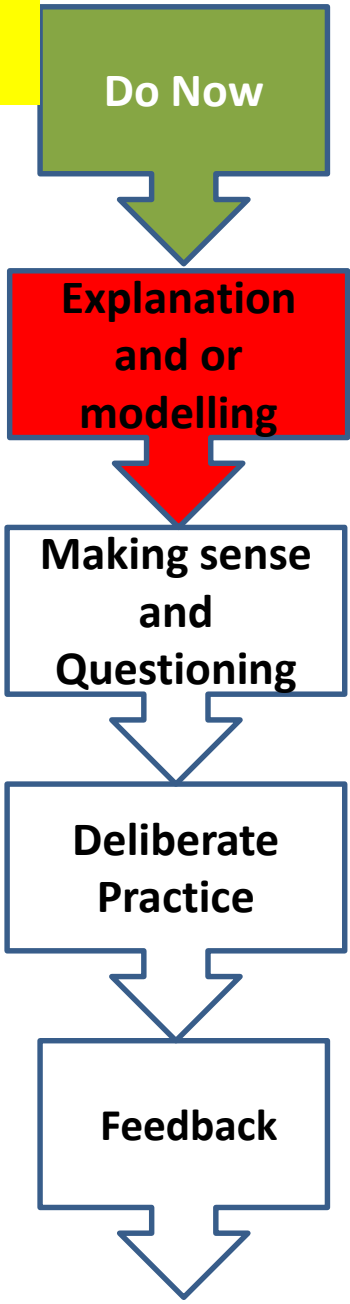
Chemical Equations:

$CaCO_3 \rightarrow CaO + CO_2$

$CaO + H_2O \rightarrow Ca(OH)_2$

$Ca(OH)_2 + CO_2 \rightarrow CaCO_3 + H_2O$

Make a mind-map about cells



Revision technique – 2

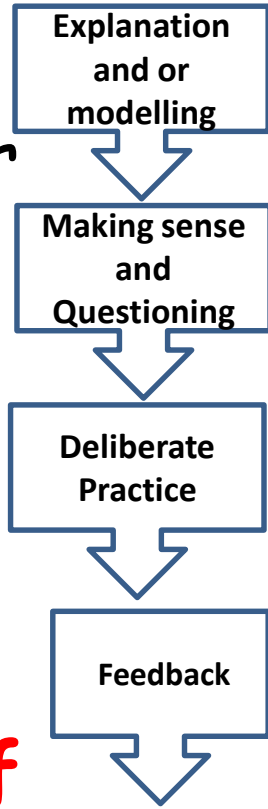
Do Now

Flash cards

Write a word or a question on one side

Write the description, definition or answer on the other

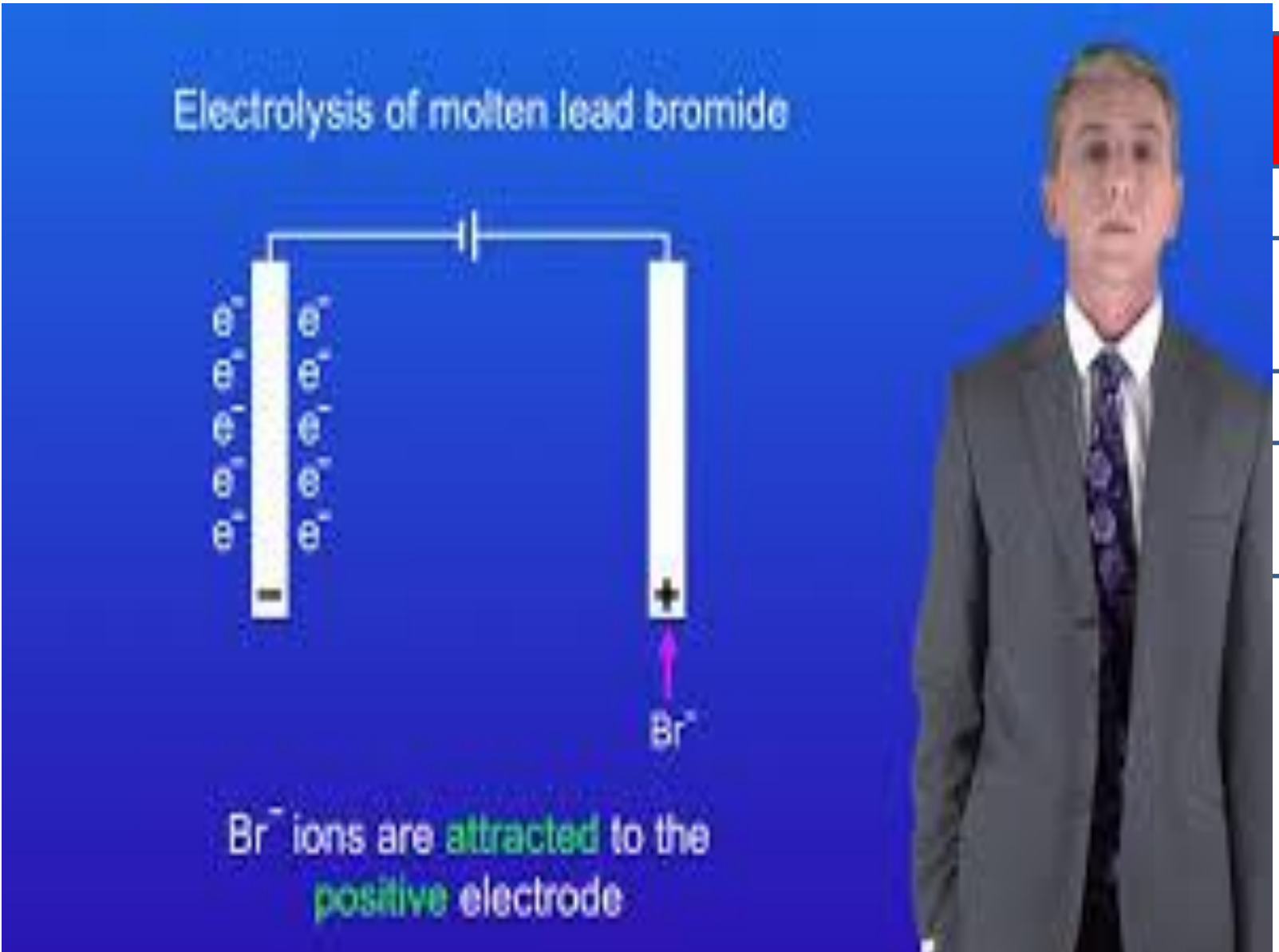
Use them to test yourself.



