

14 Thermal equilibrium — Part 1 — Answers

Answers

Work through these after trying the questions yourself.

14.1 From hot (higher temperature) to cold (lower temperature).

14.2 When two bodies reach the same temperature, with no net heat flow between them.

14.3 Zero (no net flow).

14.4 The stone cools and the water warms, until both reach the same final temperature; then the flow stops.

14.5 No. A small very hot object can hold less energy than a large warm one — e.g. a cup of boiling water holds less energy than a warm swimming pool, even though the cup is hotter.

14.6 The spark is hotter but extremely small, so it holds very little energy and transfers almost none to your skin. The bathwater is cooler but has a large mass, so it can transfer a lot of energy — enough to scald.