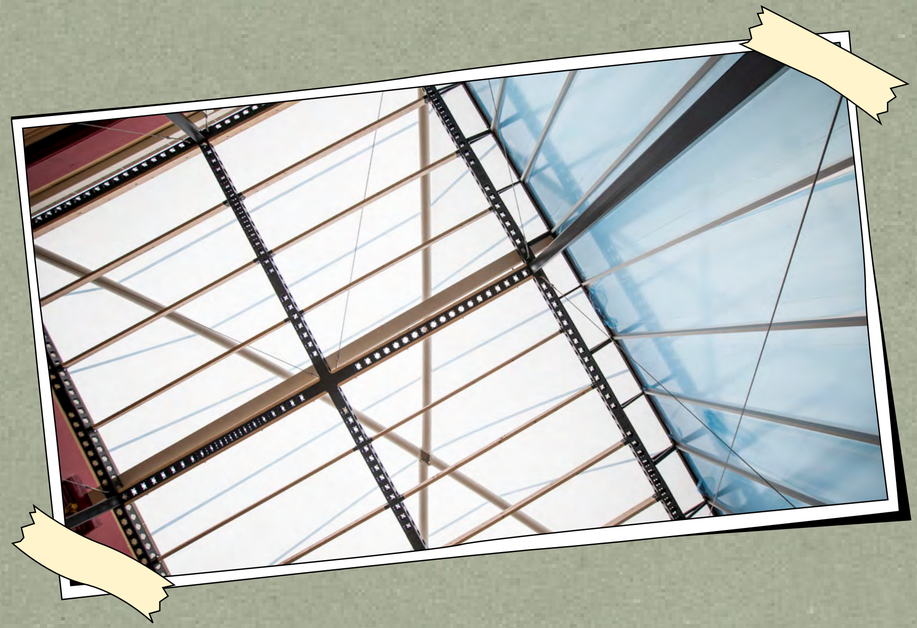
ALEXANDRA PALACE
PRESENTS

BIG SCHOOLS

GREEN SCREEN CHAMPIONS

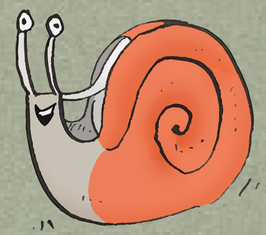


Built Environments

Discover how materials are made and the way in which this contributes to global warming with award winning architects Feilden Clegg Bradley Studios.

ALEXANDRA PALACE | Haringey LONDON | HERITAGE FUND | Kids | THE TOTTENHAM GRAMMAR SCHOOL FOUNDATION

See how Carbon Counts!



WELCOME TO BIG SCHOOLS

What is the
BIG SCHOOLS PROGRAMME

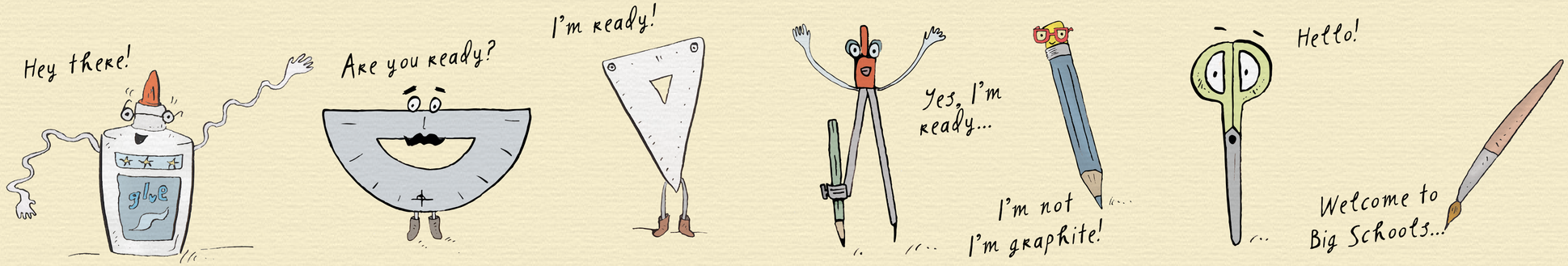
This learning program is designed to equip children and young people with the knowledge and skills needed to help them bridge key educational transitions in their lives - whether they are in primary education getting ready to transition into big school, heading off to college or university or a school leaver entering the big school of life.

