

# Beat the Heat Interactive Task

The World Around Us

ICL: Eco-Warriors

Year 6/7

<p><b>Thinking Skills and Personal Capabilities</b> displayed/developed in this assessment task:</p>	<p>Managing Information - <b>Thinking Problem Solving and decision making</b>  Being Creative Working with others Self Management</p>
--	---

## What It's About

The issue of global warming affects us all and it is our responsibility to influence decisions that relate to limiting the emission of carbon dioxide. This interactive game allows the player to examine the long term effects of carbon dioxide emissions on our planet. They are given the opportunity to investigate pieces of information to determine whether they are fact or opinion, so that they can convince government officials to take action before it's too late. With the pressures of money and time the players are challenged to make timely and well informed decisions based on analyzing and evaluating scientific evidence.

## Where It Fits

### Strand: Change Over Time

- how change is a feature of the human and natural world and may have dramatic consequences for our lives and the world around us
- positive change and how we have a responsibility to make an active contribution
- the effect of negative change and how we should attempt to foresee the consequences.

### Strand: Interdependence

- the affect of people on the natural and built environment over time
- Interdependence of people, plants, animals and place.

### Key Questions:

- What kind of changes happen, have happened, might happen?
- Can we stop unwanted changes?
- How can we influence change?

## Suggested Learning Intentions

What?	How?
About the immediate and longer term effects of carbon dioxide emissions on the way we live	Seeing the impact when the game fast forwards, and you connect the way in which carbon dioxide emissions affect the way we live.
To examine and draw conclusions from evidence, discriminating between fact and opinion	Deciding whether to investigate the news claim, and whether based on the evidence, it's worth 'bagging' the information.
To question the reliability of evidence, noticing bias	Considering the evidence and deciding whether it is useful or possibly more likely to just be opinion.
To make decisions using evidence, supported by scientific knowledge and understanding	Deciding whether the evidence is based on reliable scientific knowledge and understanding or not.
To justify choices and decisions with scientific knowledge and understanding	By orally explaining the choices made (or in written form) as a follow up to the game, or during the game, using the pause facility.

# Discussion Starters

## When introducing the task:

- What do you already know about global warming?
- Can we see the effects of global warming around us?
- What kinds of things can we do to help limit global warming?

## When the children are working with the task

- What is good evidence?
- Why are some pieces of evidence better than others?
- What do you think will happen if more and more gases are produced?

# Running the Task

## Introducing the task

The aim of the task is to make well informed decisions, based on good pieces of evidence in time to be able to limit the effects of greenhouse gases on our global environment. If players wait too long the effects of the gases will have taken hold and little impact will be able to be made; spend too much time investigating and researching data and there will be no money to make a difference; listen to or base decisions on biased pieces of information will lead to players being unable to convince people to make a change at all. It's all about timing and good decision making.

## Features of the game

**The calendar:** Starting with the year 2006, the clock is ticking. The players need to consider the information they receive from the news updates and to act accordingly before the years pass by and it becomes too late to make a difference.

**News Updates:** Reports flood in year on year, highlighting the detrimental effects of global warming on the way we live. The news clips provide information that could either be fact or opinion. The players must decide if the information should be ignored (because it's not based on strong evidence), investigated (because they wish to find out more) or taken straight to the world leaders.

**The money:** Players have £15,000 which they are able to spend as they 'investigate' or 'take' particular pieces of information or evidence. As with all things in life, each time the player wishes to investigate they are charged a fee of £1,000 and each time they wish to take something to the world leaders they are charged a fee of £1,000. The player must be strategic to investigate and take evidence that they decide is very strong evidence, otherwise they may run out of money before being able to make a difference to the state of the earth.

**Investigate:** Players have the opportunity to find out more about a news clip. By investigating it they will examine, using diagrams, graphs etc. whether the information is likely to be good/strong evidence or opinion, whether it is grounded in strong scientific data or not. They must then decide to 'ignore it' or 'take it' to the world leaders. They would ignore it if the data is not good evidence, and take it if they feel it is very good evidence. Some evidence is 'OK' – not poor but not very strong – players must be aware of this and discriminate between strong and less strong evidence.

Players are charged £1000 to investigate.

**Taking It:** When players feel that they wish to take a valuable piece of information to the world leaders, whether they care to investigate it or not, they are given the option to 'take it'. This allows them to choose which world leader the evidence is most likely to convince.

