THE GREENHOUSE EFFECT

ACTIVITY:

LEARNING AIMS:
- To provide an understanding of the 'The Greenhouse Effect'

TIME:
20 minutes

RESOURCES:
- Globe or picture of the earth
- 6 x images used in 'Our Impact' lesson plan
- 3 x pictures of the sun or bright clothing/hat to wear
- facilities to play short film

ACTIVITY DESCRIPTION:
- All students stand in a large circle holding hands.
- Ask for 1 volunteer to stand in the middle of the circle to represent the earth (you can add a visual representation by asking them to hold a globe or picture of the earth)
- Ask for additional volunteers to represent the sun rays - again you can ask them to hold a picture of the sun, or perhaps wear bright clothing or a hat.
- Break the circle up by removing 6 people and asking them to hold pictures of buildings and vehicles that produce greenhouse gasses, e.g. houses, leisure centres, schools, factories, cars, etc. (you can use the images from 'Our Impact' activity). These students should stand outside the circle at the side of the room – leaving clear gaps in the 'atmosphere' where they were previously standing.

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Activity script

"Ok, so the large circle of people represents the atmosphere that surrounds our planet earth."

"The rays from our sun come through the atmosphere bounce off the earth and go back out of the gaps in the atmosphere". [Ask the 'sun rays' to walk into the circle through the gaps, towards 'earth' and back out again a couple of times and then return within the circle]

"As you can see, before greenhouse gases built up in the atmosphere the sunrays could come into our atmosphere, bounce off our planet and leave through the gaps in the atmosphere - this helped maintain a balanced temperature on earth"

Now ask the students who were earlier removed from the circle to re-join in their original (vacant) spot thereby filling in the gaps they left in the 'atmosphere'.

"Greenhouse gases now increase within the atmosphere caused by the places and things in the pictures therefore filling in the 'gaps' in our atmosphere and preventing the sun's rays/heat from leaving earth's atmosphere"

Now ask the 'sun rays' to move around and try to leave the circle [there should no longer be gaps that enable them to leave the 'atmosphere'

"As you can see the sun rays can no longer escape, leaving them trapped within the atmosphere and heating up our earth"

What could this mean for the world?

- Generate discussion through students shouting out ideas, for example: melting icecaps, rise in sea level/oceans, forest fires, animals becoming extinct, extreme weather changes, etc.

You can recap this activity by ending with this short film: 'Greenhouse Effect'

Global warming is the ongoing rise of the average temperature of the earth's climate system and has been demonstrated by direct temperature measurements and by measurements of the effect of the warming (e.g. size of the polar ice-cap)

https://youtu.be/ykqOnV6FXD0