Who are the
GREEN SCREEN CHAMPIONS?

Over the next ten days, Alexandra Palace brings children and young people together with our Green Screen Champions - leading industry professionals who are raising people's environmental consciousness in the film, media and gaming sector. The programme creates a space for young thinkers with a deep investment in their future to explore the environmental challenges facing them, and reboot society - paving the way for a greener future!

Great... and who is
Feilden Clegg Bradley Studios

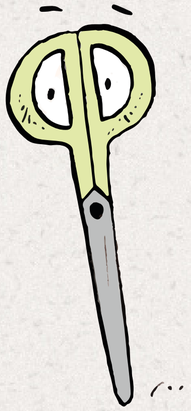
Feilden Clegg Bradley Studios, FCBS for short, is an award winning architectural and urban design practice whose teams worked closely with the Palace to bring the Theatre and East Court back to life.



How many materials are around you?

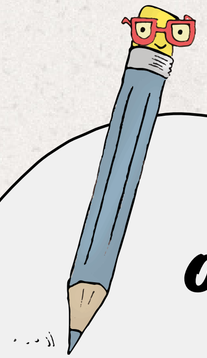
Let's start close to home by thinking about the materials around you, in your home, school or wherever you're reading this? Think about what these materials are made of? Look at your toys, the walls, roof, windows, TV, games, phones, washing machine, clothes and so on.

We got this...



I don't get this!

Write your answers here...



Can you think of 5 different materials?

1 _____ 2 _____

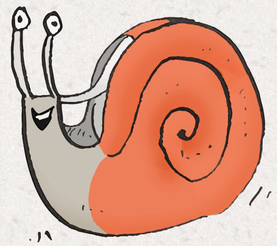
3 _____ 4 _____

5 _____

Do you know where these materials come from and how they were made?

Some materials can be very damaging to the climate and natural environment. Many contribute to an increase in CO_2 in our atmosphere.

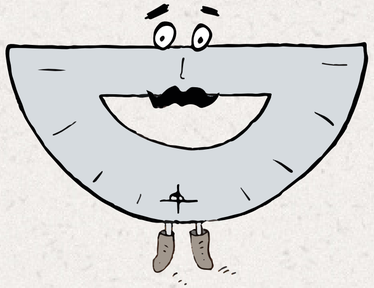
Have you thought about this before?



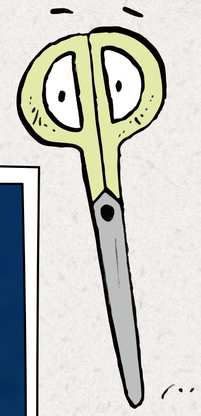
What is CO2 and why should we care?

