

### 3 Cooling system

**Start here** 1 Try this quiz. Choose the correct answer.

$^{\circ}\text{F} = ^{\circ}\text{C} \cdot 9 / 5 + 32$ .  
This converts Celsius to Fahrenheit.  
 $^{\circ}\text{C} = (^{\circ}\text{F} - 32) \cdot 5 / 9$ . This converts Fahrenheit to Celsius.

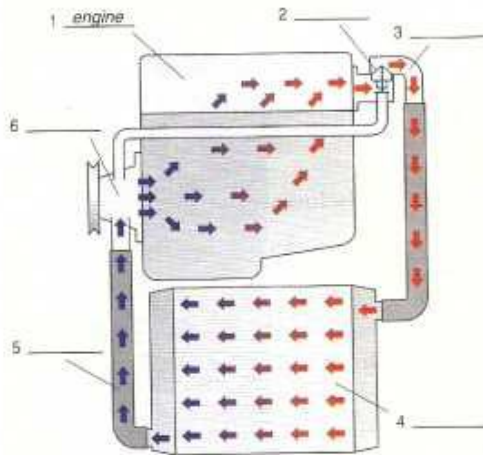
What are the normal or average temperatures for these?

- |                                 |                   |                 |
|---------------------------------|-------------------|-----------------|
| 1 Water from a shower?          | a) 60°C (140°F)   | b) 80°C (176°F) |
| 2 Food in a refrigerator?       | a) 4.5°F (-15°C)  | b) 40°F (4.5°C) |
| 3 Food in a freezer?            | a) 0°C (32°F)     | b) -18°C (0°F)  |
| 4 Coldest air temperature ever? | a) -89°C (-128°F) | b) -20°C (-4°F) |
| 5 Hottest air temperature ever? | a) 156°F (70°C)   | b) 136°F (58°C) |
| 6 Water in running car engine?  | a) 110°C (230°F)  | b) 45°C (110°F) |

**Listening** 2  Listen and check your answers.

**Reading** 3 Label the diagram with the words in the box.

bottom hose engine radiator thermostat top hose water pump



#### Car cooling system

The engine drives the water pump and the pump pushes cool water around the engine. This cools the engine. At the same time, the water becomes hot. The water in a hot engine is normally around 110°C.

- 5 The hot water then passes through the thermostat. This controls the temperature of the engine. From the thermostat, it flows through the top hose into the radiator. Here, a fan cools the water, and the cool water sinks to the bottom of the radiator.
- 10 The cool water then leaves the radiator. It flows along the bottom hose, passes through the pump and enters the engine again.

4 Read the text. Check your answers to 3.

5 Which words in the text do these words refer to?

- |                 |              |               |                |
|-----------------|--------------|---------------|----------------|
| 1 This (line 6) | a) hot water | b) thermostat | c) temperature |
| 2 it (line 7)   | a) engine    | b) thermostat | c) water       |
| 3 Here (line 8) | a) top hose  | b) radiator   | c) fan         |
| 4 It (line 10)  | a) water     | b) radiator   | c) bottom hose |

**Speaking** 6 Make true sentences.

- |                    |            |                                |
|--------------------|------------|--------------------------------|
| (1) The water pump | control(s) | the radiator to the engine.    |
| (2) The thermostat | connect(s) | air onto the radiator.         |
| (3) The two hoses  | push(es)   | the hot water from the engine. |
| (4) The radiator   | cool(s)    | water around the engine.       |
| (5) The fan blades | flow(s)    | to the bottom of the radiator. |
| (6) Cool water     | rise(s)    | the temperature of the water.  |
| (7) Hot water      | sink(s)    | through the two hoses.         |
| (8) Water          | blow(s)    | to the top of the engine.      |