



# How have we contributed to climate change?

## TEACHER ACTIVITY SHEET

### Section B: How have we contributed to climate change?

In order to successfully comprehend exactly how we have contributed to climate change, students need to be able to understand how often we use energy obtained from burning fossil fuels, as well as recognise what equipment, machinery, and appliances we rely on in our everyday lives that release carbon dioxide.

Present 'Chart 2: How Have We Contributed to Climate Change?' to your class. You may like to:

- Photocopy the chart and distribute it to each student to read either individually or in pairs
- Photocopy and enlarge the chart in order for your students to read it aloud in small groups.
- Present an enlarged copy of the chart to your students to read and discuss together as a class

Using the following activity explanations as a guide, as well as distributing or explaining the enclosed worksheets, encourage your students to carry out the following tasks either as a whole class group, in smaller groups, in pairs, or on their own.

#### 1. Comprehension

Photocopy and distribute the 'Section B; Comprehension' worksheet to the class.

Ask them to answer the questions as thoughtfully and as carefully as possible, taking their time to think about their answers based on the information they have just read/heard from 'Chart 2:How have we contributed?'

KS1 option: Ask and answer a selection of the questions detailed on the worksheet as a class during circle time. Write their responses on the board and discuss their answers.

#### 2. Climate Change Sums

Photocopy and distribute the 'Climate Change Sums' worksheet to the class.

Trying to remember how carbon dioxide, which contributes to climate change, is produced can be a rather difficult task.

The best way for ALL students to access this information is to present the facts in a variety of formats:

- Written- Distributing Chart 2
- Orally- Discussing Chart 2
- Visually- Producing a picture version of Chart 2
- Kinaesthetically- Creating the chart using our bodies



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This task is designed to encourage your students to put into practise what they have learnt about how we contribute to climate change by asking them to focus on the process involved in creating man made CO<sub>2</sub>. Using the worksheet provided, ask your students to replicate the information presented in 'Chart 2' about how we burn fossil fuels to create energy and the benefits and disadvantages of this.

They will need to focus on the following points:

- Fossil fuels (e.g. coal) plus fire = Energy
- Energy powers lots of things we need such as power stations/machinery/vehicles
- Power stations/machinery/vehicles enable us to cook/use a telephone/computer/television/drive....
- When we cook/use a telephone/computer/television/drive we create MAN MADE CO<sub>2</sub> and, thus, a warm climate

They should present this information as a simple sum, but this time using only pictures and symbols to show how man made CO<sub>2</sub> and our use of it contributes to climate change.

### EXTENSION TASK

Using the 'Climate Change Sums' worksheet as stimulus, ask students individually, in pairs, or small groups, to create a giant placard depicting just one of the picture symbols they had created. Make sure that a placard is being created for every aspect of the climate change sum, i.e. coal, fire, car, light bulb or kettle. This placard should be as colourful and bold as possible so that everyone can see it. You could add coloured card/fabric/tissue paper/paint for added effect.

In the school hall, or a similar sized space, ask the students to hold up their placards so that everyone can see. Now ask them to arrange themselves into the correct order so that they create a giant climate change sum with their bodies. Is this correct? Does it make sense? Select students to come out of the exercise and assess the success of the activity- Is everyone in the correct order?

You can then use these placards to create a wall display in your school/classroom, detailing how climate change occurs.

### 3. What's in my house?

Photocopy and distribute the 'What's in my House?' worksheet to the class.

As highlighted in 'Chart 2', climate change is something that happens at school, work, home, and outside. However, the best way to make students aware of the level of energy we use everyday is to encourage them to investigate how many different appliances we have in our homes use energy and, thus, release CO<sub>2</sub> into the atmosphere.



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Ask students to draw a floor plan of their house, or just one room in their house, in the space provided. They may be able to do this from memory, or they may like to do it at home as a survey. They should draw in all the things that use energy in that room, or in their house, as well as write these in the chart.

Once they have completed the chart, ask your students to add up how many different things they have drawn and listed that use energy. Collate this information in groups in order to analyse how much energy is used by just those on one table, for example. Ask each group to present their findings to the rest of the class.

### 4. Then and Now

Photocopy and distribute the 'Then & Now' worksheet to the class.

The best way for students to comprehend how our use of energy dependent appliances has increased dramatically throughout the 20<sup>th</sup> and 21<sup>st</sup> Century, is to compare our everyday lives now with those who lived 50- 60 years ago. We refer to this period of time as post WWII. This is when we began to produce more and more goods which were reliant on the burning of fossil fuels.

Tell your students that they are to undertake a research task in order to compare what life was like in the 1940- 50s, and what it is like now. They should focus on the following:

- Houses
- Transport
- Leisure Activities
- Occupations
- School
- Food
- Fashion

They may like to ask friends or family who grew up in that era about the above points.

Discuss the findings as a class, reflecting on the similarities and difference between then and now, and analysing how and why the amount of CO<sub>2</sub> released into the atmosphere has increased in just this short space of time.

### 5. 5 day diary

Photocopy and distribute the '5 Day Diary' worksheet to the class.

We all use energy obtained from the burning of fossil fuels, however, it is now such a huge part of our everyday lives that we often don't think twice about switching on a light, turning on the computer, using the kettle or toaster. More importantly still, much of the energy we use is wasted.

On average we each waste approximately 20% of the energy we use every day.



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In order to encourage your students to become more conscious about the amount of energy they use and, subsequently, waste, each day, ask them to keep a '5 day diary', recording each time they use a piece of equipment/appliance or do an activity that uses energy. They may like to note down the time that they started and finished using the energy source.

The results will probably shock most members of your class! Now ask them to re-read their diaries and highlight any times when they think perhaps it wasn't essential that they use the energy- what could they have done instead?

Collate this information as a class or in small groups and present as a pie chart. You may like to look at what periods of time were the most popular for energy use, or which pieces of equipment/appliances/activities were most frequently carried out.