TA chemistry, GCSE/IGCSE/O-level, you tube links for lessons

Year 9 Topics

Particles, Topic 1

1.1 Introduction to Chemistry and particles 17 mins

https://youtu.be/1FbqWMX2NP4

1.2 States of matter and m.pts, b.pts, 22 mins

https://youtu.be/rx4l2dg_jjg

1.3 Evidence for particles and diffusion, 21 mins

https://youtu.be/UCbhtUrUFi8

1.4 **PRACTICAL**, diffusion demonstrations, 14 mins

https://youtu.be/Hx3fsDJEmW8

Elements, Mixtures, Compounds and Separating Techniques, Topic 2

2.1 **PRACTICAL,** demonstrations, elements mixtures compounds, 19 mins

https://youtu.be/HP9Pn8kxSCM

2.2 Separation techniques, 1, separating funnel, crystallisation, simple distillation, 24 mins

https://youtu.be/XMo16YiXYVM

2.3 Separation techniques 2, fractional distillation and chromatography, 24 mins

https://youtu.be/jhBW0fh6h3U

2.4 **PRACTICAL** demonstrations of separation techniques, 33 mins

https://youtu.be/ss3pjqFMD2o

Naming chemicals, Writing Formulae, Topic 2/3

2.5 Symbols for writing names of chemicals, and IONS to learn. 22 mins

https://youtu.be/LE4x6YMC7iU

2.6 Examples, writing formulae, including radicals, 31 mins

https://youtu.be/FhWIe0Mnb7I

Atomic structure, TOPIC 3

3.1 Drawing atoms, position on periodic table, Isotopes and RAM, 39 mins

https://youtu.be/2XkOY8FHL94

Structure and Bonding, TOPIC 4

4.1 Introduction to bonding, and ionic bonding, 38 mins

https://youtu.be/28lyUaK89Jw

4.2 More examples and ionic bonding summary, and then covalent bonding, 42 mins

https://youtu.be/glfiM2T-zX0

4.3 **PRACTICAL**, models and properties of BOTH ionic and covalent compounds, 33 mins

https://youtu.be/XVuzHr6TfeE

4.4 Metallic bonding, and properties of metals/alloys, 28 mins

https://youtu.be/MEAZKepJBVA

4.5 **PRACTICAL,** properties of metals, 12 mins

https://youtu.be/SRbPQfyGGMc

Patterns of reactivity, TOPIC 5

5.1 Writing equations, and reaction of metals with water and with steam, 39 mins

https://youtu.be/ftSgpJvB4j8

5.2 **PRACTICAL**, reaction of metals, and group 1 metals with water, 24 mins

https://youtu.be/I9HOCBcq54s

5.3 **PRACTICAL** reaction of magnesium with cold water and steam, 21 mins

https://youtu.be/BcP6OuEOu6k

5.4 **PRACTICAL** reaction of magnesium with water and stream, continued, 11 mins

https://youtu.be/PkclENrlyEI

5.5 Reaction of metals with acids, 23 mins

https://youtu.be/LsxeCmognoY

5.6 **PRACTICAL** Reaction of metals with acids, 23 mins

https://youtu.be/tvgT41HT8Ls

5.7 Reaction of elements and compounds with oxygen, 9 minutes

https://youtu.be/RfhigUvBnzI

5.8 **PRACTICAL** reaction of elements with oxygen, 27 mins

https://youtu.be/vgoF9lk3Frg

5.9 **PRACTICAL** combustion reactions of compounds with oxygen, 15 mins

https://youtu.be/wxj97SId63M

5.95 **PRACTICAL**, electrolysis of water, and proving water is present

https://youtu.be/Rwo_Kt_guGQ

Air, TOPIC 6

6.1 Air introduction, 38 mins

https://youtu.be/t3teIgjqEMY

6.2 **PRACTICAL**, what percentage air is oxygen? 8 mins

https://youtu.be/lw_0XmMvwHE

6.3 **PRACTICAL**, Oxygen preparation and properties (extra), 14 mins

https://youtu.be/Ta25ICJF7-s

6.4 **PRACTICAL**, decomposition of hydrogen peroxide, "elephants' toothpaste" 10 mins

https://youtu.be/R-0nbDdlIAo

6.5 **PRACTICAL**, Carbon dioxide, preparation and properties (extra), 14 mins

https://youtu.be/9JeogMtTROU

6.6 Decomposition of $CaCO_3$, $CuCO_3$, $NaHCO_3$, 9 mins

https://youtu.be/_71sEMEFBnU

6.7 **PRACTICAL**, thermal decomposition of carbonates, 17 mins

https://youtu.be/Vkxo8e-Nybw

Carbon and Organic chemistry, TOPIC 7

7.1 Introduction to organic, fractional distillation of crude oil and cracking, 31 mins

https://youtu.be/LLsf1h-JWAI

7.2 **PRACTICAL** cracking, 13 mins

https://youtu.be/7EMAHkOfr24

7.3 Fractions, trends in properties, Isomers, molecules involved, alkanes, 43 mins

https://youtu.be/t17moSqLiHM

7.4 Allotropes of Carbon, burning carbon, 37 mins

https://youtu.be/tDLgYOWTxho

Year 10 TOPICS

Further Organic, TOPIC 8

8.5 Alkanes and Alkenes including **PRACTICAL** demonstrations, 53 mins
https://youtu.be/YQHI3udYCEo

8.6 Condensation polymerisation, including making nylon **PRACTICAL,** 38 mins
https://youtu.be/WtzMtQIwEUk

8.7 Alcohols, including fermentation **PRACTICAL,** 42 mins
https://youtu.be/MvGIdmY7Dbs

8.8 Carboxylic acids and Esters,
including **PRACTICAL** to oxidise ethanol and make an ester, 43 mins
https://youtu.be/flvjXR1dI0A

