

Introduction

This game is a revision activity to a lesson or series of lessons on rocks, weathering and rock cycle topics.

Running the activity

There are 50 cards, two to a page, all different. Print out as many pages as you need and cut them in half to make individual cards. Give out individual cards to each pupil. The cards can be laminated and a wax pencil used to mark them.

The teacher has the sheet of key word definitions. Mark or tick off the questions asked during each session. You may wish to substitute definitions targeted at your pupils. The definitions are read out and pupils have to recognise and cross off the key word on their card. The first pupil to cross off all the words on their card receives a small prize. Check the winning card with the class to focus on the words used in the activity. Pupils can write out any definitions they do not recognise.

For a blank file contact nigel.heslop@scienceyear.com

Safety

Not applicable.

More ideas

The questions can be used as the basis of a quiz. Key words could be displayed beside the teaching station. Sticky Velcro patches make a good support for the word display. There should only be a few key words to focus attention on the target vocabulary for that session.

Learning outcomes

- Recap of rocks, weathering, erosion, and the rock cycle.

Where the activity fits in

Revising and consolidating.
QCA SoW 8G and 8H.

Skills

Vocabulary, recall skills.

✓ Tick these off when used in the session

Rocks formed from molten material:	Igneous
Rocks that get changed by heating and pressure:	Metamorphic
Rocks made by the actions of moving water:	Sedimentary
When the weather breaks up and moves rock particles:	Erosion
Material making up the magnetic core of the Earth:	Iron and Nickel
Where molten rock flows out of the Earth:	Volcano
The molten rock that comes out of volcanoes:	Lava
Molten rock under the surface of the Earth:	Magma
A white hard rock that fizzes with acids:	Marble
These can grow in cracks and split rocks:	Roots
When molten rock cools slowly it forms ... :	Large crystals
When molten rock is cooled very quickly it forms ... :	Small crystals
In wet weather this can help split rocks:	Freeze / Thaw
When water freezes it ... :	Expands
A pile of stones that have been weathered from the side of a mountain:	Scree
The name for the solid surface of the Earth:	Crust
When gas, ash and lava comes out of a volcano:	Eruption
The name for the big sections of the Earth's surface that move past each other:	Tectonic plates
When pollution dissolves in rain clouds this causes :	Acid rain
The name for layers in rock:	Strata

Rocky Bingo Card

Igneous	Metamorphic	Sedimentary		
Volcano		Magma		Roots
Large crystals	Small crystals		Expands	
Crust			Acid rain	Strata

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Igneous	Metamorphic		Erosion	
Volcano			Marble	Roots
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Introduction

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More ideas

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Learning outcomes

- Recap periodic table and properties of elements.

Where the activity fits in

Revising and consolidating.
QCA SoW 8E and 8F.

Skills

Vocabulary, recall skills.

Acknowledgements

Thank you to Lorna Coulson of Langley Park School for this activity.

✓ Tick these off when used in the session

This metal can be used to make drink cans and saucepans:	Aluminium
A compound of this metal is essential for strong teeth:	Calcium
A halogen, used as an antiseptic and as a test for starch:	Iodine
A gas that gives a 'squeaky pop' with a lighted splint:	Hydrogen
Metal that reacts with water, burning with a lilac flame:	Potassium
Metal used in fireworks. Burns with a bright, white flame:	Magnesium
Name of the vertical columns in the Periodic Table:	Groups
Another name for a policeman:	Copper
A solid yellow non-metal. Burns to make an acidic gas:	Sulphur
A green gas, used in swimming pools to kill germs:	Chlorine
This halogen is the most reactive non-metal. Compounds of this element are added to toothpaste:	Fluorine
Sliver metal that is liquid at room temperature:	Mercury
Name for a horizontal line in the Periodic Table:	Period
Which of these is not a metal: gold, aluminium, carbon or copper?:	Carbon
The gas in air we use for respiration:	Oxygen
Word used to describe the metals in Group 1:	Alkali
Non-flammable gas used to fill balloons:	Helium
When wet, this element reacts slowly with oxygen to form rust. Shortages of this element in the diet can cause anaemia:	Iron
This gas makes up four fifths of air:	Nitrogen
On which side of the Periodic Table are the metals found?	Left

Periodic Table Bingo Card

Aluminium	Calcium	Iodine		
Magnesium		Copper		Chlorine
Fluorine	Mercury		Carbon	
Alkali			Nitrogen	Left

Periodic Table Bingo Card

Aluminium	Calcium		Hydrogen	
Magnesium			Sulphur	Chlorine
Fluorine	Mercury			Oxygen
	Helium	Iron	Nitrogen	

