

13 CLIMATE ACTION



GLOBAL PROJECT IDEAS

Pupil guide



practicalaction.org/schools/global-project-ideas

**Practical
ACTION**

Global Project Ideas are a series of suggestions for you to use as the basis of a project focusing on solutions to global issues. These arise from the Sustainable Development Goals (SDGs) or Global Goals and Practical Action's work around the world.

In addition to this Global project ideas guide there are others on:

- SDG 2 Zero hunger
- SDG 5 Gender equality
- SDG 6 Clean water and sanitation
- SDG 7 Clean and affordable energy
- SDG 11 Sustainable cities and communities

The Sustainable Development Goals



The SDGs are 17 goals developed by the United Nations in 2015 and signed up to by 32 countries around the world including the UK. They aim to end poverty and protect the planet by 2030.

To find out more, visit un.org/sustainable-development/sustainable-development-goals and/or globalgoals.org, and watch the video vimeo.com/181766755

For a quiz, a word search and other activities related to the SDGs go to practicalaction.org/schools/sdgs

Practical Action

Practical Action is an international development organisation putting ingenious ideas to work so people in poverty can change their world. We are working towards a world where:

- farming works despite climate change
- people can withstand disasters
- clean energy transforms lives
- cities are fit to live in.

Where the world works better for everyone

Practical Action is just one of many organisations working in developing countries to help reach the SDG targets by 2030.

CREST Awards

If you are planning to develop a project idea for entry into a CREST award go to www.crest.org to help you decide which level of Award (Discovery, Bronze, Silver, Gold) you want to enter and the linked assessment criteria.

For support with your project, and to find a mentor for Silver and Gold awards we recommend contacting your local STEM Ambassadors stem.org.uk/stem-ambassadors/local-stem-ambassador-hubs. You may also like to contact your local university and STEM businesses.

Extended Projects

If you are looking for an idea for an extended project, a project as part of your Baccalaurate or your A level coursework project a Global project could be for you.

The SDGs and Practical Action's international project work offer great contexts for developing ideas for extended projects.

Once you have decided on an area you would like to study in more depth draft a project title and aims. The next step is to get the project formally approved by the examination board before fully developing your project.



Climate change is a huge global issue affecting all of us wherever we live. We need to take action now to try and prevent it from getting worse and to help people prepare for and adapt to its devastating consequences.

The impact of climate change includes increased flooding, extreme drought and changing temperatures. Gas emissions from human activity contributes massively to climate change. The world's poorest people, who contribute the least to climate change, are affected by it the most. BUT we can do something about it. We can reduce how bad it gets, and put into place ways to help people cope with it when it happens.

SDG 13 Climate action calls for urgent action to compact climate change and it's impact. If it is achieved, together with the other 16 Goals, we will have succeeded in ending world poverty.

Targets for SDG 13 include:

- Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters
- Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

These are the targets that the use of STEM knowledge and skills can help us reach.

Some ideas to get you started

We hope you will do a lot of research yourself, looking at websites, videos etc. so that you get a clear picture of what is happening in the world before you start designing your global project.

To help you we have some ideas and links to things you might like to look at - all related to climate action. Don't feel you have to select one of these, what you do is up to you!

The main thing to keep in mind is how STEM skills can help deliver this SDG, either in Europe or a developing country.

Putting the brakes on climate change

If we are to survive on this planet we must act now to slow down climate change. If we allow our planet to just get hotter, there will be catastrophic consequences such as mass flooding and drought.

Reducing our energy and water consumption

Climate change impacts the poorest in the world... who contribute the least to it. An idea for a project could be to design a product or a system that would reduce the amount of energy and/or water you or your community uses. This would ultimately help people in the developing world as well as your own country.

For ideas on reducing energy and water consumption try looking at 15 gadgets designed by other people to reduce energy consumption techrepublic.com/pictures/photos-15-gadgets-to-reduce-your-energy-consumption/3

Ideas on how to save water
how-to-save-water.co.uk

A very sustainable day!
biothinking.com/storyof.htm

Recycling waste water

Recycling waste water is an important part of reducing the amount of precious water we all use. You may want to focus your project on how to recycle waste water in your own local community and/or in a community in a developing country.

