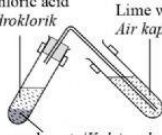
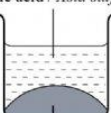




1 Acids react with metal, base/alkali and metal carbonate / Asid bertindak balas dengan logam, bes/alkali dan karbonat logam:

Chemical properties Sifat-sifat kimia	Example of experiment Contoh eksperimen	Observation Pemerhatian	Remark Catatan
1 Acid + Metal → Salt + Hydrogen Asid + Logam → Garam + Hidrogen * Acids react with metals that are more electropositive than hydrogen in Electrochemical Series, acids do not react with copper and silver (type of reaction is displacement, the metals that are placed above hydrogen in Electrochemical Series can displace hydrogen from acid) * Asid bertindak balas dengan logam-logam yang lebih elektropositif daripada hidrogen dalam Siri Elektrokimia, asid tidak bertindak balas dengan kuprum dan argentum (jenis tindak balas ialah penyesaran, logam-logam di atas hidrogen dalam Siri Elektrokimia boleh menyesarkan hidrogen daripada asid) * Application of the reaction: * Aplikasi tindak balas: - Preparation of soluble salt (Topic Salt) Penyediaan garam terlarut (Tajuk Garam) - Preparation of hydrogen gas in determination of the empirical formula of copper(II) oxide (Topic Chemical Formula and Equation) Penyediaan gas hidrogen dalam menentukan formula empirik kuprum(II) oksida (Tajuk Formula dan Persamaan Kimia)	Magnesium + Hydrochloric acid Magnesium + Asid hidroklorik  Magnesium powder Serbuk magnesium (a) About 5 cm³ of dilute hydrochloric acid is poured into a test tube. Sebanyak 5 cm³ asid hidroklorik cair dimasukkan ke dalam tabung uji. (b) One spatula of magnesium powder is added to the acid. Satu spatula serbuk magnesium ditambah kepada asid. (c) A burning wooden splinter is placed at the mouth of the test tube. Kayu uji menyala diletakkan pada mulut tabung uji. (d) The observations are recorded. Semua pemerhatian direkodkan.	- The grey solid dissolves. Pepejal kelabu terlarut. - Colourless gas bubbles are released. When a burning wooden splinter is placed at the mouth of the test tube, 'pop sound' is produced. Gelembung gas tak berwarna dibebaskan. Apabila kayu uji menyala didekatkan pada mulut tabung uji, bunyi 'pop' dihasilkan.	Chemical equation: Persamaan kimia: Inference / Inferens: - Magnesium with hydrochloric acid. Magnesium dengan asid hidroklorik. gas is released. Gas terbebas.
2 Acid + Metal carbonate → Salt + Water + Carbon dioxide Asid + Karbonat logam → Garam + Air + Karbon dioksida * Application of the reaction: * Aplikasi tindak balas: - Preparation of soluble salt (Topic Salt) Penyediaan garam terlarut (Tajuk Garam) - Confirmatory test for anion carbonate ion in qualitative analysis of salt (Topic Salt) Ujian pengesahan bagi ion karbonat dalam analisis kualitatif garam (Tajuk Garam)	Calcium carbonate + Hydrochloric acid Kalsium karbonat + Asid hidroklorik  Hydrochloric acid Asid hidroklorik Calcium carbonate/Kalsium karbonat (a) About 5 cm³ of dilute hydrochloric acid is poured into a test tube. Sebanyak 5 cm³ asid hidroklorik cair dimasukkan ke dalam tabung uji. (b) One spatula of calcium carbonate powder is added into the acid. / Satu spatula serbuk kalsium karbonat dimasukkan ke dalam asid. (c) The gas released is passed through lime water as shown in the diagram. Gas yang dibebaskan dilalukan melalui air kapur seperti ditunjukkan dalam rajah. (d) The observations are recorded. Semua pemerhatian direkodkan.	- The white solid dissolves. Pepejal putih terlarut. - Colourless gas bubbles are released. When the gas is passed through lime water, the lime water turns chalky. Gelembung gas tak berwarna terbebas. Apabila gas tersebut dilalukan melalui air kapur, air kapur menjadi keruh.	Chemical equation: Persamaan kimia: Inference / Inferens: - Calcium carbonate with hydrochloric acid. Kalsium karbonat dengan asid hidroklorik. gas is released. Gas terbebas.
3 Acid + Base / Alkali → Salt + Water Asid + Bes / Alkali → Garam + Air * Acid neutralises base/alkali Asid meneutralkan bes/alkali * Application of the reaction: * Aplikasi tindak balas: Preparation of soluble salt (Topic Salt) Penyediaan garam terlarut (Tajuk Garam)	Copper(II) oxide + Sulphuric acid Kuprum(II) oksida + Asid sulfurik  Sulphuric acid / Asid sulfurik Copper(II) oxide / Kuprum(II) oksida (a) Sulphuric acid is poured into a beaker until half full. Asid sulfurik dimasukkan ke dalam bikar hingga separuh penuh. (b) The acid is warmed gently. Asid dihangatkan. (c) One spatula of copper(II) oxide powder is added to the acid. Satu spatula serbuk kuprum(II) oksida ditambahkan kepada asid tersebut. (d) The mixture is stirred with a glass rod. Campuran dikacau dengan rod kaca. (e) The observations are recorded. Semua pemerhatian direkodkan.	- The black solid dissolves. Pepejal hitam terlarut. - The colourless solution turns blue. Larutan tanpa warna bertukar menjadi biru.	Chemical equation: Persamaan kimia: Inference / Inferens: - Copper(II) oxide with sulphuric acid. Kuprum(II) oksida dengan asid sulfurik. - The blue solution is - Larutan biru tersebut ialah