



**RUNNING
OUT OF TIME**



Running Out of Time School Toolkit



Discuss the Climate Action Message

It's time to inspire action through Climate Education!

Every relay carries a baton - what's special about ours is that it will hold a message to the key decision makers at COP 27.

A message demanding quality **Climate Education for All!**

We're asking world leaders to ensure that all people have the skills, knowledge and opportunities to build sustainable, climate resilient communities. So that together we can achieve net zero emissions and limit global warming to 1.5C.

We're asking them to help ensure everyone is ready, and able, to face climate change.

You can read and support the full message and it's key requests [here](#).

Climate Education and Global Citizenship

Global citizenship is the umbrella term for social, political, environmental, and economic actions of globally minded individuals and communities on a worldwide scale.

The concept of global citizenship is embedded in Quality Climate Education. If we are to ensure that we can adapt to and limit the impacts of climate change we need to make sure that everyone has the skills, knowledge and opportunities needed to promote sustainable development.

This requires having a global mindset, encouraging consideration and connection within and between people and communities on a global basis.



Mika Baumeister, on Unsplash

Our **Global Schools Action Day** is a great first step to getting your students thinking globally, and connecting with schools across the world.





Classroom Activities and Discussions

Take a look at the message on the [Running Out Of Time](#) website. There is a short summary of our key asks, alongside the longer, detailed message that we will deliver to COP 27.

Choose one of the discussion activities based on the age ranges of your students.

Primary Students

Explain that COP is the name given to yearly meetings where world leaders gather to make key decisions about how we try to stop climate change. We are going to take them a message requesting better climate education for everyone.

Simplified version of the message:

We know people want to look after the environment they live in - we're asking world leaders to help everyone do that by:

- Making sure **everyone** is taught about climate change, and how they can help stop it.
- Making sure that it is **easy** for people have an environmentally friendly lifestyle.
- Making sure that we **stop** global warming by stopping greenhouse gas emissions.

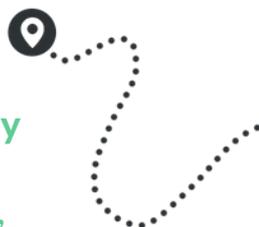
Ask your students:

- If they know what climate change and global warming is?
- How they think we could stop it?
- What they can do to be environmentally friendly and look after nature?
- Play our [Greenhouse Gas Emissions](#) game to introduce students to what Greenhouse Gases are, and why it is important to reduce them (this could lead onto an introduction to **Net Zero** or the **1.5 degree target**).

Record your students' own messages for COP27 and share them with us on the [Running Out of Time](#) webpage.

Share your reflections on social media using:
#RunningOutOfTime #GlobalSchoolsActionDay #TheClimateRelay

Tag [@ClimateRelay](#) and [@fee_global](#) on Facebook and Instagram,
[@Climate_Relay](#) and [@FEEInt](#) on Twitter



Secondary Students

Explain that COP is the name given to yearly meetings where world leaders gather to make key decisions about how we adapt to and try to limit climate change. The Running Out of Time relay will deliver a message requesting Quality Climate Education for All.

Simplified version of the message:

We know people are working hard to protect the environment they live in - we're asking world leaders to help everyone do that by:

- Making sure **everyone** receives quality education about climate change and how to stop it
- Making sure that it is **easy** for people have an environmentally friendly lifestyle
- Making sure that we **limit** global warming to 1.5 degrees and **commit** to net zero emissions

Introduce students to the concept of "**Net Zero Emissions**" and the **1.5 degree** global warming target using the information resources.

Ask your students:

- What the difference between climate change and global warming is?
- How limiting global warming can stop climate change.
- Why is it important for young people to engage with the COP meetings?
- To brainstorm what they can do about climate change in their schools and everyday lives?
- What do they like about our message, and what would they add to improve it?

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Design Your Sustainable Relay Baton

We really don't like waste! Our relay baton will be made from waste materials and 100% recyclable.

The relay baton will carry our message 7,767km from Glasgow to Sharm el-Sheikh. It has to be tough enough to withstand all weather conditions, hundreds of pairs of hand, and, probably, being dropped a few times. It has to be easy to carry both running and on a bike, all whilst looking good!

It was a challenge but the amazing team at 4C Design in Glasgow designed a truly unique relay baton for Running Out of Time!

Challenge your students to design their own sustainable relay batons.



Design a relay baton using only compostable and recyclable materials, and make sure to have a plan of how it can continue to be used after your school relay event.

