



**Science Revised Syllabus
Junior Certificate
Higher Level**

**Past Exam Questions on
P Heat**

Q7 Part (d) 2013

- (d) Two identical beakers, one holding 50 cm^3 of water and the second holding 100 cm^3 of water, are at the same temperature of $80 \text{ }^\circ\text{C}$. Which contains the most heat energy? Give a reason.

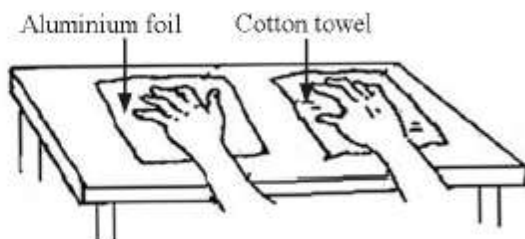
Which? _____

Reason _____

Q7 Part (e) 2013

- (e) The foil and the towel were both at a temperature of $10 \text{ }^\circ\text{C}$.
Why did the foil feel colder?

Why? _____



Q7 Part (e) 2012

- (e) The damage to the railway tracks shown in this image was caused by an environmental factor. Name the factor and explain how it caused the damage.

Name _____

Explain _____



Q7 Part (e) 2011

- (e) The photo shows a hot air balloon.
Why does the balloon rise when the air inside is heated?

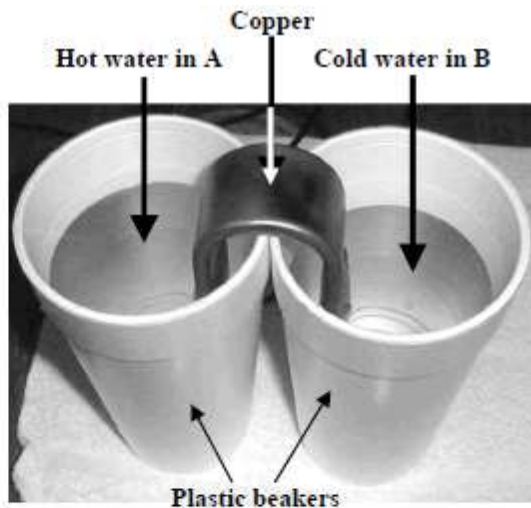
Why? _____



Q9 Part (b) 2011

- (b) The experiment shown in the photograph was set up by a student.

- (i) What changes take place to the water in the beakers A and B as time passes? (3)



- (ii) Explain why these changes occur. (6)

- (iii) What instrument would be used, in this experiment, to monitor the changes? (3)

- (iv) Name a material to replace copper in this experiment that will not allow these changes to occur. (3)

Q7 Part (f) 2010

(f) Give two *differences* between heat and temperature.

One _____

Two _____

Q8 Part (b) 2010

(b) The apparatus shown in the diagram was used to investigate the expansion and contraction of a gas.

(i) What is *observed* when the flask is heated? (3)

What? _____

(ii) Explain your *observation* when the flask is heated? (3)

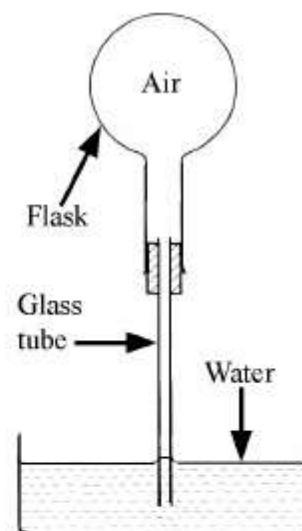
Explain _____

(iii) What is *observed* when the flask is allowed to *cool*? (3)

What? _____

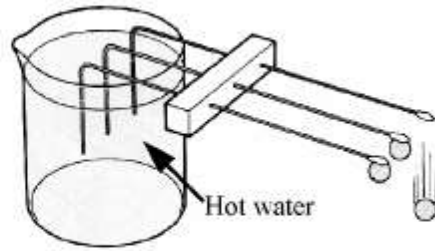
(iv) Explain what you *observe* as the flask *cools*. (3)

Explain _____



Q7 Part (b) 2009

- (b) Copper, aluminium and iron rods are set-up as shown in the diagram. A metal ball is attached by wax to the end of each rod. Hot water is poured into the beaker. The ball falls from the copper rod first. What *conclusion* can be drawn from this observation?



Conclusion _____

Q7 Part (f) 2007

- (f) Give two *differences* between heat and temperature.

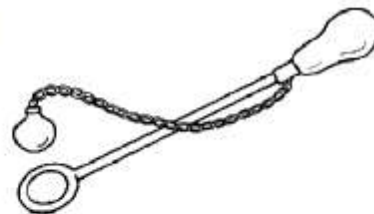
1 _____

2 _____

Q7 Part (a) 2007

- (a) The diagram shows a “ball and ring” apparatus. When the ball and ring are both cold the ball just passes through the ring.

How would you use this apparatus to show
(i) the *expansion* of a solid on heating
(ii) the *contraction* of a solid on cooling?

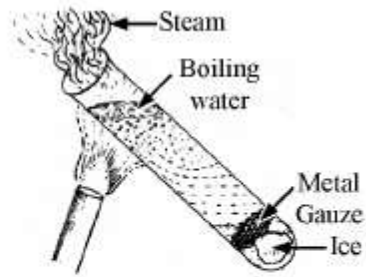


(i) _____

(ii) _____

Q7 Part (g) 2007

- (g) What does the experiment shown in the diagram tell us about the *transfer of heat energy* in water?



What? _____

If you wanted to warm all of the water why would the *bottom* of the test tube be the *best place to heat* with the Bunsen flame?

Why? _____

Q7 Part (g) 2006

- (g) Name the mode of *heat transfer* from the hot liquid, through the *spoon*, to the hand.

Name _____

Heat moves in liquids by convection. Give **one difference** between convection and the way heat moves along the spoon.

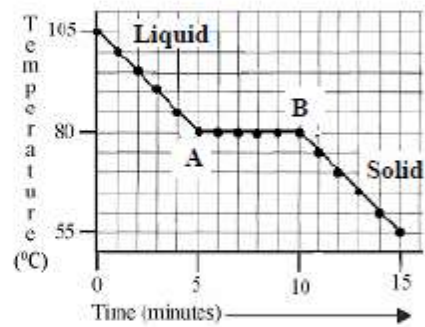


Difference _____

Q8 Part (c) 2006

- (c) The graph is a *cooling curve*. The substance used in this experiment was naphthalene. Naphthalene has a melting point of $80\text{ }^{\circ}\text{C}$. The rate of heat loss was constant throughout the experiment.

- (i) What is *happening* to the naphthalene between points A and B on the graph? (3)



- (ii) What is the *heat loss*, between points A and B, on the curve called? (3)
