Chit-Chat Climate Pack

Climate Scientists agree that one of the most impactful things you can do to battle climate change is to talk about it. But having these conversations can feel overwhelming, scary and make you feel like you don't know enough. This is where this game can help.

In this pack:

Climate Breakdown Sheet - a list of words that are sometimes used when talking about climate change that can be hard to understand. This sheet will help 'breakdown' these words by providing definitions.

Climate Questions - 21 cards containing questions to talk about.

Did You Know? - 21 cards containing facts about our changing environment and the actions people are taking to make change.

Climate Actions - 21 cards containing hints and tips on how you can become a climate activist by making small changes.

Facts about climate change were provided by LJMU's School of Biological and Environmental Sciences.

With thanks to Alicja Biala, Formby High Students, Mr Quayle, Mr Cooke, Yurii Levshyn, Dr. Tim Lane & Dr. Jason Kirby.

How To Play

Players: 2+
Duration: 10 mins +
Age: 7+

The aim of the game is to have a conversation about climate change. There are no right or wrong answers, only what you think.

1. Find some players to play the game with. You can ask other players if they would like to have a conversation about climate change using this fun game.
2. Find a quiet place where you can talk to the other players without being interrupted or distracted.
3. Lay the **Climate Questions** and **Did You Know?** cards in two piles, text down on a flat surface.
4. Divide out the **Climate Actions** cards equally amongst the players.
5. Decide who is going first.
6. The first player picks up a **Climate Questions** Card. You answer out loud to the other players. When this player speaks, it is the other players' turn to listen.

Tips for listening players: Remember that other players may not have the same feelings or opinions about climate change. Respect your fellow players and try to understand their point of view. Try not to interrupt the other person and practice active listening. If you don't understand, try asking questions such as 'why do you think that?' or 'can you explain that in a different way?'

7. The other players can take it in turns to answer this question too.
8. The first player picks up a **Did You Know?** card and reads it out loud. How does this statement make you feel? Hopeful? Worried? Why do you think it makes you feel that way? Ask the other players how it makes them feel.
9. The first player now looks at their **Climate Actions** cards. Are there any actions that connect with the **Did You Know?** card or the **Climate Questions?** Could you try to do this action in your daily life? If you did do this action, would it change how you feel about climate change? Why?
10. Each player repeats this process until at least everyone has had a turn. You can also continue until you run out of questions.
11. Once everyone has had a turn, or if you have run out of questions, chat about whether you will adopt any climate actions. Perhaps you already do some of these actions. You could talk about your hints and tips with the other players to encourage them to take up the climate action as well.

CLIMATE BREAKDOWN

This sheet lists words you might hear people say when talking about climate change. Below is a 'breakdown' of these words into their definitions to better understand what is being said. They are in alphabetical order.

Action: the act or process of doing something, typically to achieve an aim.

Activist: a person who fights openly for a cause they feel strongly about.

Adaptation: Taking actions to avoid, benefit from, or deal with current and future climate change.

Allergen: A substance, such as pollen, mould, and dust mites, that causes allergies.

Asthma: A disease that affects a person's lungs and can make it difficult to breathe.

Atmosphere: A mixture of nitrogen, oxygen, carbon dioxide, and other gases that surrounds the Earth. The atmosphere is critical to supporting life on Earth.

Atom: The basic building block of all the matter in the universe. Every element (for example, carbon or oxygen) represents a unique type of atom.

Barometer: An instrument that measures the air pressure of the atmosphere.

Biofuel: A type of fuel produced from plants or other forms of biomass. Examples of biofuels include ethanol, biodiesel, and biogas.

Biomass: Material that comes from living things, including trees, crops, grasses, and animals and animal waste. Some kinds of biomass, such as wood and biofuels, can be burned to produce energy.

Carbon: A chemical element that is essential to all living things. Carbon combines with other elements to form a variety of different compounds. Carbon combines with oxygen to make a gas called carbon dioxide.

Carbon cycle: The movement and exchange of carbon through living organisms, the ocean, the atmosphere, rocks and minerals, and other parts of the Earth.

Carbon dioxide: A colourless, odourless greenhouse gas. It is produced naturally when dead animals or plants decay, and it is used by plants during photosynthesis. People are adding carbon dioxide into the atmosphere, mostly by burning fossil fuels such as coal, oil, and natural gas. This extra carbon dioxide is the main cause of climate change.

Carbon footprint: The total amount of greenhouse gases that are emitted into the atmosphere each year by a person, family, building, organisation, or company.

Carbonic acid: An acid that forms when carbon dioxide dissolves in water. Extra carbonic acid is making the oceans more acidic, which can make it harder for corals and shellfish to build their skeletons and shells.

