

INTERACTIVE GLOSSARY

ATMOSPHERE

[Pages 10-11, 44-45, 52-53, 56-57]

The layer of gases that surround our planet. It contains the air with breathe, has wind currents, contains our weather, but also can be impacted by human pollution.

The atmosphere (sky) can help provide us with which of these types of renewable energy? (more than one)

- Tidal
- Hydro
- Solar
- Wind

CARBON CAPTURE & STORAGE

[Pages 52-53]

Trapping the greenhouse gas carbon dioxide that is made by burning fossil fuels and then storing it (e.g. pumping it underground) so it can't pollute the atmosphere.

Which two of these statements are incorrect about CCS?

- It is a type of renewable energy
- It can stop greenhouse gas emissions
- It stops us from using fossil fuels
- The carbon dioxide captured can be reused in some way

CONFLICT

[Pages 18-19, 26-27, 28-29]

When a disagreement takes place between groups of people. This could be a debate about e.g. how a piece of land is used, or could be war between two military groups.

Which of these is an example of conflict in the debate about energy?

- Whether we should be building nuclear power plants
- That we need to move towards renewable energy
- Burning fossil fuels causes climate change
- Solar energy is fake news

ENERGY STORAGE

[Pages 18-19, 50-51, 58-59]
The capture of energy so that it can be used another time when it's needed, (for example, in batteries).

Which of these statements is the odd-one out?

- Renewable energy will run out, so we need to store as much as possible
- Energy storage means it's less likely there will be power cuts
- Storing energy means it doesn't go to waste
- Wind and solar farms only make energy in certain types of weather, so we can store what they make to use for other times.

GREENHOUSE GAS EMISSIONS

[Pages 12-13, 52-53]

Gasses that are released by human activity such as burning fossil fuels for energy, which causes climate change and other pollution problems.

Which of these is NOT a greenhouse gas?

- Carbon dioxide
- Methane
- Nitrous Oxide
- Oxygen

INDIGENOUS

[Pages 30-31, 34-35]

Something that belongs naturally or originally from a certain place. This could be a group of people, or a species of plant or animal etc.

It is very important to look after and listen to indigenous peoples. They have worked with nature for generations and have lots of wisdom how to use and protect it. Which two of these are examples of indigenous use of energy?

- The blasting of rock underground to release oil or gas ('fracking')
- Collecting water from wind by condensing fog onto nets
- Soaking horns in geothermal springs so they can be flexible enough to shaped into tools
- Using plastic bottles filled with water and bleach for indoor lighting

KINETIC ENERGY

[Pages 26-27, 46-47, 54-55]

The energy something has when it is moving. The acts of walking, throwing, falling, spinning, flying etc all make kinetic energy.

Which of these record-breaking attempts was achieved by kinetic energy alone?

- The around-the-world trip made by Solar Impulse 2 in 2015-2016
- Greenbird travelling over 126 mph to break a speed record in 2009
- William Kamkwamba building his own wind turbine in 2001
- Moss Landing in California becoming the world's largest lithium-ion battery in 2020

PASSIVE HEATING AND LIGHTING

[Pages 22-23]

Trapping heat and sunlight from the sun inside of your home to make it warmer and brighter.

In places that are north of the equator (the northern hemisphere) like the UK, if you want to build buildings that best use passive heating and lighting, which direction should your biggest windows face?

- North
- East
- South
- West

PHOTOVOLTAIC (PV)

[Pages 22-23, 58-59]

Put together from the words photo ("light") and voltaic ("electricity"). This is the process where light is converted into electricity.

Most solar photovoltaic panels made today are put together with cells of which mineral?

- Diamond
- Gold
- Vibranium
- Silicon

RESILIENCE

[Pages 18-19]

Being able to recover quickly from problems, set-backs and difficulties. Being more sustainable with our energy supply is one way to be resilient.

Climate change will impact us all in some way. But which group of people will be the most resilient to the problems it brings?

- The very richest people in the world
- Those who can't afford to move or rebuild after a disaster
- Those who are suffering from war
- Those who live off the land (e.g. grow their own food)

SURPLUS ENERGY

[Pages 50-51]
When more energy is made (or 'generated') than what is needed ('consumed'). It can go to waste unless it is stored or used elsewhere.

Imagine you have solar PV panels on your roof. It's sunny and they are generating 4kW of solar power. Which of these show your home having surplus energy?

- The kettle is boiling consuming 3kW, and the washing machine is consuming 2kW.
- Stuff in your house is consuming 2kW and the rest of the solar power is charging your electric car.
- You're out of the house and the only thing on at home is the fridge-freezer consuming 200W (0.2kW).
- The house is consuming so much energy that you're using all of the solar power plus 3kW from the power grid.

TURBINE

[Pages 22-23, 26-31, 33-34, 44-45]

A spinning mechanical wheel or rotor that looks like a fan which can turn kinetic energy into electricity. Moving air (e.g. wind), running water and steam are three things that can turn a turbine.

In 2019, a wind turbine that could power the average home for two days on just one spin became the world's largest to generate power. What is its name?

- Haliade-X
- Professor-X
- Space-X
- X-COM

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ANSWERS

- Atmosphere **b, c, d**
Carbon capture and storage **a, c**
Conflict **a**
Energy storage **a**
Greenhouse gas emissions **d**
Indigenous **b, c**
Kinetic energy **b**
Passive heating and sunlight **c**
Photovoltaic **d**
Resilience **a**
Surplus energy **c**
Turbine **a**