Make a flash card to summarise types of cells.

Use of videos

https://www.youtube.com/watch?v=gj1tu8bTKjI



Do Now

Explanation and or modelling

Making sense and Questioning

Deliberate Practice

Feedback

Remember the required practical

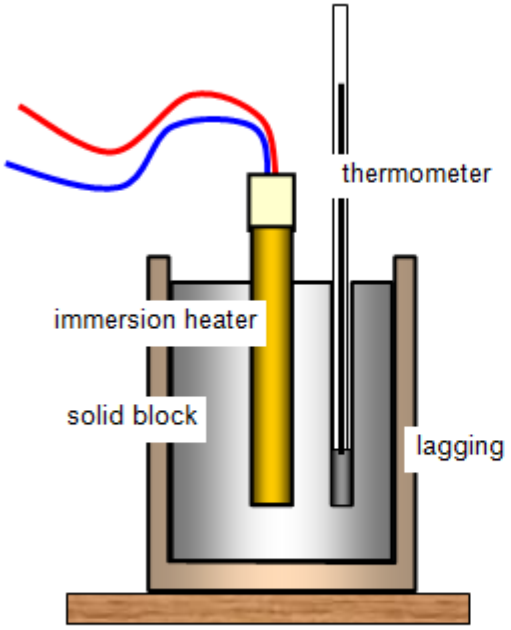


Figure 1(a)

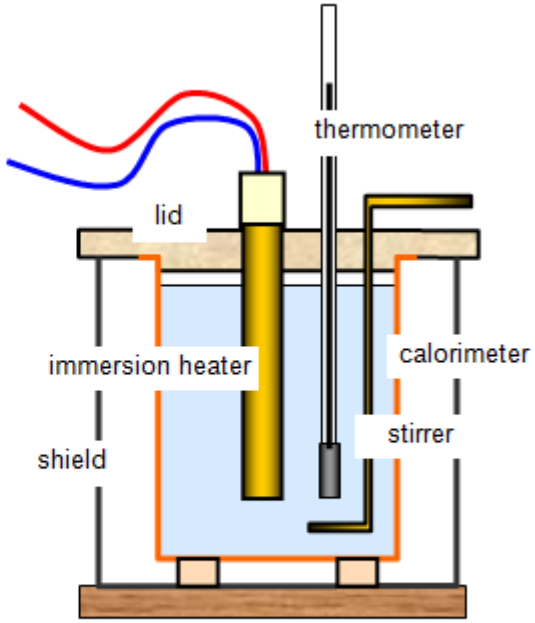


Figure 1(b)

Video 1

Video 2

Image from: http://www.schoolphysics.co.uk/age16-19/Thermal%20physics/Heat%20energy/text/Specific_heat_capacity_measurement/index.html

Deliberate practice

Do Now

Complete the exam question