As a starting point you could find out if your school or other buildings in your community recycle waste water. Consider how you might persuade other people it is important.

You can find information about ways to clean water used in homes here:

Centre for Alternative Technology Water and Sewage info.cat.org.uk/water-and-sewage

Producing less waste

A lot of energy goes into making food, packaging etc. much of which is wasted. If we produce less waste we will reduce energy consumption and again contribute to reducing the impact of climate change around the world. Would you like your project to be around designing a product that helps reduce food waste or packaging?

Website looking at reducing food waste
wrap.org.uk/food-waste-reduction

Ideas on how to reduce packaging
lesswaste.org.uk/reduce/think-packaging

Website with lots of useful information and videos on recycling recyclenow.com

Maybe your project could be around making a product out of recycled or reused materials?

Ideas for products
tr.pinterest.com/jantine1/plastic-bottles-recycled-crafts-for-children

For a challenge around reusing plastic waste go to practicalaction.org/schools/plastics-challenge

Preparing for natural disasters

No matter what we do to reduce the impact of climate change in the future, some of those impacts such as flooding and drought will continue to happen. Maybe your project could be around how to warn people of natural disasters such as flooding, earthquakes or drought.

Flooding

If communities have enough notice that they are going to be flooded they have more chance of evacuating themselves and their possessions, so early warning systems save lives. Such systems include:

- An electronic device that enables people 'up river' to detect when water levels rises, so that they can alert communities that will be affected
- A watch tower to both see when river levels are dangerous
- A very loud alarm system to warn people of flooding.

There are many ways river banks can be strengthened so they do not flood. Can you develop a way of protecting riverbanks, either here or in a developing country using locally available materials?

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To reduce the impact of flooding when it happens, Practical Action is helping communities make their buildings flood-proof. Could you design a flood-proof house or school? This video with Ortis Deley will give you some ideas bit.ly/pasbtf

For a STEM challenge around building a flood-proof house go to practicalaction.org/schools/beat-the-flood

For a technical briefs on flood prevention go to practicalaction.org/schools/technical-briefs-construction

Drought

When water is scarce farmers need to know when to use the small amount of water they have stored to irrigate plants. Perhaps a project could be around designing a system that indicates when soil is dangerously dry and needs watering.

For a STEM challenge around irrigation go to practicalaction.org/schools/regreen-the-desert

For technical briefs on irrigation systems go to practicalaction.org/schools/technical-briefs-food-and-agriculture

Adapting to climate change

As well as flooding, drought and earthquakes, climate change has also affected the temperature of our planet. This means that natural environments have changed, places may be hotter, colder or wetter than they used to be and this affects which crops can be grown. Could your project investigate how to make crops more resilient to new conditions brought about by climate change, or could you think of a way of growing a well-known crop in a new condition?

To find out how farmers can change their agricultural practices to adapt to climate change go to practicalaction.org/schools/technical-briefs-food-and-agriculture

Take a look at this amazing project where pumpkins are grown in infertile land caused by river flooding practicalaction.org/our-work/projects/pumpkins-against-poverty



Useful links

SDG 13 - Climate action

globalgoals.org/13
un.org/sustainabledevelopment/climate-change-2

The Paris agreement on Climate Action

youtube.com/watch?v=CCyAQT-uHZc

Technical briefs from Practical Action

practicalaction.org/technical-briefs-schools-manufacturing
practicalaction.org/schools/technical-briefs-food-and-agriculture

The 6 R's of sustainability

practicalaction.org/schools/6-rs

Energy saving trust

energysavingtrust.org.uk

How big is your environmental footprint?

footprint.wwf.org.uk

Climate change videos

practicalaction.org/schools/videos-climate-change
practicalaction.org/schools/videos-flooding

Case study of how an early warning system saves lives

practicalaction.org/our-work/projects/futures-beyond-flooding

Video of how school children help prepare for flooding

youtube.com/watch?v=sAQWYtj-a6c

YouTube videos from Recycle Now

youtube.com/user/RecycleNowCampaign/videos

Before the flood

beforetheflood.com