Players are charged £1000 to 'take it' to the leaders.

**The world leaders:** As with all key decisions in life, government officials must be adequately convinced to take action. Having selected which pieces of evidence to 'take' to the leaders, they must consider what the evidence is most about – choosing from 3 categories – is the evidence mostly to do with 'Places', 'Weather' or 'Nature'. Each leader requires to be convinced once with evidence considered to be 'strong'.

**Feedback:** Players receive feedback each time they take evidence to the world leaders. They receive a Thumbs Up, Sideways or Down to indicate how strong and convincing the evidence was. Thumbs Up evidence means that the world leader will be convinced. Descriptions as to why the evidence was classified as 'strong' 'OK' or 'Poor' is given.

**The debrief:** Players are given a short debrief at the end of the task, allowing them to view the evidence they chose to take to the leaders. They can consider from this why certain pieces of evidence were stronger than others.

## **Extra Information for Teachers:**

### **Instructions for Beat the Heat**

Welcome to Beat the Heat!

### **The aim of the game:**

- to save the world. Convince 3 world leaders to produce less greenhouse gases, before the planet overheats. You do this by picking the best evidence of global warming from the news reports.

### **You will be learning:**

- to carefully examine evidence
- to question if evidence is good, OK or poor
- about the effects of global warming on our planet.

### **How to play**

1. You have £15,000 to spend

It costs:

£1000 to 'Investigate' a piece of information

£1000 to 'Take it' to the world leaders

You have until 2020 to convince the world leaders. The longer you take, the more the environment will be damaged.

2. Read each newspaper headline and decide to:

- Ignore it
- Take it: to present the evidence to the world leaders
- Investigate it: to get more information before you decide

3. Each world leader has a particular interest – places, weather or nature. You must decide what your evidence is about to give it to the correct leader.

4. You will get feedback about your choices. There is a 'Help' button if you need it.

## Web links

[http://www.ace.mmu.ac.uk/Resources/Fact\\_Sheets/Key\\_Stage\\_3/Global\\_Warming/pdf/Global\\_Warmin  
g.pdf](http://www.ace.mmu.ac.uk/Resources/Fact_Sheets/Key_Stage_3/Global_Warming/pdf/Global_Warmin<br/>g.pdf)



An easy to read fact sheet for children of upper primary and lower secondary age groups.

<http://www.epa.gov/climatechange/kids/>

A children's site providing information about climate change, greenhouse gases etc.

# Assessment for Learning Smart Grid\*

Use the Smart Grid to help the class review their learning. For additional information about how to use a Smart Grid view the 'How to use' guide.

Thumbs Up	I was great at the task because...			<div style="border: 1px solid black; padding: 10px; min-height: 200px;"> <p>Next time we will...</p> </div>
Thumbs Sideways	I was good at the task because...			
Thumbs Down	I was OK at the task because...			

\* Smart Grids are part of the Smart Science series developed by the Centre for Science Education, Sheffield Hallam University

# Science at your Fingertips

## The quality of evidence

### Is the piece of information Good Evidence?

Good evidence will probably have some of these features:

- It is supported by scientific research.
- It is explained using science knowledge.
- It is supported by a person's life experience, something they've seen or been part of themselves.
- It is based on more than just one or two people's experience.
- It is based on experience over a long period of time.

### Is the piece of evidence Poor Evidence?

A statement which is poor evidence may have some of these features:

- It is based on just one person's experience.
- It is not based on science knowledge or facts.
- There is little explanation given as to why the person thinks this way.
- It is based on a person passing on an idea given to them by someone else.

## Connecting the Learning

### Class or school enterprise campaign

Children could launch an enterprise campaign to limit their influence on global warming – e.g. limiting car emissions through small activities such as:

- Walk to School Week
- Share a ride Week
- Skate to School Week

Poster displays, surveys about how often we use public transport versus own vehicles, information giving assemblies. The use of poetry, artwork and singing to catch the attention of adults and visitors to the school.

### **A look back in time**

Explore the way that people moved around in the past, or types of manufacturing processes. What types of transport did they use? What types of machinery did they use to make products? Were they more or less globally friendly?

### **A look from above**

Imagine you're looking at the world from above – which countries are emitting the most greenhouse gases and why? How good or bad is Northern Ireland or the UK in the world rankings for greenhouse gas emissions. Which countries are the best at protecting the atmosphere – what are they doing? Can we learn from them?