Climate: The average weather conditions in a particular location or region at a particular time of the year. Climate is usually measured over a period of 30 years or more.

Climate change: A significant change in the Earth's climate. The Earth is currently getting warmer because people are adding heat-trapping greenhouse gases to the atmosphere. The term "global warming" refers to warmer temperatures, while "climate change" refers to the broader set of changes that go along with warmer temperatures, including changes in weather patterns, the oceans, ice and snow, and ecosystems around the world.

Climate model: A series of calculations run on a computer that simulates how the atmosphere, oceans, land, living things, ice, and energy from the sun affect each other and the Earth's climate. Scientists use these models to study the Earth's climate and predict how it might respond to changing conditions, such as an increase in greenhouse gases in the atmosphere.

Coal: A dark-colored solid fossil fuel that can be mined from the Earth

Concentration: The amount of a particular substance that exists within a certain volume or weight of air, water, soil, or other medium.

Coral bleaching: The process that takes place when corals lose the microscopic organisms called algae that live within their tissues. These algae provide the coral with nutrients, and they're responsible for the colour of the coral. If a disturbance such as rising water temperature causes the algae to leave, corals will appear white (or bleached) and could eventually die.

Decomposition: The breakdown of matter by bacteria and fungi. Decomposition changes the chemical makeup and physical appearance of materials.

Drought: A period of unusually dry weather lasting long enough to cause serious shortages of water.

Ecosystem: A natural community of plants, animals, and other living organisms and the physical environment in which they live and interact.

Emissions: The release of a gas (such as carbon dioxide) or other substance into the air.

Energy: The ability to do work. Energy comes in many forms, such as heat, light, motion, and electricity. Most of the world's energy comes from burning fossil fuels to produce heat, which can then be converted into other forms of energy, such as motion (for example, driving a car) or electricity.

Energy vampire: An appliance or device that uses electricity even when it is turned off.

Erosion: The wearing down of land by wind or water. Erosion can be made worse by certain types of farming and logging, road building, and clearing land for development.

Fossil fuel: A type of fuel that forms deep within the Earth. Examples of fossil fuels include coal, oil, and natural gas.

Geothermal energy: Heat from inside the Earth. People can use geothermal energy to heat buildings or produce electricity.

Global warming: An increase in temperature near the surface of the Earth. Global warming has occurred in the distant past as the result of natural causes. However, the term is most often used to refer to recent and ongoing warming caused by people's activities. Global warming leads to a bigger set of changes referred to as global climate change.

Greenhouse gas: Also sometimes known as "heat trapping gases," greenhouse gases are natural or human-made gases that trap heat in the atmosphere and contribute to the greenhouse effect.

Habitat: The place or environment where a plant or animal naturally lives and grows.

Heat wave: A long period of abnormally hot weather, typically lasting for several days.

Impact: have a strong effect on someone or something.

Incandescent light bulb: The most common type of light bulb, which produces light when electricity heats a thin metal wire. Incandescent bulbs use more electricity than newer light emitting diode light bulbs (LEDs).

Infrared radiation: A type of electromagnetic radiation. The Earth gives off energy in the form of infrared radiation, which is not visible to the naked eye and feels like heat to the human body.

Infrastructure: Physical structures that allow society to function. Examples include buildings, roads, water pipelines, sewers, electric power lines, railways, and airports.

Invasive species: A type of plant, animal, or other organism that does not naturally live in a certain area but has been introduced there, often by people. An invasive species can hurt native species, disrupt ecosystems, and create problems for people (for example, weeds and insects that damage crops).

Kilowatt-hour: A unit for measuring the use of electricity. The cost of an electric bill depends on how many kilowatt-hours the customer used. A microwave or toaster running for an hour will use about 1 kilowatt-hour.

Light-emitting diode (LED): A device that uses a material called a semi-conductor to produce light without using a lot of electricity.

Methane: A colourless, odourless greenhouse gas. It occurs both naturally and as a result of people's activities. Methane is produced by the decay of plants, animals, and waste, as well as other processes.

Natural gas: A fossil fuel that is an odourless, colourless gas. Natural gas consists of 50 to 90 percent methane.

Non-renewable resource: A natural resource that cannot be produced, regrown, or reused fast enough to keep up with how quickly it is used. Fossil fuels such as coal, oil, and natural gas are non-renewable resources as they take millions of years to develop naturally.

Nuclear fission: A process that occurs when an atom splits into two smaller atoms, which releases some of the energy that was binding the parts of the atom together. A nuclear power plant uses a controlled fission reaction to produce heat, which is then converted to electricity.