Periodic Table Bingo Card

Aluminium	Calcium			Potassium
	Groups	Copper	Sulphur	
Fluorine		Period	Carbon	
	Helium	Iron		Left

Periodic Table Bingo Card

Aluminium		Iodine	Hydrogen	
	Groups	Copper		Chlorine
Fluorine		Period		Oxygen
	Helium		Nitrogen	Left

Periodic Table Bingo Card

Aluminium		Iodine		Potassium
	Groups		Sulphur	Chlorine
Fluorine			Carbon	Oxygen
		Iron	Nitrogen	Left

Periodic Table Bingo Card

Aluminium			Hydrogen	Potassium
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	Calcium	Iodine		Potassium
Magnesium	Groups		Sulphur	
	Mercury		Carbon	Oxygen
Alkali	Helium			Left

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Magnesium	Groups			Chlorine
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Alkali		Iron	Nitrogen	

Periodic Table Bingo Card

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Magnesium		Copper	Sulphur	
Fluorine	Mercury	Period		
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Periodic Table Bingo Card

Aluminium		Iodine		Potassium
Magnesium	Groups	Copper		
Fluorine	Mercury			Oxygen
	Helium		Nitrogen	Left

Periodic Table Bingo Card

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Magnesium	Groups		Sulphur	
Fluorine		Period	Carbon	
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Introduction

This game is a revision activity to a lesson or series of lessons on gravity and space.

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

- Recap gravity and space.

Where the activity fits in

Revising and consolidating
QCA SoW 9J

Skills

Recall.

1. Gravity only happens on Earth.
False. There is a gravity force between all objects.
2. Gravity attracts things towards the surface of the Earth.
False. Gravity attracts towards the centre of the Earth.
3. Far away from Earth objects have no weight.
True. Weight is a downward force due to gravity.
4. Weight is measured in kilograms.
False. Weight is a force. Forces are measured in newtons.
5. Far away from Earth objects have no mass.
False. Mass is a measure of how much of an object there is.
6. Mass is measured in kilograms.
True.
7. When the Space Shuttle is orbiting the Earth the occupants mass is zero.
False.
8. Gravity decreases when objects are farther apart.
True.
9. People used to think the Sun moved round the Earth.
True.
10. Orbiting the Sun causes day and night.
False. Day and night are caused by the Earth spinning on its axis.
11. There are four inner planets and five outer planets in the Solar System.
True.
12. There are four gas giant planets in the Solar System.
True.
13. Gravity keeps the planets orbiting the Sun.
True.
14. Slower moving planets orbit further from the Sun.
False.

15. The Moon is a lump of matter that was broken off the Earth.
Not sure. The origin of the Moon is not yet understood.
16. People from Earth have only visited the Moon.
True. Robot probes have visited Mars and Venus and flown past other planets.
17. TV satellites are travelling rapidly through space.
True. They orbit the Earth once every 24 hours, and are therefore geostationary.
18. TV satellites are used for spying.
False. There are many satellites at different distances from the Earth. The spy satellites are in a much lower orbit than TV satellites.
19. Weather satellites stay in the same orbit.
True. All satellites stay in the same orbit once they are up there. The Earth spins round under the weather satellites and they photograph the weather patterns.
20. Our Universe came into existence with an event called the Big Bang.
Not sure. The Big Bang is the best theory so far, but there are many others.

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 KS3 physics.

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

- Vocabulary checking

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

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

A to Z Quiz

A_____	First man to walk on the Moon.
B_____	The Universe started with a big one of these.
C_____	This has a tail when it is near to the Sun.
D_____	The surface of the Moon is covered with this.
E_____	A moon of Jupiter where there is ice. There could be life there.
F_____	The Earth's gravity _____. Pulls us downwards.
G_____	One of the first people to say that the Earth orbited the Sun.
H_____	The fuel used to keep the sun shining.
I_____	Water in space turns into this.
J_____	The largest gas giant planet.
K_____	Movement energy.
L_____	To do with the Moon.
M_____	A rock from outer space.
N_____	Number of planets in the Solar System.
O_____	Means going round (planets do this round the Sun).
P_____	Outermost planet. Is it a planet?
Q_____	We use this type of crystal in very accurate clocks.
R_____	Found round Saturn.
S_____	An object that orbits another.
T_____	Sends out radio signals.
U_____	An outer planet.
V_____	An inner planet.
W_____	Force from gravity.
X_____	Another name for a photocopy (light!).
Y_____	One orbit of the Sun in time.
Z_____	When the Sun is at its highest point in the sky.