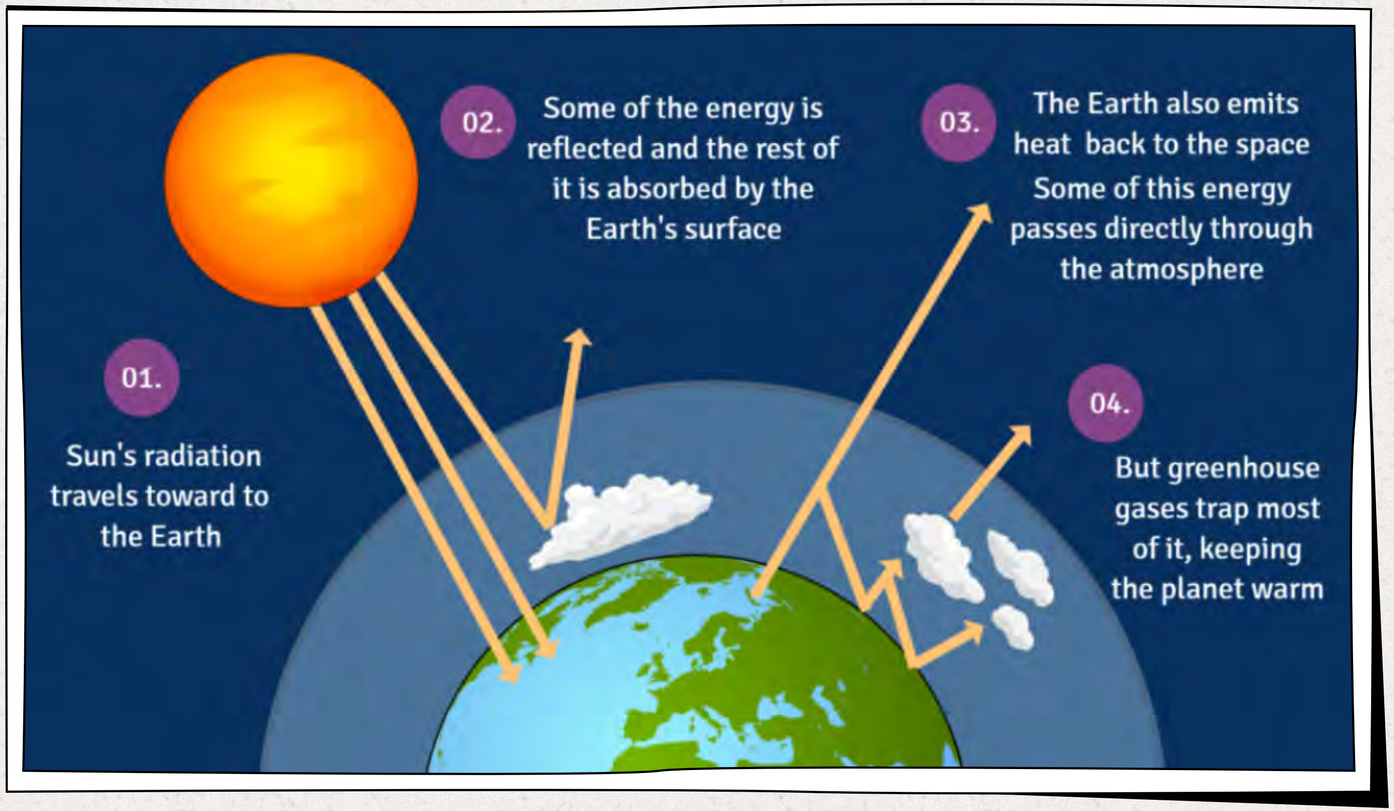
Carbon Dioxide (CO2 for short) is a gas that is released when fossil fuels are burned – for example, coal, gas, wood and oil.
Carbon Dioxide traps heat in the atmosphere. This helps keep our planet warm and stops our oceans from freezing. But at the moment humans are producing too much CO2 and this is leading to global warming.

this doesn't sound so good!



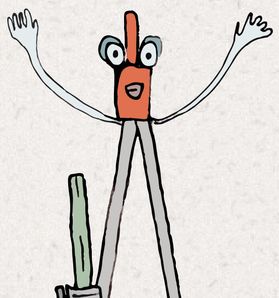
So... Carbon Dioxide is a greenhouse house gas!





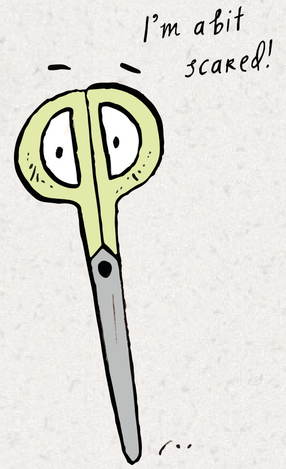
This means the global temperature is rising, sometimes referred to as global warming or global heating. We are beginning to see the effects of this right now but if the earth's temperature keeps increasing we are likely to see rising sea levels, harsher droughts, stronger hurricanes and shifting wind and ocean patterns.

O Gosh!



