13 CLIMATE ACTION

Goal 13: Climate Action

Take urgent action to combat climate change and its impacts.

Climate change effects every person, in every country in every continent in the world. We must take positive actions to transform our energy sources and our transport systems. We must make changes to our agriculture and forestry practices to protect these systems. All these efforts aim to limit a global temperature rise.

We are now going to learn about climate change and climate action, and explore the greenhouse gas molecules.

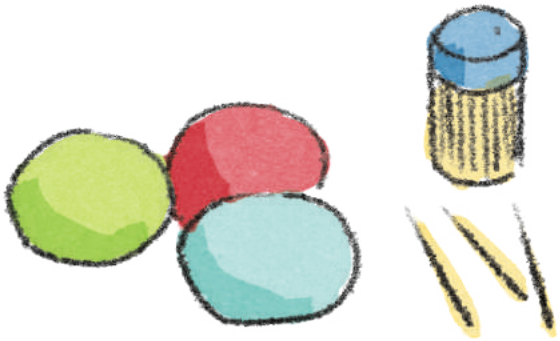
What is Climate, Climate Change and Why we should take Climate Action?

Climate is the pattern of weather in a particular area over a long period of time such as 30 years. Climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity. Do you know what Ireland's climate is? Ireland has a mild temperate oceanic climate due to the influence of the Atlantic Ocean. However, Ireland's climate is changing with an increase in temperature and an increase in annual rainfall compared to previous records.

We need to take climate action to protect our world and protect future generations. Positive actions will help protect unique ecosystems such as the beautiful coral reefs. By making changes we can help prevent some of the effects of extreme weather events such as coastal flooding. By taking positive actions we are helping protect those who live in parts of the world that are most affected by climate change.

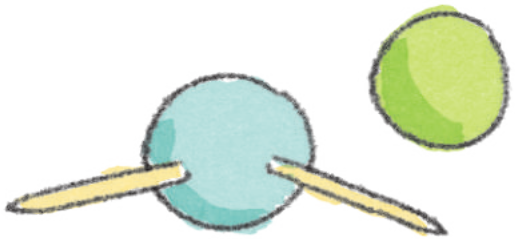
1. Urgent means something that needs to be done as soon as possible. 2. Combat means to work to prevent something happening. 3. Variability means how much something can change.

Experiment - Model Greenhouse Gases

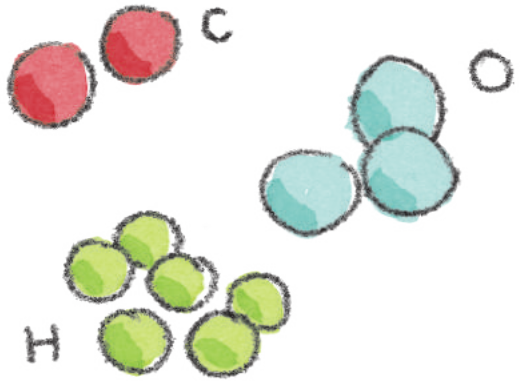


What you need:

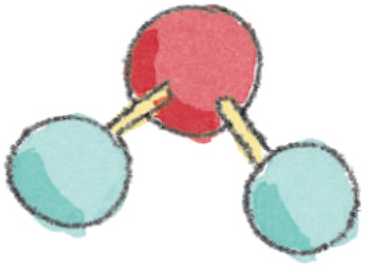
- Toothpicks
- 3 different colours of play-dough



3. Use the remaining balls to make water (H_2O) and methane (CH_4). Draw the shapes of the molecules that you have made. Did you notice anything about the sizes of each molecule?



1. Assign a play-dough colour to oxygen, carbon and hydrogen. Then create 3 balls of oxygen, 2 balls of carbon, and 6 balls of hydrogen. The oxygen balls should be the largest in size, then the carbon, and the hydrogen should be the smallest.



