Energy

4. Heating and Cooling

CONCEPT 1

TEST YOURSELF

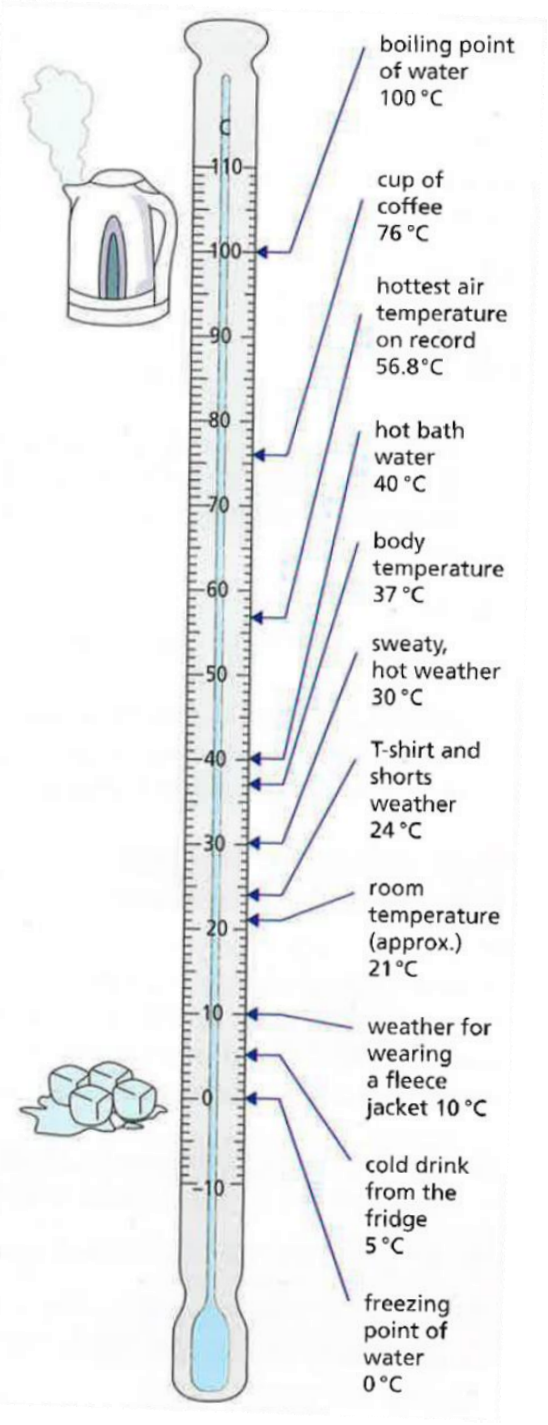
TEMPERATURE AND THERMAL ENERGY

KNOW

Q1 Put the following objects in order of temperature, with the hottest first.

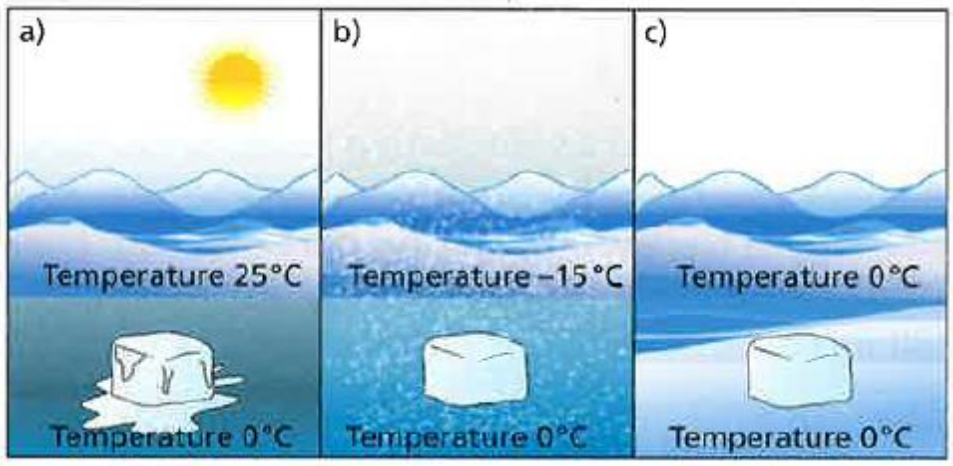
Q2 Using the temperature scale on the right, match up the objects and their corresponding temperatures in the table below.

Object	Temperature (°C)
1 body temperature	a) 20
2 hot bath water	b) 5
3 temperature of a hot sunny day	c) 57
4 highest air temperature recorded	d) 30
5 room temperature	e) 37
6 cold drink from the fridge	f) 40



APPLY

Q3 Look at the diagrams below and state the direction of energy transfer in each situation.



Q4 Put the diagrams in order of the quickest transfer energy to the slowest.
Explain your answer.

Q5 If you wanted to cool a container of water as quickly as possible, would you put it in a frisge or in a freezer?
Explain your answer.

EXTEND

Q6 Consider a cup of boiling water and an iceberg.

(a) Which would have the highest temperature?

(b) Which would have the most thermal energy?
Explain your answer.

Q7 Suggest another example of a situation in which energy flows from a hotter to a cooler object.