



## C1.1.2 STATES OF MATTER

### C1.1.2.1 Melting ice, boiling water

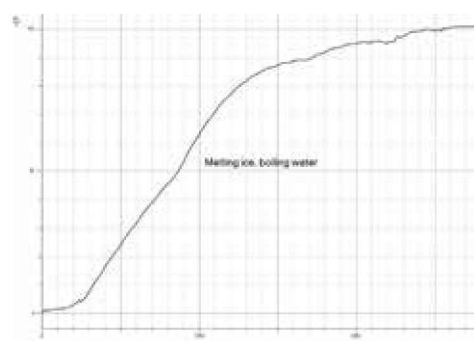
Melting ice, boiling water (C1.1.2.1)

Cat. No.	Description	C1.1.2.1
524 005W	Mobile-CASSY 2 WiFi	1
524 220	CASSY Lab 2	1
529 676	Temperature probe, NiCr-Ni, 1.5 mm, type K	1
664 105	Beaker, DURAN, 600 ml, squat	1
666 850	Stirring magnet, 15 mm x 5 mm diam.	1
666 8471	Magnetic stirrer with hotplate	1
666 523	Stand rod, 450 x 12 mm diam., M10 thread	1
666 555	Universal clamp 0...80 mm	1
301 09	Bosshead S	1
	additionally required: ice	

There are three states of matter: solid, liquid and gas. Solid materials have a stable outer shape and a definite volume. Liquids have a definite volume but no longer have a solid shape. Gaseous materials have neither a shape nor a volume: they fill up any available space.

At constant pressure, materials transition from one state of matter to the next at a characteristic temperature. Those temperatures are known and listed as the melting point and boiling point.

Experiment C1.1.2.1 examines the behaviour of water at different temperatures. To that end, ice (solid water) is slowly heated until it melts and then evaporates. At the boiling point and the melting point, the temperature does not change until the substance has transitioned completely to the other state. The boiling point and melting point are easy to determine in this way.



Melting and boiling curve of water