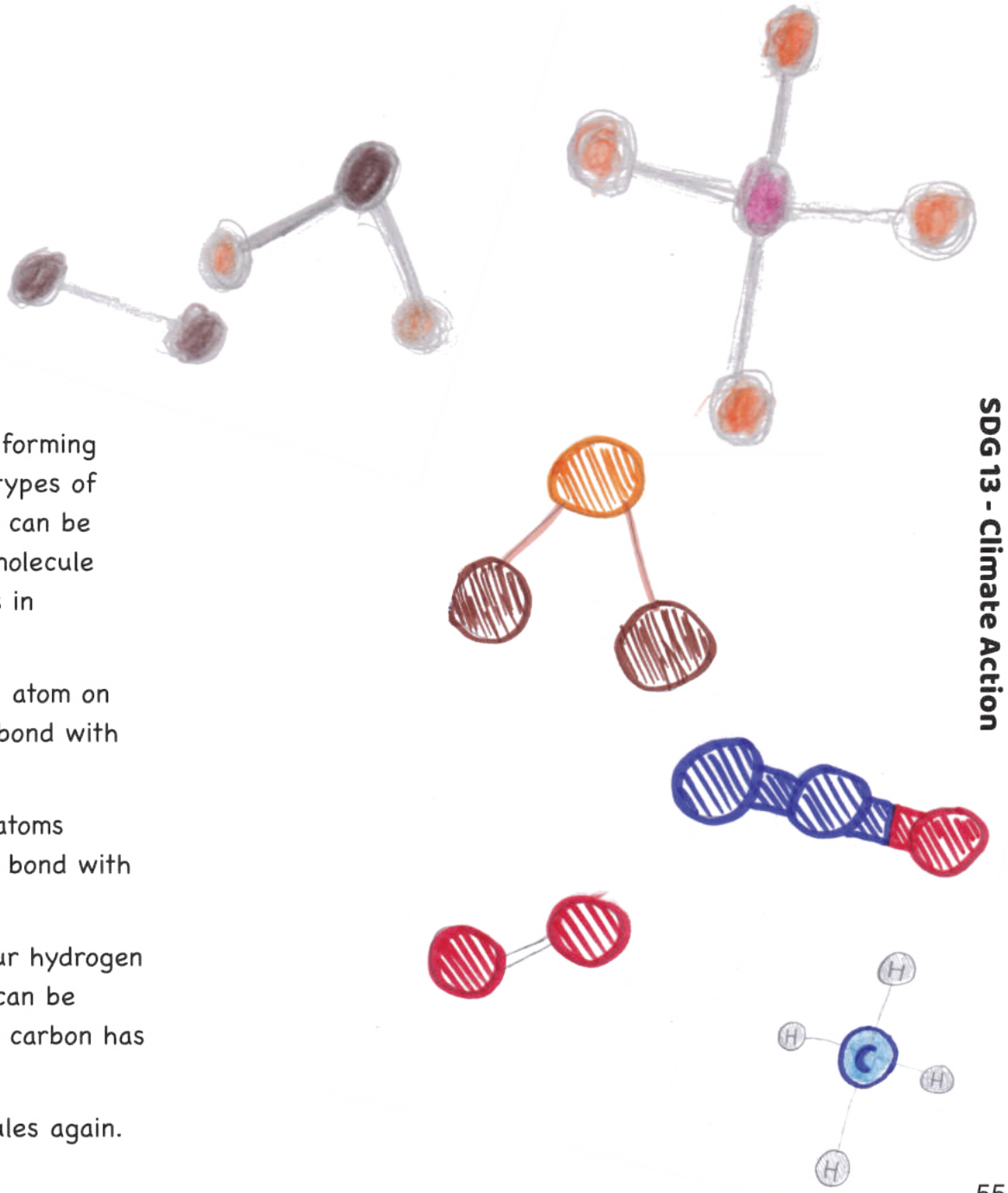
2. Make a carbon dioxide (CO_2) molecule by attaching two oxygen balls to a carbon ball with toothpicks.

What are your thoughts?

Have you learned something new about greenhouse gases?

What would you do to ensure we take climate action?

What Do We Learn From This Experiment?



Model Greenhouse Gases

What did your molecules look like? Atoms join together forming bonds to make molecules. Molecules can have different types of bonds joining the different atoms together. These bonds can be single bonds or double bonds. The overall shape of the molecule is based on the number of bonds and the type of bonds in the molecule.

Carbon dioxide (CO_2) is a linear molecule with an oxygen atom on each side of the carbon atom. The carbon has a double bond with each of the oxygen atoms.

Water (H_2O) is a v-shaped molecule with two hydrogen atoms either side of the oxygen atom. The oxygen has a single bond with each of the hydrogen atoms.

Methane (CH_4) is a tetrahedral shaped molecule with four hydrogen atoms bonded to the carbon atom. A tetrahedral shape can be described as a pyramid shape with a square bottom The carbon has a single bond with each of the hydrogen atoms.

Did your molecules look like this? Try making the molecules again.

What Can We Do?

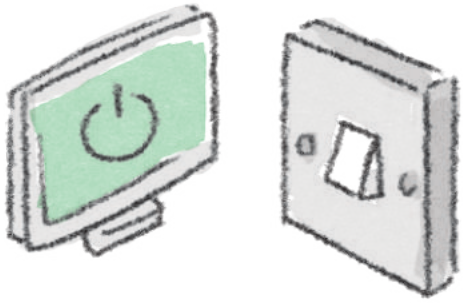
Encourage your family to walk or bike for short trips where possible.

SDG 13 is all about taking urgent action to combat climate change and its impacts.

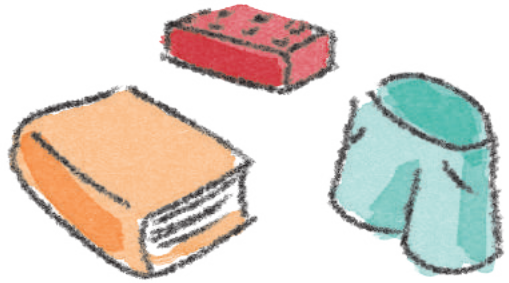
It can be hard to know the things we can do in our lives to make a difference, but by following some of the tips on this page we can start making the world better for everyone. You may not think that little changes will make a difference, but everyone making little changes adds up to big change.

Participate in clean-up events in your local community.

Create awareness posters about ways to stop global warming.



Turn off your lights or devices when they are not in use.



Donate any clothes, toys, or books you no longer use to charity or second-hand shops.