01 The normal human body temperature is about 37 °C. A nurse measured the temperatures of five patients in a ward and recorded it in the table given below.

Patient	Temperature
P12	36.8 °C
P13	37.0 °C
P14	37.9 °C
P15	36.9 °C
P16	38.0 °C

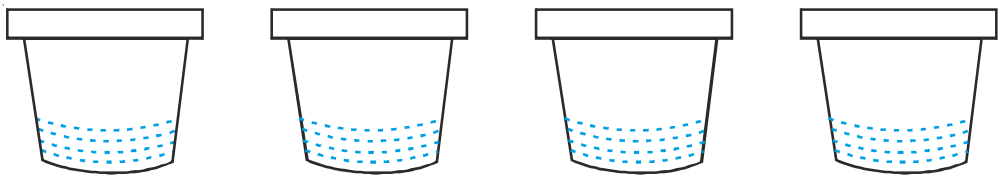
(a) Which of the patients do not have fever ?

(b) The nurse placed cooling pads on the foreheads of patients with fever. How does a cooling pad help to bring the fever down ?

(a) Patients P12, P13 and P15 do not have fever.

(b) Heat from the patient's body is transferred to the cooling pad. This helps to reduce the body temperature of the patient, hence bringing the fever down.

02 A boy poured an equal amount of boiling water into four cups made up of different materials as shown below and covered them.



Cup P Cup Q Cup R Cup S

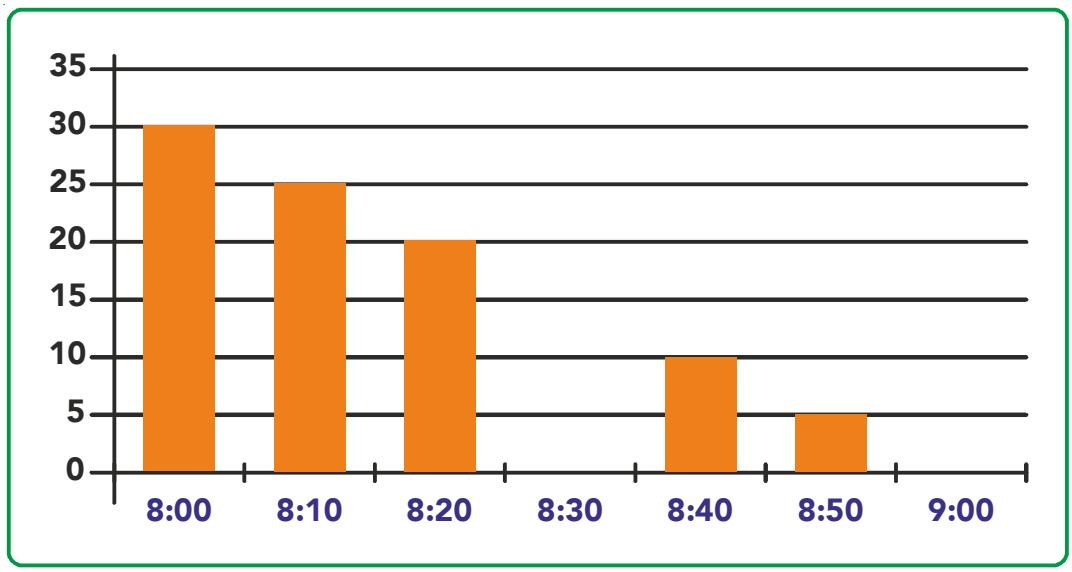
After five minutes, he measured the temperature of the water in each cup and recorded it in the table given below.

Cups	P	Q	R	S
Temperature	80 °C	82 °C	78 °C	85 °C

Which cup is made up of a material that is the best conductor of heat ?

Cup R is made up of a material that is the best conductor of heat as the temperature of the water in cup R is the lowest. The best conductor of heat will conduct heat away from the cup the fastest.

03 A girl cooled a beaker of water and measured its temperature every 10 minutes until it turned into ice. The graph given below shows her results. However, she forgot to record the temperature at 8:30 am.



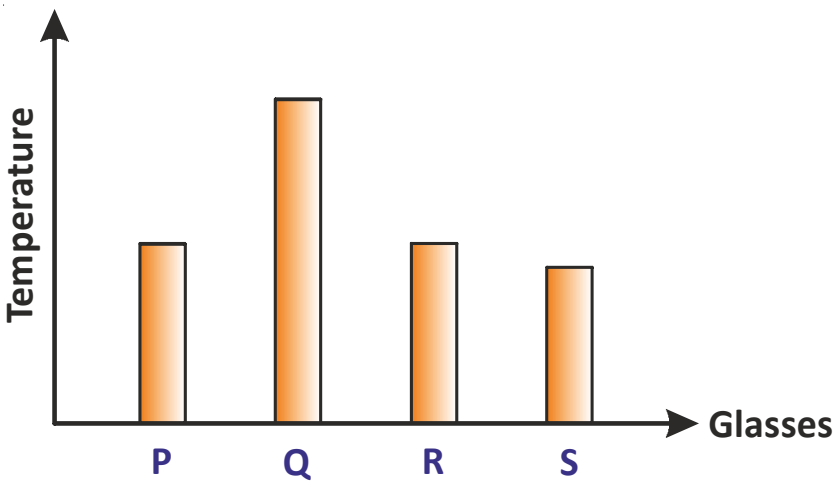
(a) From the given graph, what is the temperature of water at 8:30 am ?

(b) Explain your answer in (a).

(a) 15 °C

(b) The given graph shows that the temperature of the water is decreasing at a steady rate of 5°C every 10 minutes. Thus, we can conclude that the temperature at 8:30 am would be 15°C.

04 The graph given below shows the temperature of 100 ml of water in four similar glasses.



(a) Which of the glasses of water contains the most amount of heat ?

(b) Which two glasses of water contain the same amount of heat ?

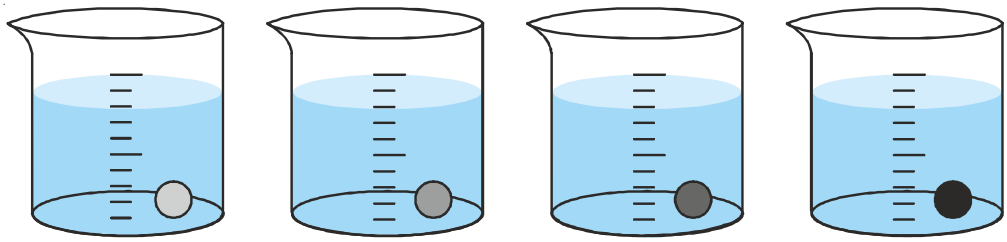
(c) If glass S had 80 ml of water instead of 100 ml of water at the same temperature, would it contain less heat or more heat ?

(a) Glass Q

(b) Glasses P and R

(c) Less heat

05 Four metal balls were put in four similar beakers with same amount of water at different temperatures are shown below.



W X Y Z

The table given below shows the temperature of the balls before and after they were put in the beakers of water.

Balls	Temperature (°C) (before)	Temperature (°C) (after)
W	55	40
X	30	30
Y	60	62
Z	70	75

(a) Which of the balls lost heat when placed in the beakers of water ?

(b) Which of the balls gained heat when placed in the beakers of water ?

(c) How much heat did ball X gain or lose in the beaker of water ?

(d) Explain your answer in (c).

(a) Ball W (b) Balls Y and Z

(c) Ball X did not gain or lose any heat.

(d) The temperature of ball X remained the same after it was placed in the beaker of water. Thus, it did not gain or lose any heat.