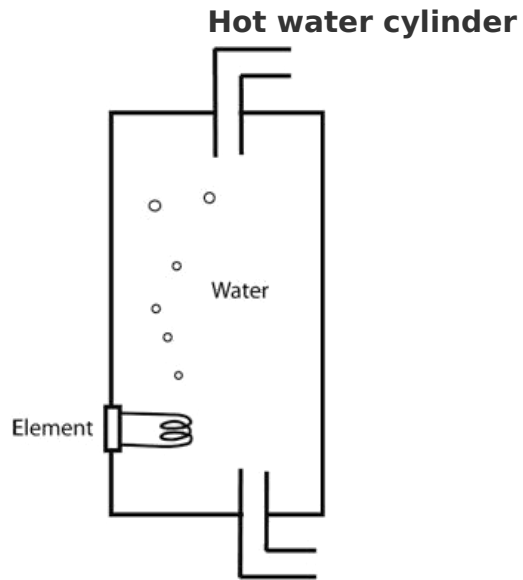


Hot water cylinder

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.
