



C1.1.1 DETERMINATION OF MOLAR MASS

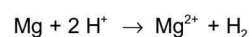
C1.1.1.1 Determination of the relative atomic mass of metals

Determination of the relative atomic mass of metals (C1.1.1.1)

Cat. No.	Description	C1.1.1
664 097	Stoichiometric reaction vessel	1
665 914	Gas syringe, 100 ml with 3-way stopcock	1
665 936	Immersion tube manometer, after Schiele	1
664 352	Topping-up reservoir, 250 ml	1
667 194	Silicone tubing 7 mm Ø, 1 m	1
382 21	Stirring thermometer -10...+110 °C	1
667 312	Glass connector, 2 x GL 18	1
667 017	Scissors 125 mm, round-ended	1
667 027	Tweezers, blunt, 130 mm	1
664 131	Beaker Boro 3.3, 400 ml, squat	1
665 753	Measuring cylinder 50 ml, with plastic base	1
666 4659	Adhesive magnetic board 500 mm	2
666 4662	Holder, magnetic, size 2, 11...14 mm	1
666 4665	Holder, magnetic, size 5, 30...32 mm	3
666 425	Panel frame C50, two-level, for CPS	1
ADA NBL124E	Analytical balance 120 g; 0,0001g, with USB interface	1
674 6810	Hydrochloric acid, 10 %, 1 l	1
673 1000	Magnesium, ribbon, 25 g	1
661 081	Aluminium, foil, 1 roll	1
671 2000	Calcium, granules, 25 g	1

The realisation that chemical reactions depend not on the mass of a substance but on the number of atoms marks the transition from alchemy to chemistry as a science. In that way, the molar mass can be used to carry out reactions with the right quantity of material.

In experiment C1.1.1.1, the molar mass of some base metals will be determined. In order to do so, those metals – magnesium, for example – will be reacted with acids.



Different metals of the same weight produce different quantities of hydrogen. When using the same quantity of material, the same quantities of hydrogen are produced. This way, the relative molar mass of the respective metals can be determined.