A to Z Quiz

Armstrong	First man to walk on the Moon.
Bang	The Universe started with a big one of these.
Comet	This has a tail when it is near to the Sun.
Dust	The surface of the Moon is covered with this
Europa	A moon of Jupiter where there is ice. There could be life there.
Field	The Earth's gravity _____. Pulls us downwards.
Galileo	One of the first people to say that the Earth orbits the Sun.
Hydrogen	The fuel used to keep the Sun shining
Ice	Water in space turns into this.
Jupiter	The largest gas giant planet.
Kinetic	Movement energy.
Lunar	To do with the Moon.
Meteor	A rock from outer space.
Nine	Number of planets in the Solar System.
Orbit	Means going round (planets do this around the Sun).
Pluto	Outermost planet. Is it a planet?
Quartz	We use this type of crystal in very accurate clocks.
Ring	Found round Saturn.
Satellite	An object that orbits another.
Transmitter	Sends out radio signals.
Uranus	An outer planet.
Venus	An inner planet.
Weight	Force from gravity.
Xerox	Another name for a photocopy (light!).
Year	One orbit of the Sun in time.
Zenith	When the Sun is at its highest point in the sky.

Introduction

Pelmanism is a term for the children's game of 'Pairs'. In this version pupils do not have to recognise identical pairs, but they must put together the start and end of a statement or question. The starts are printed in blue and the ends in black to avoid confusion.

Running the activity

Print off the card sheets and cut into individual cards. Laminate if you wish for durability. There are 52 cards in a pack. One pack is required for each group of four.

Pupils shuffle and spread the cards out face down. They each take it in turn to turn over two cards at a time. If the second completes the first card, they keep that pair and try again. If the second card does not complete the first, they turn them face down again and the next pupil begins their go. The winner is the pupil with the most pairs when all have been claimed.

Two, three or four pupils may play the game. To turn this into a question loop game laminate together the question card with the next answer in the set (Q1 goes with A2 etc.).

N.B. Pupils may need calculators.

Safety

Not applicable

More ideas

Pupils can generate their own questions to add to the set.

Lesson outcomes

- Calculation of speed, factors affecting friction, balanced forces, air resistance.

Where the activity fits in

Speed and velocity calculation topics
QCA SoW Unit 9K.

Skills

Vocabulary, numeracy.

Acknowledgements

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1. A mouse runs 24 metres in 6 seconds.
What speed is the mouse running at?

A 4 metres per second

Q2 A greyhound runs 400 metres in 16
seconds. What speed is it running at?

A 25 metres per second

Q3 How fast does a snail travel if it moves 1 metre in 5 seconds?

A 0.2 metres per second

Q4 A human runs 200 metres in 20 seconds. Calculate their speed.

A. 10 metres per second

Q5 A cat runs 60 metres in 3 seconds.
What is its speed?

A 20 metres per second

Q6 In air, sound travels 66 metres in
0.2 seconds. What is the speed of
sound?

A 330 metres per second

Q7 A tortoise can walk 10 metres in 50 seconds. Calculate its speed.

A 0.2 metres per second

Q8 A bullet moves 400 metres in 2 seconds. What speed is it moving at?

A 200 metres per second

Q9 A human runs 400 metres in 50 seconds. What is their speed?

A 8 metres per second

Q10 A human runs 12,000 metres (12km) in 40 minutes (2,400 seconds). What is their speed?

A 5 metres per second

Q11 A chimp climbs a 30 metre tree in 10 seconds. What is the climbing speed?

A 3 metres per second

Q12 A car travels 144 kilometres in 1 hour. What is the car's speed in metres per second?

A 40 metres per second

Q13 How do you calculate "distance travelled"?

A $\text{speed} \times \text{time}$

Q14 What is the meaning of acceleration?

A The speed of an object is changing.

Q15 What is the accuracy of athletics lap timing?

A The nearest one hundredth of a second.

Q16 What is the accuracy of motor racing timing?

A The nearest one thousandth of a second, because the speeds are so much faster.

Q17 What produces acceleration?

A An unbalanced force.

Q18 Why has a submarine got a smooth shape?

A To reduce friction or drag from the water.

Q19 Why has a parachute got that mushroom shape?

A To produce a lot of air resistance.

Q20 What effect does high air resistance have on falling objects?

A It reduces the speed at which they fall to Earth.

Q21 What do car designers do to make car body shapes better?

A They streamline the shape.

Q22 Why do you slip over easily on ice?

A Ice has low friction.

Q23 What makes you move forward when you run?

A Your feet pushing against the ground. To do this you need high friction.

Q24 What units do we use for distance travelled?

A Metres and kilometres

Q 25 What is the formula for calculating speed?

A Speed = $\frac{\text{distance travelled}}{\text{time}}$

Q 26 What do we call the sensors used in computer data logging of distance travelled and time taken?

A Light gates

Q 27 What do we call the sensor used in a police speed trap?

A. A radar speed detector.