Classroom Activity

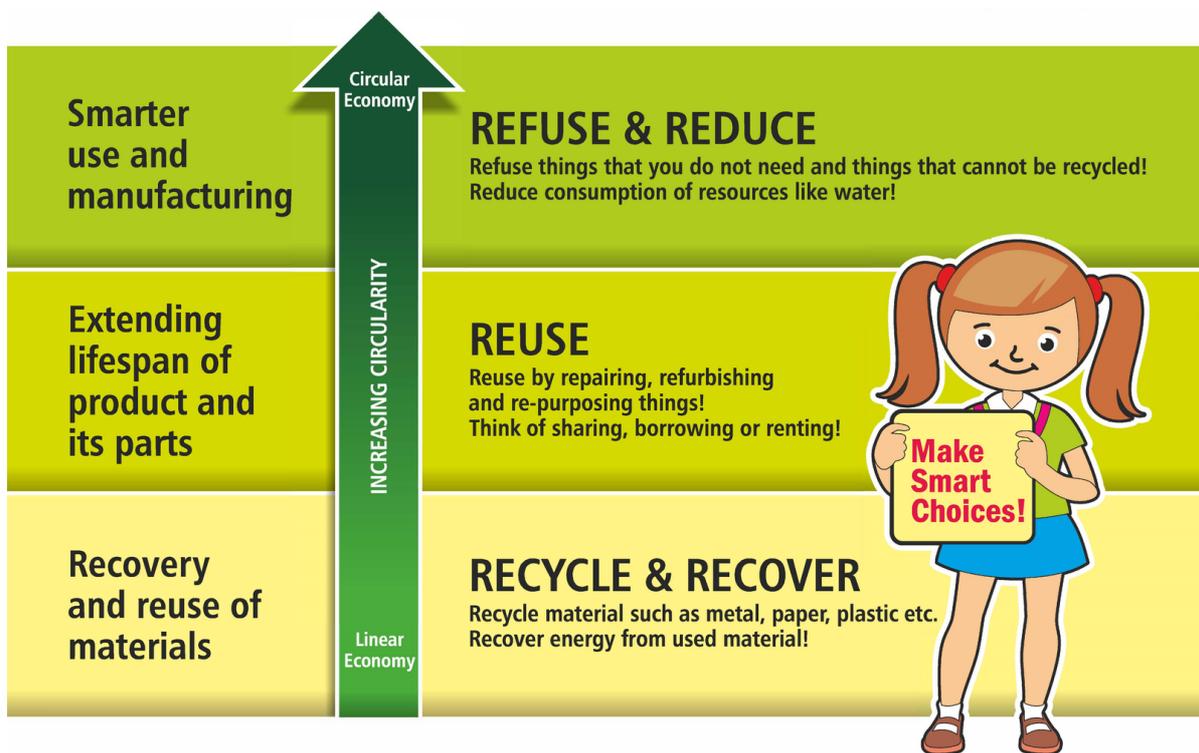
Make a Relay Baton Using the Principles of Circular Economy!

Inspired by nature, **circular economy** refers to a system that does not produce waste. Everything is a resource for the next level of the chain. It uses only natural materials that can then be reused and recycled by the system. The water cycle, and food webs, are examples of circular economy in nature.

Discuss this concept with your students, and ask them to design a baton using these ideas.

Keep in mind...

- **Use simple materials** that can be separated and recycled. For example, mixed materials like plastic coated paper is difficult to separate.
- **Choose materials that can be composted** (make sure it does not have harmful chemicals) or can be reused multiple time to make something else.
- **Plan what you will do with the baton after the relay.** Ask students to think of alternative uses for the batons, e.g. create a display, use it for other relay events, auction it to raise funds for your projects, use it as a 'talking stick' for class discussions or separate the materials for reuse and recycling.



Share your relay batons on social media using:
[#RunningOutOfTime](#) [#GlobalSchoolsActionDay](#) [#TheClimateRelay](#)

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Increase Your Handprint, Decrease Your Carbon Footprint



Etienne Girardet, on Unsplash

My Positive Actions towards Sustainability

While our carbon footprint represents the total amount of greenhouse gases (including carbon dioxide and methane) that are generated by our consumption of products and services, our handprint represents the belief that we can make a difference through individual and collective actions to solve environmental problems and reduce our Carbon Footprint.

Classroom Activity

1. Ask your students to calculate their carbon footprint using the calculator developed by **Office for Climate Education - Carbon Footprint Calculator**.
2. Discuss which country has a lower or higher carbon footprint in your region? What could be the plausible reason?
3. Ask them to compare their footprints with other students and discuss:
 - *Why their footprint is low or high compared to each other?*
 - *Which factors are increasing their footprint?*
 - *In which areas are they reducing their footprint?*
4. Ask your students to discuss ways they can reduce their own footprints.
5. Ask students what measures can be taken to reduce and compensate for carbon emissions on a broader scale.