Solubility, Acids, Bases, Salts, TOPIC 9

9.1 **PRACTICAL**, dissolving sugar ideas, 20 mins
https://youtu.be/YKZfhxnHvLs

9.2 Solubility ideas theory 24 mins
https://youtu.be/yP6n7ISdnbg

9.3 **PRACTICAL**, fizzy drinks, fountain experiment, solubility curve, 46 mins
https://youtu.be/58sc8beUTU4

9.4 Acids, Bases, and Salts introduction theory, 32 mins
https://youtu.be/HgETHllA2po

9.5 Making salts by precipitation method
including **PRACTICAL** demonstrations, 34 mins
https://youtu.be/OHwRPuzSQ8I

9.6 Making salts by general method,
including **PRACTICAL** making copper (II) sulfate crystals, 29 mins
https://youtu.be/TCapiaAOSlM

9.7 Making salts by titration method,
including **PRACTICAL** making sodium chloride crystals, 44 mins
https://youtu.be/9tFWibRirG0

Moles , TOPIC 10

10.1 Introduction to moles, 49 mins
https://youtu.be/ddQ44MwKlg0

10.2 Moles, continued and calculations, 42 mins
https://youtu.be/sNIsRgset4o

10.3 Moles limiting and excess reactants, and yield calculations, 31 mins
https://youtu.be/OmkZtZ-lKpQ

10.4 Moles and empirical formulae calculations, 26 mins
https://youtu.be/5z7R6Jz7LzA

10.5 Moles and water of crystallisation calculations, 20 mins
https://youtu.be/6ee4mtfkGTk

10.6 **PRACTICAL** demo to show/explain water of crystallisation, 9 mins
https://youtu.be/YvUcpfHLz8M

Analysis, TOPIC 11

11. 1 Identification of water, gases and
PRACTICAL tests for CATIONS (positive ions) using NaOH (aq), 45 mins
https://youtu.be/ckYQ5bn9Ab0

11.2 Flame tests including **PRACTICAL,** 18 mins
https://youtu.be/ZPlV2fonMic

11.3 Tests for ANIONS (negative ions) including **PRACTICAL,** 22 mins
https://youtu.be/YpAUX7Do6ZU

Year 11 TOPICS

Energy, Topic 12

12.1 Introduction to energy, 28 mins

https://youtu.be/phg1oXTLTbI

12.2 **PRACTICAL** five energy reactions, 25 mins

https://youtu.be/G02y_Zbm1Mk

12.3 **PRACTICAL**, measuring heats of neutralisation, 21 mins

https://youtu.be/nLylP6Gcyx0

12.4 **PRACTICAL,** measuring heats of combustion, 22 mins

https://youtu.be/F_7PHzBTtQI

12.5 Average, mean, bond enthalpies, energies including molymod **DEMO,** 17 mins

https://youtu.be/0SjaMg8J9L0

Rates, Topic 13

13.1 Rates, introduction, kinetic theory and collision theory, 29 mins

https://youtu.be/eDiFqGHJiFA

13.2 Rates, **PRACTICAL**, following rates experiments, size of reacting pieces, 20 mins

https://youtu.be/37iyBdpM0BE

13.3 Rates **PRACTICAL**, sodium thiosulfate and hydrochloric acid reactions, concentration and temperature and graphs, 35 mins

https://youtu.be/KR4E46hfNbc

Topic 14, Equilibria

14.1 Equilibrium 1, reversible reactions, yield, factors, analogy, Le Chatelier's principle 29 mins.

https://youtu.be/XWNlGH39VGQ

14.2 Equilibrium 2, using Le Chatelier's principle, some reversible reaction demonstrations 28 mins.

https://youtu.be/ibBi9CQwTgk

Topic 15, Redox 1, introduction and reactivity of groups 1 and 7

15.1 Redox 1, Reactivity of groups 1 and 7. Ionic bonding as redox, 42 mins

https://youtu.be/N2EldBc777M

Topic 16, Redox 2, displacement reactions

16.1 Redox 2, part 1. Displacement reactions, **PRACTICAL** thermite reaction and zinc reacting with copper sulfate solution, 15 mins.

https://youtu.be/7eA0XkE7JEY

16.2 Redox 2, part 2. Metals from their ores, Blast furnace, iron, rusting and rust prevention, 37 mins

https://youtu.be/rWHjaZu75wM

Redox 3, electrolysis, Topic 17

17.1 Redox 3, part 1. Testing substances for conduction, **PRACTICAL** electrolysis of Lead Bromide, 27 mins

https://youtu.be/ZtNFhIGxnRY

17.2 Redox 3, part 2. Electrolysis of ionic compounds, Aluminium from Bauxite, electrolysis of solutions**, PRACTICAL** Hoffman Voltameter, 39 mins

https://youtu.be/ZBxR4NZCxw8