Oil: A dark-colored liquid fossil fuel found underground. Raw (crude) oil can be refined to produce a variety of different products, such as gasoline, diesel, home heating fuel, asphalt, and chemicals that can be used to make paint, plastics, and many other everyday products.

Ozone: A gas made up of three atoms of oxygen bonded together. High in the atmosphere, ozone naturally shields the Earth from harmful ultraviolet radiation that comes from the sun. Closer to the Earth's surface, ozone is a pollutant that is formed by other pollutants that react with each other. Ozone is also a greenhouse gas.

Permafrost: Soil or rock that is frozen year-round. Permafrost can be found in many parts of Alaska, northern Canada, and other countries near the Arctic Ocean.

Photosynthesis: The process by which green plants use sunlight, water, and carbon dioxide to make food and other substances that they use to grow. In the process, plants release oxygen into the air.

Positive feedback loop: A process in which one change leads to another, which then causes even more of the original change. In climate change, a positive feedback loop occurs when warming causes changes that lead to even more warming.

Precipitation: Rain, hail, mist, sleet, snow, or any other moisture that falls to the Earth.

Product life cycle: The many steps that go into creating, using, and disposing of a product. A product life cycle typically starts by removing raw materials from the Earth, which are then transported, processed and manufactured into usable products. Next, the product is packaged and transported to a place where people can buy it. The final steps occur when people use up, throw away, or recycle the product.

Radiation: Energy that travels in the form of a particle or a wave. There are many different types of radiation. Several common forms of radiation are classified as "electromagnetic radiation," including radio and TV waves, X-rays, ultraviolet radiation, infrared radiation, and visible light.

Recycle: To collect and reprocess a material so it can be used again to make a new product.

Refrigerant: A substance that is used for cooling or heating because of its ability to absorb and transfer energy.

Renewable resource: A natural resource that can be produced, regrown, or reused fast enough to keep up with how quickly it is used. For example; wind, tides, and solar energy.

Smog: Air pollution caused by chemical reactions of various pollutants emitted from different sources. Ozone is one of the main ingredients of smog, and it can harm people's health.

Snowpack: The amount of snow that accumulates on the ground. Snowpack can be an important water resource when it melts and feeds into streams and rivers.

Solar energy: Energy from the sun, which can be converted into other forms of energy such as heat or electricity.

Solar panel: A device that can convert energy from the sun into energy for people to use.

Thermal expansion: The increase in volume of a material as it gets warmer. For example, water expands as it is heated, causing each drop of water to increase in size. In the ocean, thermal expansion is one cause of rising sea level.

Tidal power: A form of renewable energy generated from the natural rise and fall of the ocean.

Tides: A variation in the surface level of the oceans caused by the gravitational pull of the moon and sun. Tides fluctuate between high and low twice a day.

Turbine: A device with blades that can be turned by a force such as wind, water, or high pressure steam. The energy of a spinning turbine is converted into electricity by a generator.

Ultraviolet (UV) radiation: A type of electromagnetic radiation that is produced by the sun. UV radiation is not visible to the naked eye. Most UV radiation is blocked by ozone high in the Earth's atmosphere, but some of it reaches the Earth's surface.

Water vapour: Water that is present in the atmosphere as a gas. Water vapour is a greenhouse gas and plays an important role in the natural greenhouse effect. Clouds form when extra water vapour in the atmosphere condenses to form ice, water droplets, and precipitation.

Watt: A measurement of power, usually used when talking about electricity. A watt measures the rate at which energy is used.

Weather: The changeable condition of the atmosphere at a particular place and time. Some familiar characteristics of the weather include wind, temperature, humidity, atmospheric pressure, cloudiness, and precipitation.

Wetland: An area of land that is periodically saturated with water, which influences the types of plants and animals that can live there.

Wind turbine: A machine that converts energy from the wind into electricity. The wind spins a set of blades connected to a generator.

CLIMATE ACTION

Sow Wildflower Seeds! Go on a walk and spread wildflower seeds in green banks anywhere you can see soil. Wildflowers are a vital source of food for pollinating insects.

CLIMATE ACTION

Plant a tree - If you have a garden a tree is an excellent addition to your green space, even small trees clean the air and absorb CO_2. If you don't have a garden, head to your nearest national trust office and ask about their tree planting initiatives.

CLIMATE ACTION

Grow your own fruit and veg! Get seeds for your favourite fruit and veggies! If you grow some of your own food, you will help to prevent more CO_2 from entering the air from the fossil-fuel-burning trucks, planes, and ships that transport your food from far away. You can even grow them in window boxes if you don't have a garden. And if there is no room at home, try starting a garden at school.