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The Greenhouse Effect: Role-Playing Game



Main Subjects

Physical education (<12 years)

Duration

~ Preparation: 5+15min

~ Activity: 1 h

Summary

In a game of catch, the students understand the role of greenhouse gases in “trapping” infrared radiation and stopping it from “escaping” into space, so they can link this phenomenon with global warming.

Preparation (5+15 minutes)

Materials

T-shirts or vests of three different colours. Ideally, HEAT will be in **red**, Fossil Fuels (FF) in **black** (like oil) and Greenhouse Gases (GHG) in **blue** (atmosphere).

Lesson Preparation

1. To be done during the previous lesson or the day before. Ask the students to bring a T-shirt of the appropriate colour, or prepare vests of three different colours.
2. Draw three distinct zones on the floor (see figure) named EARTH, ATMOSPHERE and SPACE.

Introduction (10 minutes)

The teacher starts by explaining that warm objects emit (give off) heat radiation (also infrared radiation); they include the Earth, which is warmed by the sun. The infrared radiation emitted by the Earth’s surface “radiates” into space. Infrared radiation is invisible to our eyes, but is used, for example, in TV remote controls. You can also “feel” infrared radiation when you bring your hands close to a warm object.

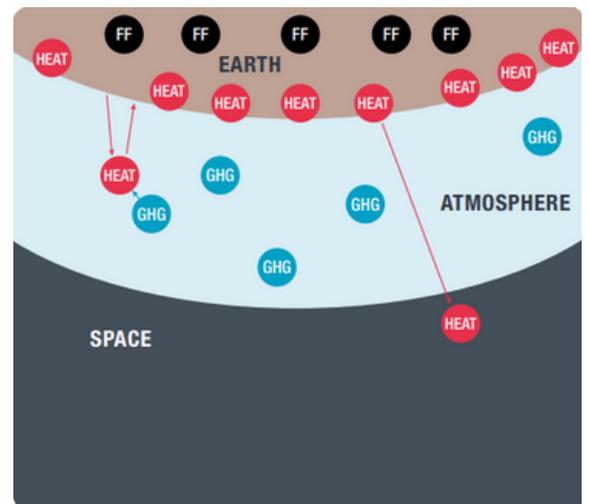


Diagram of the three zones to be drawn on the floor

Key Ideas

- When heated, all objects emit infrared radiation.
- When the Earth’s surface is heated by the sun, it emits infrared radiation.
- The greenhouse gases in the Earth’s atmosphere absorb infrared radiation emitted by Earth’s surface: only part of this infrared radiation escapes into space, and the rest is sent back to the surface.
- An increase in the greenhouse gas concentration results in a temperature increase of the Earth’s atmosphere.

Procedure (30 minutes)

Split the class into three groups: Half of the students, the HEAT group, will play the role of infrared radiation leaving the Earth's surface, in the direction of space; a quarter of the students, the GHG group, will play the role of greenhouse gases in the Earth's atmosphere; and the other quarter, the FF group, will play the role of fossil fuels. The FF group remains seated during the first round: the fossil fuels are stored in the Earth's crust. The students in the GHG group spread out in the ATMOSPHERE. The HEAT group starts on one side of the room: they represent the warmed EARTH (see figure on the previous page). The game goes as follows:

First Round

Measure the time needed to finish a round. If it takes too long, limit the duration of the round to 2 minutes.

- The FF group remains seated.
- The HEAT group has to cross the room to “radiate” into space, passing the greenhouse gases which try to trap them.
- If a GHG traps a HEAT, the latter has to go back to the EARTH zone and count out loud to five before the student can try escaping again. (This is an analogy to greenhouse gases that do not let infrared radiation escape into space.)
- When all the HEAT students have either reached the other side or been trapped by the GHG group, the round ends. If you have to end the round at 2 min, count the number of HEAT members that managed to escape into space.
- Ask the students to go back to their initial positions for the second round.

Before starting the second round, explain that you (the teacher) represent the inhabitants of the Earth and that you will take the FF out of the crust of the EARTH, as an analogy to the exploitation of oil, gas, and coal. The FF are then transformed into GHG: They receive a GHG T-shirt or vest and join the other GHG students from the first round. Stress the fact that now there are now far more greenhouse gases in the atmosphere.

Second Round

At the end of the round, observe that in exactly the same time, less HEAT students have managed to escape into space. The second round must last as long as the first.

- Ask the students to draw the game they played (with a legend and an explanation). Once they are done, draw a version on the whiteboard and discuss the analogy.
- Ask the students: What conclusion can you draw from the fact that fewer HEAT students managed to escape into space in the second round? The increased amount of greenhouse gases in the atmosphere makes it more difficult for infrared radiation (HEAT) to escape into space.
- Ask: What was my role (teacher) in between the two rounds? The teacher's role was to play humanity exploiting fossil fuels. Discuss:
 - The different types of fossil fuels (coal, oil, gas)
 - How fossil fuels emit greenhouse gases (through combustion)
 - Other human activities that emit greenhouse gases (like meat production and intensive agriculture)
 - The effects of an increased amount of greenhouse gases in the atmosphere (more infrared radiation is “trapped” and the atmosphere's temperature increases).

