



LONDON SCHOOLS HYDROGEN CHALLENGE

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Glossary

Atmosphere - the layer of gas surrounding the Earth's surface

Atom - an atom is made of electrons that surround a nucleus made up of protons and neutrons

Biomass energy - energy from living material or plant and animal waste

Carbon dioxide - a greenhouse gas found in the atmosphere that contributes to global warming by trapping heat from the sun in the Earth's atmosphere

Carboniferous - a period in time, 290 to 354 million years ago, when fossil fuels were formed

Climate change - changes in weather patterns due to a rise in the temperature of the Earth

Combustion - the process of converting fuel into heat by burning, a process that requires oxygen

Electricity - energy produced by the movement of atoms

Electrolysis - the process of separating bonded chemical elements that form a compound by passing an electric current through them

Element - a pure chemical substance made up of identical atoms. Every substance on Earth is made from elements

Electrons - an extremely small particle that forms part of an atom and has a negative electric charge

Emissions - the release of gases into the atmosphere

Energy - a force that has the ability to do work, make things happen

Energy carrier - a system or substance used to transfer energy from one place to another

Environment - the place where someone or something lives or grows

European Union (EU) - an organisation of 27 European countries formed with the aim of working together for peace and prosperity

Fossil fuels - the group name for the fuels coal, oil and gas, which were formed over millions of years from dead plants and animals

Fuel - a substance used to produce energy, usually through burning

Generator - a machine for producing electricity

Geothermal energy - energy that comes naturally from hot parts of the Earth

Global warming - the warming of the planet caused by greenhouse gases

Government - an elected group of people who decide how to run a country

Greenhouse effect - a process by which heat from the sun is trapped in the Earth's atmosphere by gases known as greenhouse gases

Greenhouse gases - gases found in the Earth's atmosphere that trap heat from the sun, preventing it from escaping out of the Earth's atmosphere into space

Hydroelectric - electricity that is produced by harnessing the power of moving water

Hydrogen - a chemical element represented by the formula H. Hydrogen atoms consist of one negatively-charged electron that orbits around the nucleus, which in a hydrogen atom consists of a single positively-charged proton. Hydrogen is a source of clean energy for the future.

Hydrogen fuel cell - a device for generating electricity using hydrogen



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Hydropower - power that comes from the energy in moving water

Industrial Revolution - a time in the 18th Century when people started inventing machines that were used to make goods

Kyoto protocol - an international agreement to limit or reduce the amount of greenhouse gases that countries produce

Methane - a greenhouse gas that can be produced by cattle as they digest food or from waste material. It is the main component of natural gas.

Neutrons - a particle in an atom with no electric charge

Non-renewable energy - sources of energy that will one day run out. Fossil fuels, including coal, oil and natural gas, and nuclear power are all types of non-renewable energy.

Nuclear energy - energy that is created by splitting the nucleus of an atom

Nucleus - the central part of an atom. The nucleus of an atom is made of a single proton in the case of hydrogen, or a combination of protons and neutrons in other chemical elements (it is also the name given to a part of a cell in a plant or animal).

Oxygen - a gas found in the atmosphere. Oxygen combines with hydrogen to form water.

Periodic table - a table used by scientists that lists the 117 different types of elements that have been identified so far

Photosynthesis - the process by which plants store energy from the sun by making food (sugar) from carbon dioxide and water

Pollution - the release of harmful substances into the sea, air and soil that have negative effects on the environment

Potential energy - stored energy

Power plants - factories that create electricity by transferring energy from oil, coal or gas, or by using nuclear energy

Protons - a particle in an atom with positive electric charge. Protons form part of the nucleus of an atom, sometimes in combination with a particle known as a neutron.

Renewable energy - energy sources that are naturally available and can be easily replaced

Solar power - energy that comes directly from the sun

Sustainable development - development that ensures that the use of resources and the environment today does not damage them so they can be used by future generations

United Nations - an international peace-seeking organisation

Water - an odourless, tasteless, colourless liquid, consisting of hydrogen and oxygen (H_2O), that forms streams, lakes, and seas and is found in all living things

Wind power - energy that comes from the movement of the wind

Wind turbines - a machine that captures the force of the wind