

Introduction

This game is a revision activity to a lesson or series of lessons on chemical reactions, substances and change.

Running the activity

Give each pupil three small pieces of coloured card about 10 cm square (one red, one yellow or orange, one green). These are used to signal their answers.

Red means FALSE.

Green means TRUE.

Yellow or orange means I'M NOT SURE.

The game follows this sequence:

- Read the question.
- Allow a short period of time for pupils to consider their answer.
- Count "1,2,3 Show your cards!"
- Pupils all hold up one of their card at the same time.

Safety

Not applicable.

More ideas

Use the red, yellow and orange cards to denote solid, liquid and gas. Ask straightforward questions such as 'What state is water?', and more stretching questions like 'What state is toothpaste?' (solid & liquid), 'What state is sponge cake?' (solid & gas). Pupils hold up two cards when appropriate.

Learning outcomes

- Revising and consolidating chemical reactions, substances and change.

Where the activity fits in
QCA SoW 8E and 8F

Skills

Recall.

1. Atoms can be seen with a microscope.
False. They are too small.
2. There are only about 100 elements.
True. This includes the man made ones.
3. Elements contain only one type of atom.
True.
4. Most elements are gases.
False. Actually most are solids. Only two elements are liquid at room temperature.
5. We have found all the possible elements.
Do not know. More man made elements could be produced
6. Elements react together to form compounds.
True.
7. Compounds are mixtures.
False. Compounds are pure substances. Every particle is the same.
8. Compounds contain particles called molecules.
True. Some do. But others, for example sodium chloride, are a giant lattice of particles
9. Water is a compound.
True. It is a compound of hydrogen and oxygen atoms
10. Compounds cannot be changed.
False. Lots of compounds react with each other to make new materials.
11. You cannot see a chemical change.
False. Most of the evidence for chemical change is what you can see, smell and hear happening.
12. The Periodic Table is a list of elements.
True.
13. Compounds are made from a fixed ratio of atoms.
True. Water is H_2O , carbon dioxide is CO_2
14. Air is a pure substance.
False. Air is a mixture. 78% nitrogen, 21% oxygen, 0.03% carbon dioxide and other gases.

15. A compound will melt at one temperature.

True. This is how you can test if the substance is pure.

16. When ice melts the temperature goes steadily up.

False. The temperature stays at 0°C until all the ice has turned to water.

17. You cannot separate alcohol and water.

False. Distillation will separate two liquids.

18. Forensic scientists use chromatography.

True. Forgery can be found out by analysing colours in the ink that has been used.

19. Nitrogen is always a gas.

False. If nitrogen is cooled to -190°C it condenses into a liquid.

20. Chemical reactions cannot be reversed.

False. For example, aluminium oxide can be turned back into aluminium and oxygen. But energy (electricity in this case) has to be put in to make the reverse reaction happen.

Introduction

A-Z quizzes are useful to change the pace or direction of lessons. They can be constructed for different topic areas. This example covers general knowledge and simple chemistry concepts.

Running the activity

Photocopy the question sheet or use as a quiz.

Do the activity against the clock to find the highest score. The questions are reasonably demanding.

Safety

Not applicable

More ideas

Pupils can generate their own quizzes at the end of a topic.
Use the quiz as a tutor time activity.

Lesson outcomes

Develop pupils' general chemistry knowledge.

Where the activity fits in

As a change of pace and direction in lessons.

As a lesson starter or finisher.

As a homework.

Skills

Knowledge and understanding, recall, vocabulary.

Acknowledgements

Please send your fun size quizzes to nigel.heslop@scienceyear.com for inclusion on future CD-ROMs.