NOW... Let's WATCH THIS FILM

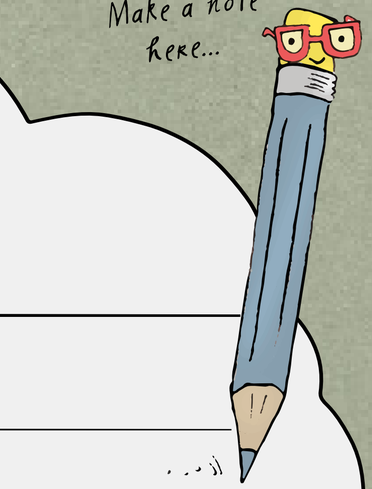
It explains how much CO2 the world is emitting to try and get across the sheer quantities and scale of the problem.



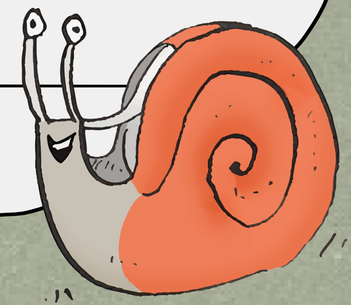
Let's DISCUSS

What key points can you remember from the film?

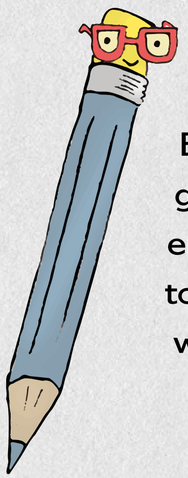
Make a note here...



What did you think about it?



The life cycle of materials and how they are used.



So... the more processes a matrial needs the more Carbon Dioxide hungry it is..

Each of these processes contribute to global warming. In the UK in 2017 we emitted the equivalent of 384,786,709 tonnes CO2 - that same year the whole world emitted 36,153,000,000 tCO2e (that's over 36 billion kg).

that is terrible!

What can we do?

Well we can make different choices, and it starts with the materials we use and how we use them. So we can create less environmental damage, and lessen the impact of our lives on the planet.

Think again about the materials and objects you found in your home. The number of processes that they have gone through to be made and delivered to you will have an impact on the amount of CO2 that they emit.

The materials humans use:

1. Extracted from the earth
2. Processed to a base material
3. Mixed with other elements
4. Transformed to a raw material
5. Shaped for use
6. Delivered to manufacturer
7. Fabricated to a product

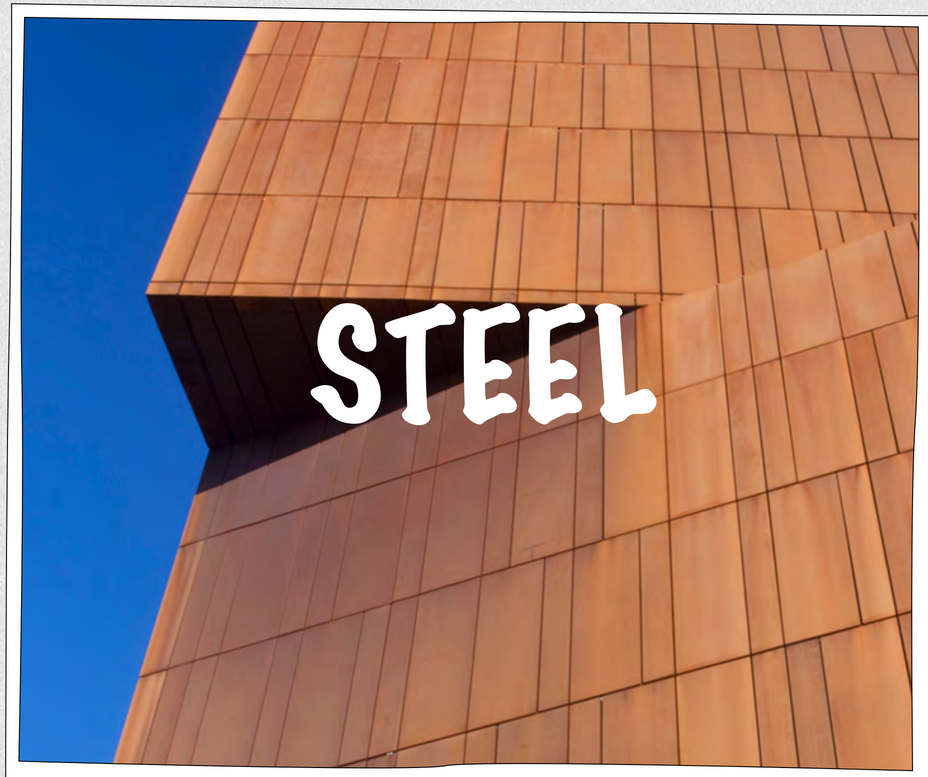
& how they use them:

1. Transported to site
2. Installed in site
3. Maintained to last for a long time
4. Refurbished to keep them useful
5. Replaced at end of life
6. Demolished when no longer wanted
7. Transported to waste processing
8. Processed to safe waste
9. Disposed into ground or given a new life

How is it made?

Now let's look at some of common building materials and see what they're used for and how they're made.

Let's start with steel: can you think what steel might be used for when making a building? Do you know how steel is made?'



iron ore is dug from the ground

converted to pig iron → using high temperatures

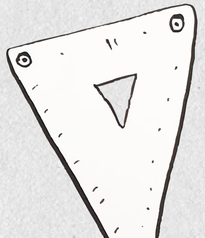
mixed with coke made from coal → mixed with other elements

mixed with recycled steel → heated to 1200oC

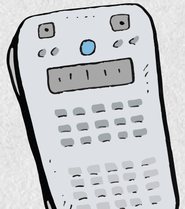
separated from the impurities → cast into ingots / pellet's

extruded or rolled → delivered to manufacturer

fabricated to components

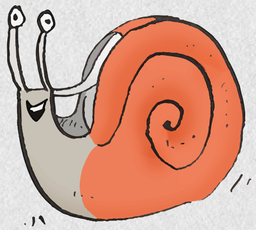


So the processes to make one cubic meter of steel would emit how much CO_2.....



'12,170KG'

wow thats alot! thanks calculator.



Let's try and put these materials in order...

ALUMINIUM

BAMBOO

BRICK

CROSS LAMINATED TIMBER

CONCRETE

COPPER

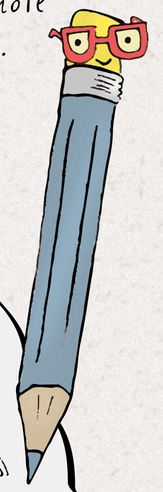
GLASS

LIMESTONE

PVC

Cross each one out as you go...

Make a note here...



Which do you think produce the most CO2 when they are being made into a building product?