CLIMATE ACTION

Encourage the adults you know to make use of local waste reduction schemes. Tons of food is thrown away every day across the UK that has not even been sold yet. A great way to save money and prevent food waste is to use local initiatives to reduce waste and save good food from going to landfill.

CLIMATE ACTION

Recycle! Learn about your local recycling facilities.
What can and cannot be recycled?
What do the symbols mean on packaging?

CLIMATE ACTION

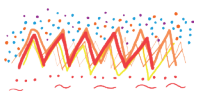
Go on a litter pick! Tons of plastic and other pollution ends up in our oceans and it all begins its journey on land. Have a look around your local park, high street, beach or school to see how much litter there is. Safely use gloves or a litter picker to collect litter and dispose of it correctly in bins or the local recycling centre.

CLIMATE ACTION

Enjoy more plant-based meals. Reduce the amount of meat and cheese you eat. Particularly big animals like cows, pigs and sheep. Research how much CO_2 is released into the atmosphere by different food types.

CLIMATE ACTION

Use a refillable water bottle to reduce the amount of plastic you use.



CLIMATE ACTION

Turn off the tap when brushing your teeth and use leftover drinking water to water your plants.

CLIMATE ACTION

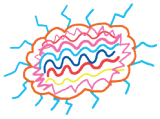
Encourage your adults to change the light bulbs they use. Where possible try to use LED light bulbs which are more energy efficient.

CLIMATE ACTION

Turn off the light when you leave a room and turn off the TV if no one is watching it.

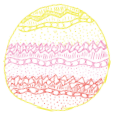
CLIMATE ACTION

Unplug your electronic devices once they are charged and switch them off when you aren't using them. Leaving these devices switched on when you aren't using them wastes lots of energy.



CLIMATE ACTION

Close the door! When going outside make sure you close the door behind you. This makes sure the energy used to heat/cool your home is not wasted by letting it escape outside. This also counts for the refrigerator too!



CLIMATE ACTION

Reduce the amount of disposable items you use. Have a reusable lunch box that you can use again and again. Try using a hankie instead of disposable tissues.

CLIMATE ACTION

Become a Climate Activist! Research about local climate action groups and how you can get involved. There are lots of other people where you live who are turning their concerns about climate change into positive action.

CLIMATE ACTION

When thinking about getting a new toy, consider how many toys you already have. Do you need something new? Can you buy it second-hand? Think about donating toys you no longer use to charity. We should all try to reduce the amount of ‘stuff’ we have and buy.

CLIMATE ACTION

Reuse items you no longer need to give them a second life. Old/damaged clothes that cannot be mended can be used as cleaning cloths. Keep packaging from items that can be used again. Turn empty plastic containers with tight-fitting lids into an under-the-sink compost bin.

CLIMATE ACTION

Try to reduce the trips you take in a car. If you can, travel by public transport, cycle or walk. Enjoy spending time outside and getting to know your environment.

CLIMATE ACTION

Start a compost scheme at your school. Ask teachers to learn about what can and can't be used for garden compost and watch the composting process as it happens. Use this as fertiliser in the school garden and ask if you can take some home to use with your homegrown plants.

CLIMATE ACTION

Start or become a member of your school's Climate Action, Ecology or Sustainability Group. Ask teachers for help on how you can make a difference and spread the word about climate action.

CLIMATE ACTION

Have another conversation! Use the tools and questions you learned by playing this game to have a conversation with adults about climate change. Use your research skills to find out more about climate change so you feel prepared for any questions they might have. Every conversation makes a difference.

CLIMATE QUESTIONS

Does the news affect the way you feel about climate change?

CLIMATE QUESTIONS

Are there any positive outcomes that might come from climate change?

CLIMATE QUESTIONS

Have you made any changes in your life due to your views on climate change?
What happened?

CLIMATE QUESTIONS

Are personal conversations about climate change important?
Why?

CLIMATE QUESTIONS

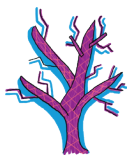
Do you think humans have a responsibility to protect other living things?
Why?

CLIMATE QUESTIONS

Do you believe everything politicians say about climate change?
Why?

CLIMATE QUESTIONS

Do you believe everything scientists say about climate change?
Why?



CLIMATE QUESTIONS

Are you more worried about climate change or (INSERT CURRENT SCARY NEWS STORY HERE)?
Why?

TIP: when making this game players suggested the scary news story could be war in Ukraine or the cost of living crisis - but we hope this resource will be available for many years to come - so please talk about a news story that feels worrying or scary right now.

CLIMATE QUESTIONS

Who do you think should be responsible for doing something about the climate crisis?