- What would happen if there were no greenhouse gases at all in the atmosphere? All infrared radiation would escape into space, and the temperature of the atmosphere would be much lower: -18°C in average at the Earth's surface instead of the actual $+15^{\circ}\text{C}$!

The greenhouse effect is essential for life on Earth; the problem starts when the amount of greenhouse gases becomes too high.

Wrap-up (20 minutes)

The students write a conclusion of the lesson.

Example: *"When the Earth is heated by sunlight, its surface warms up. The warm surface emits infrared radiation. Greenhouse gases in the atmosphere trap part of the infrared radiation emitted by the Earth. If more greenhouse gases are present in the atmosphere, less infrared radiation can escape into space. The temperature of the (lower) atmosphere and the Earth's surface increases. Human activities that emit a lot of greenhouse gases into the atmosphere are causing global warming."*

Optional Extension

A possible extension is to use the multimedia activity entitled "*The Greenhouse Effect*" available on the following website: <https://phet.colorado.edu/en/simulation/greenhouse>.

The multimedia activity has three different options: the first demonstrates the effect of greenhouse gases on global mean temperature (the concentration of greenhouse gases can be changed) based on the "visible photons" – the sunlight – and "infrared photons" – the infrared radiation – received, emitted or absorbed; the second conceptualizes the phenomenon using the agricultural greenhouse analogy (as in lesson B1): it simulates the concentration of greenhouse gases by changing the number of windows. The last is more advanced, differentiating the radiative effects of the different molecules in the atmosphere.

This lesson was inspired by the activity "[Atmosphere-Exploring Climate Science](#)" proposed by the UK Science Museum. The OCE is grateful to the authors.

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Get Moving on Global Schools Action Day!

Everyone wins when we take (climate!) action, so run, walk, bounce or roll - we don't mind which - we just want to see you all moving!

Our epic relay will require hundreds of people to work together to pass our message 7,767 km from Glasgow to Sharm el-Sheikh. They'll be running, cycling and sailing their way across 18 different countries.

Once your students have designed their own baton and crafted their own climate action messages, have them come up with their own creative ways to transport them around your school or local area!



Classroom Activity

Get your students involved in the planning of the relay!

1) To start, have them imagine what they want their day of climate action to look like by asking them to discuss the following questions:



- How many students in the school will take part?
- Will teachers and parents take part as well?
- How big will the track be, and how long will each runner have?
- How will you record how far each person has run?
- What safety precautions do you need to consider?
- Would you be able to fundraise for your own #climateaction projects through this event?
- How will you motivate students, staff and parents to get involved?



2) Next, have your students organise a relay! There are plenty of different ways to do this and measure your school's activity on the day. You could:

- **Create a designated track on your school grounds.** Measure the distance of the track, the number of students and how many times they complete it to record how far your school travels.
- **Challenge your students to record their own distances** and see how far along **our route** they can get all together.
- **Extend the challenge and ask students to walk and bike outside of, and on the way to school for the week.** This is a good challenge to get parents involved as well!

Here's our challenge to YOU!

Can your school match or beat our 7,767 km distance?

Don't forget to log your relay distances at Running Out of Time!

When you have completed your relay event head to the Running Out of Time webpage - we will add up the distance covered by students around the world to show the support and collaborative demand for better Climate Education!



Want to do something a little different?

Check out the next page for some alternative ways to get active for the **Global Schools Action Day** on **November 3rd** (or any time before November 6th)!

Share your school's relay on social media using:
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Alternative Relay Ideas

Relays don't all need to be lapping the track - there are lots of ways to organise your relay route.

You can use lots of alternative ways to get around the track, like scooter or bike, or take a look at the suggestions below:

Bounce the Track

Have students use space hoppers, pogo sticks, skipping ropes or just their feet to bounce and hop around the track.

Themed Laps

Have relay laps that each have a different theme, get students to dress up for the themed lap they want to join, make your themes climate related or as silly as you like.

Circuits

Create a circuit challenge for students to complete, have different stages with different activities, make it as challenging as you want.

Swim Marathon

Have students take turns swimming lengths of the pool. You can make an extra challenge and ask them to design a waterproof baton as well.

Dance-Off

Get your students up and dancing for climate action.

Build a Chain

Have students see if they can make a chain around your school and pass the baton around, this works well for younger students and is symbolic of working together.

Forest Schools

Hold an extended forest schools session that is climate themed - get students outside, gardening or play our greenhouse gas game.

We'd LOVE to celebrate with you!



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