1 _____ 6 _____

2 _____ 7 _____

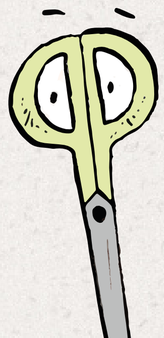
3 _____ 8 _____

4 _____ 9 _____

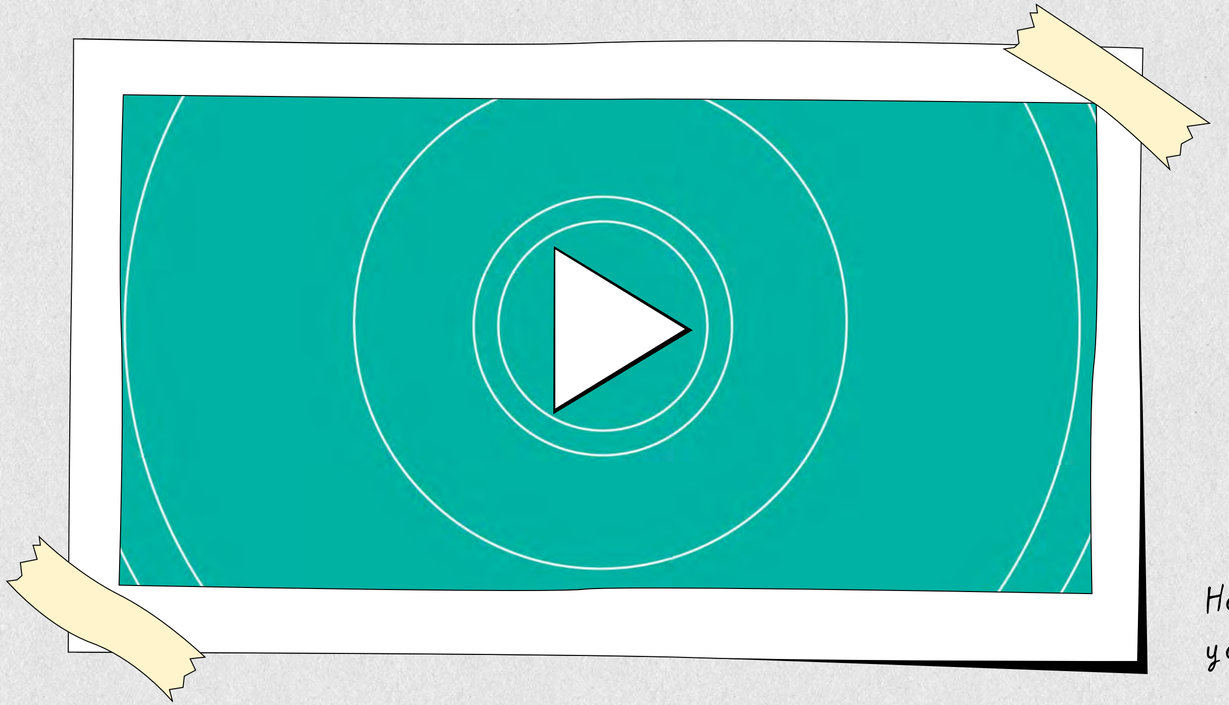
5 _____

Put them in order

Good Luck!

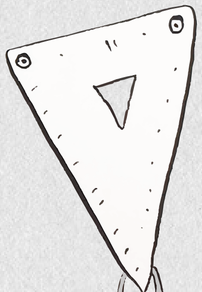


Check out this animation for the answers.



Watch this animation revealing the answers as well as the processes that each material goes through.

How did you do?



What do you think?.

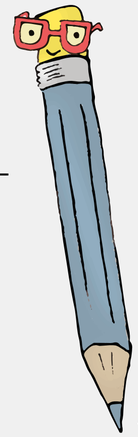
Do you have any ideas of how we could use less of the materials which emit lots of CO_2?

You might not be building buildings – just yet – but how do you think you could help reduce CO_2 emissions with products that you use or buy?

Finally,

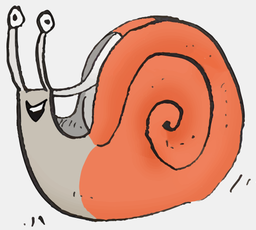
Can you design your own home using the most eco friendly materials and processes.

Explain the key features of your design here...



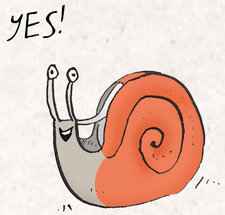
Notes:

Have fun!



We'd love to see your designs – please send them to us at **learning@alexandrapalace.com**

Little Things Make A Big Difference!



Check out our other Green Screen Champions with ten days of films, webinars, blogs, competitions and masterclasses.
Let's show children and young people the power they have to positively influence the world around them, and that little things they do can make a **BIG** difference!

Animation

Learn about the art of animation from BAFTA award-winning animation studio, the Cartoon Network and Lily Sakula. Design your own Personal Protective Equipment with Jack the Artist drawing inspiration from science fiction, imagery and Japanese Anime.

Re-visioning TV

Explore with Discovery Learning the harmful effects of the sun and work together to design a TV studio that will help people to keep cool without using a lot of energy.

Gaming

Join Digital Schoolhouse and BAFTA Kids to create your own sustainable video game packaging. Design transport systems of the future with Jack the Artist using inspiration from gaming imagery to reduce carbon emissions.

Become a Campaigner

Join BAFTA Kids and Hope for The Future for a conversation encouraging children and young people to take actions that can help save the planet. Hear from the team at Albert, a project that brings together the film and television industry to reduce their environmental impact, and inspire audiences to act for a sustainable future.

Visit our website for more
alexandrapalace.com/bigschools