CLIMATE QUESTIONS

How can we make sure governments keep their promises about climate change and how can we make our voices heard?

CLIMATE QUESTIONS

Do you think technology is helping or hurting our relationship with nature?

CLIMATE QUESTIONS

What do you think humanity's future on Earth looks like?

CLIMATE QUESTIONS

Do you think the impacts of climate change are fairly shared?

CLIMATE QUESTIONS

What motivates you to care about the environment?

CLIMATE QUESTIONS

Have you ever seen or experienced the effects of climate change? Can you share your experience?

CLIMATE QUESTIONS

Why does climate change matter to me?

CLIMATE QUESTIONS

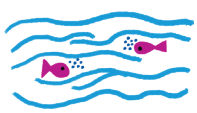
What comes to mind when you hear the words ‘climate change’?

CLIMATE QUESTIONS

What is your relationship with nature?
What do you think that relationship will look like in the future?

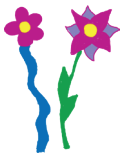
CLIMATE QUESTIONS

What do you think will happen to people who need to leave their homes due to climate change?
Do you think this could happen where you live?



CLIMATE QUESTIONS

What will our grandchildren think about how we dealt with climate change?



CLIMATE QUESTIONS

Do you feel guilty about doing anything which is bad for the environment?
Do you think guilt is a good motivator?

DID YOU KNOW?

Eleven percent of all global greenhouse gas emissions caused by humans are due to deforestation.

DID YOU KNOW?

For eight years in a row, global temperatures have exceeded 1.0°C above pre-industrial levels.

DID YOU KNOW?

Oil is our primary fuel source and causes 45% of greenhouse gas emissions.

DID YOU KNOW?

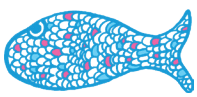
About one million plant and animal species face the threat of extinction.

DID YOU KNOW?

Extinction threatens more than 40% of amphibians.

DID YOU KNOW?

There has been a 68% average decline in the population sizes of mammals, birds, amphibians, reptiles, and fish between 1970 and 2016 (also known as the Biodiversity crisis).



DID YOU KNOW?

Since the beginning of the industrial era (1750), human activities have raised atmospheric concentrations of CO_2 by about 50%.

DID YOU KNOW?

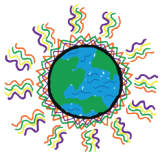
The thickest Arctic sea ice has reduced by 95% since 1990 and is now declining at a rate of 13% per decade.

DID YOU KNOW?

Global sea level has increased by 100.8 mm since 1993.

DID YOU KNOW?

The planet's average surface temperature has risen about 1 degree Celsius since the late 19^{th} century.



DID YOU KNOW?

Greenland lost an average of 279 billion tons of ice per year between 1993 and 2021 (equivalent to covering all of California in 60 cm of water each year).

DID YOU KNOW?

By 2070, three billion people will live in climate conditions deemed “warmer than suitable for human life to flourish”.

DID YOU KNOW?

8 out of 10 young people have taken some form of action on climate change.

DID YOU KNOW?

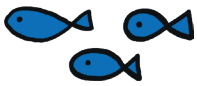
12.5 million girls may be prevented from completing their schooling each year by 2025 because of climate change.

DID YOU KNOW?

Schools Strike for Climate or Fridays for Future, is an international movement where school students skip Friday classes and join demonstrations to demand action to prevent climate change. A global strike on 15th March 2019 gathered more than one million strikers in 2,200 strikes organised in 125 countries.

DID YOU KNOW?

Rewilding (a process of restoring land to its' natural untouched state) can lead to more and varied jobs in rural and coastal areas. This will help Britain meet its biodiversity and climate commitments.



DID YOU KNOW?

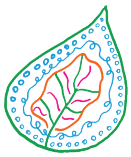
If we continue the development of low cost solar, wind, and battery technologies we could halve the emissions we use to make electricity by 2030. Wind and solar energy now out-compete fossil fuels in most regions of the world.

DID YOU KNOW?

Electric vehicle growth has the potential to reach 90% of all cars sold by 2030 if sustained, but only if strong policies support this direction.

DID YOU KNOW?

After years of work by activists, the USA's Keystone XL oil pipeline permits were revoked.



DID YOU KNOW?

The number of vegans in the UK quadrupled between 2014 and 2019. In 2019 there were 600,000 vegans (1.21% of the population):
276,000 (0.46%) in 2016; and
150,000 (0.25%) in 2014.

DID YOU KNOW?

More than 90% of people have never flown and just 1% of the world's population is responsible for 50% of emissions from flying.