A to Z Quiz

A _____	The smallest particle of an element
B _____	A dry energy cell
C _____	Burning
D _____	Break down of a compound
E _____	Weathering of rocks
F _____	Remains of a living thing
G _____	Covered in zinc
H _____	Group of reactive non-metals
I _____	Rocks formed from molten material
J _____	Unit of energy
K _____	Jet fuel
L _____	Solar panel for plants
M _____	Curved surface on water
N _____	pH7
O _____	Rocks that metals are extracted from
P _____	Aka crude oil
Q _____	Mineral used in watches and clocks
R _____	Corroded iron
S _____	Equipment used to measure the size of earthquakes
T _____	Bitumen
U _____	Name of a radioactive element
V _____	Ascorbic acid
W _____	Compound produced when hydrogen burns
X _____	Name of a noble gas
Y _____	Sodium flame colour
Z _____	Metal that is displaced by Mg, but displaces Cu

A to Z Quiz

Atom	The smallest particle of an element
Battery	A dry energy cell
Combustion	Burning
Decomposition	Break down of a compound
Erosion	Weathering of rocks
Fossil	Remains of a living thing
Galvanised	Covered in zinc
Halogens	Group of reactive non-metals
Igneous	Rocks formed from molten material
Joule	Unit of energy
Kerosene	Jet fuel
Leaf	Solar panel for plants
Meniscus	Curved surface on water
Neutral	pH7
Ore	Rock that metals are extracted from
Petroleum	Aka crude oil
Quartz	Mineral used in watches and clocks
Rust	Corroded iron
Seismograph	Equipment used to measure the size of earthquakes
Tar	Bitumen
Uranium	Name of a radioactive element
Vitamin C	Ascorbic acid
Water	Compound produced when hydrogen burns
Xenon	Name of a noble gas
Yellow	Sodium flame colour
Zinc	Metal that is displaced by Mg, but displaces Cu

Introduction

A-Z quizzes are useful to change the pace or direction of lessons. They can be constructed for different topic areas. This example covers general knowledge and more testing chemistry topics.

Running the activity

Photocopy the question sheet or use as a quiz.

Do the activity against the clock to find the highest score. The questions are reasonably demanding.

Safety

Not applicable

More ideas

Pupils can generate their own quizzes at the end of a topic.
Use the quiz as a tutor time activity.

Lesson outcomes

Develop pupil general knowledge of chemistry.

Where the activity fits in

As a change of pace and direction to any of the KS3 topics.

As a lesson starter or finisher.

As a homework.

Skills

Knowledge and understanding, recall, vocabulary.

Acknowledgements

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A to Z Quiz

A_____	An alkaline gas
B_____	A ring hydrocarbon
C_____	Element common to all organic chemicals
D_____	Method used for separating one liquid from others
E_____	Chemical name for alcohol
F_____	Hazardous gas
G_____	An igneous rock
H_____	Process used to produce ammonia
I_____	An antiseptic halogen
J_____	Period of time 190 million years ago
K_____	Movement energy
L_____	Acid causing muscle cramp
M_____	Metal that burns with a bright white flame
N_____	NO _x spelled out
O_____	Poisonous gas caused by solar energy and traffic
P_____	Ancients thought this was the fiery substance
Q_____	Boss bee
R_____	Flame colour of lithium
S_____	Acid + alkali = water + ?
T_____	Very tough metal
U_____	Fat that is more healthy to eat
V_____	Where lava reaches the Earth's surface
W_____	Dihydrogen monoxide
X_____	Plant tissue
Y_____	Microorganism used in beer production
Z_____	Neither negative or positive

A to Z Quiz

Ammonia	An alkaline gas
Benzene	A ring hydrocarbon
Carbon	Element common to all organic chemicals
Distillation	Method used for separating one liquid from others
Ethanol	Chemical name for alcohol
Fluorine	Hazardous gas
Granite	Igneous rock
Haber	Process used to produce ammonia
Iodine	An antiseptic halogen
Jurassic	Period of time 190 million years ago
Kinetic	Movement energy
Lactic	Acid causing muscle cramp
Magnesium	Metal that burns with a bright white flame
Nitrogen oxides	NO _x spelled out
Ozone	Poisonous gas caused by solar energy and traffic
Phlogiston	Ancients thought this was the fiery substance
Queen	Boss bee
Red	Flame colour of lithium
Salt	Acid + alkali = water + ?
Titanium	Very tough metal
Unsaturated	Fat that is more healthy to eat
Volcano	where lava reaches the Earth's surface
Water	Dihydrogen monoxide
Xylem	Plant tissue
Yeast	Microorganism used in beer production
Zero	Neither positive or negative