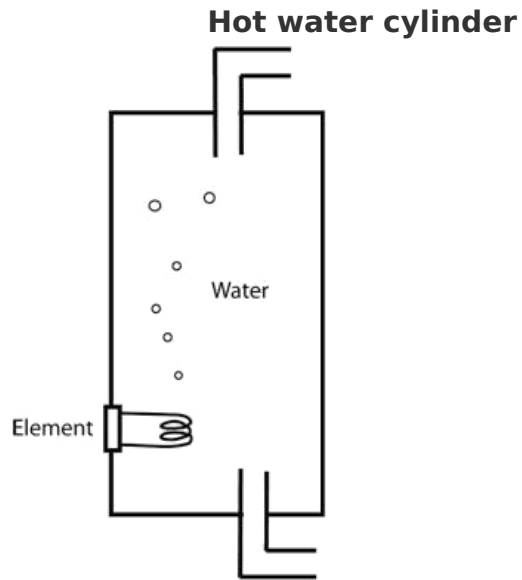


Hot water cylinder

This task is about heat convection.

- a) If the power to the hot water cylinder was turned off for 30 minutes, so that the element went cold, where would you expect to find the hottest water?

- (A) At the bottom of the cylinder
- (B) In the middle of the cylinder
- (C) At the top of the cylinder
- (D) Spread evenly throughout the cylinder.



- b) In the space below, draw and label a diagram to explain why you chose your answer for a).

- c) The diagram shows two pipes attached to the hot water cylinder. The *inlet* pipe brings in the cold water and the *outlet* pipe takes away the hot water.

- i) Complete each of the following sentences by circling the correct words.

The cold water enters at the... **bottom / top.**

The hot water leaves from the... **bottom / top.**

- ii) Explain why a hot water cylinder is designed this way.