

Introduce your students to the idea that they are about to become involved in an exciting new global design project. It will involve young people from around the world in developing new ideas for technologies that could help to tackle some of the big problems in the world.

### INTRODUCE THE GLOBAL GOALS

5  
mins

Show the *World's Largest Lesson* 3min animation film [vimeo.com/138852758](https://vimeo.com/138852758) as a way of introducing the Sustainable Development Goals (SDGs) also known as the Global Goals.

A student activity sheet *Notes on the World's largest lesson* is provided to help students record the key points from the video.

### THE GLOBAL GOALS AND TARGETS FOR 2030

20  
mins

#### Resources

Scissors, Glue sticks

#### Activity sheets

One per 2-4 students of *World facts and Global Goals*; *Can Technology help?* and *Global Goals: Technology solutions?*

Introduce the activity that will encourage students to explore some of the Global Goals and their targets in more detail.

For this design based project we've selected five of the seventeen Global Goals for students to investigate in more detail. If you'd like to find out more about the other Global Goals, information is available here [un.org/sustainabledevelopment/sustainable-development-goals](https://un.org/sustainabledevelopment/sustainable-development-goals).

Split the class into pairs or small groups and give each group the *World facts and Global Goals* sheet. Allow 5mins for the students to match the Global Goal symbols with their world facts and targets.

Now that the students have a clearer understanding of some global problems and the targets to reduce them, the next step is to take a look at the role that science and technology can play to reach the Global Goal targets.

Allocate one Global Goal per group and ask the students to stick their Global Goal symbol and target onto the activity sheet *Can technology help?*

Now hand out the *Global Goals: Technology solutions?* sheet that shows a range of pictures of different technologies. Ask the students to select the technologies that they feel could help reach their Global Goal. Once selected, they can cut out the pictures and stick them onto their *Technology and Global Goals* sheet. We suggest then that they annotate the sheet with reasons why they think their chosen technologies will help reach their Global Goal.

You might want to ask whether they felt that any of the technologies could help reach more than one goal.

To extend this activity ask students to add their own ideas of any technologies that they feel could be used to help reach their Global Goal. Ask each group to provide a little feedback on their ideas.

## RESEARCH TECHNOLOGY BASED SOLUTIONS

## Resources

Design a better world poster

This activity aims to increase students' awareness of existing technologies that aim to address big global issues.

Introduce this activity by asking students if they can think of any technologies that aim to address solutions to big global problems.

You may wish to highlight the difference between people who focus on developing technologies that aim to reduce the environmental impact of the lives we lead in Europe, whilst others develop technologies that improve the lives of people with less access to modern technologies, often living in developing countries.

The poster that accompanies this project shows examples of a range of innovative technologies that that provide solutions to global challenges.

For more information on technology solutions to the five Global Goals addressed in the project see the websites and video clips below.

**Global Goal 2 Zero Hunger**

Irrigation in Nepal showing farmers developing technologies to be more productive -

[practicalaction.org/video-shallow-tube-well](https://practicalaction.org/video-shallow-tube-well)

Zeer pot showing how a clay pot fridge is benefiting people with no access to refrigeration

[practicalaction.org/video-zeer-pot-fridge](https://practicalaction.org/video-zeer-pot-fridge)

**Global Goal 6 Clean Water and Sanitation**

Pump It Up! a water pump brings fresh water to a community in Bangladesh

[practicalaction.org/video-pump-it](https://practicalaction.org/video-pump-it)

Toilets in Kenya introduced by Ant and Dec showing the difference toilets can make

[practicalaction.org/video-toilet-kenya-ant-and-dec](https://practicalaction.org/video-toilet-kenya-ant-and-dec)

**Global Goal 7 Affordable and Clean Energy**

Access to energy a great introduction to a range of renewable energies

[practicalaction.org/video-access-to-energy-1](https://practicalaction.org/video-access-to-energy-1)

Solar powered water pump brings water to a school in Kenya

[practicalaction.org/video-solar-power-kenya](https://practicalaction.org/video-solar-power-kenya)

Marvellous Microbes introduces how biogas is providing fuel for cooking in Bangladesh

[practicalaction.org/video-marvellous-microbes](https://practicalaction.org/video-marvellous-microbes)

**Global Goal 11 Sustainable cities and Communities**

Using waste to produce biogas cooking in Kenya  
[practicalaction.org/video-gisele-bundchen-in-kenya](https://practicalaction.org/video-gisele-bundchen-in-kenya)

Beat the Flood introduces flood proof housing in Bangladesh

[practicalaction.org/video-beat-the-flood-1](https://practicalaction.org/video-beat-the-flood-1)

**Global Goal 13 Climate Action**

Beat the Flood introduces flood proof housing in Bangladesh

[practicalaction.org/video-beat-the-flood-1](https://practicalaction.org/video-beat-the-flood-1)

Getting ready for the floods showing a range of techniques use to prepare people for flooding in Bangladesh  
[practicalaction.org/video-getting-ready-for-the-floods-nepal](https://practicalaction.org/video-getting-ready-for-the-floods-nepal)

Early warning systems showing communications systems to warn people about flooding in Bangladesh  
[practicalaction.org/video-climate-change-adaptation-glimpses-of-hope](https://practicalaction.org/video-climate-change-adaptation-glimpses-of-hope)

**COMPETITION: DESIGN FOR A BETTER WORLD**

After the students have had a chance to look at some existing technologies, they can start developing their own ideas for technologies that could help meet the targets set for the Global Goals.

To celebrate Practical Action's 50th anniversary, the organisation is looking for fifty ideas from young people around the world to address the Global Goals. The top fifty design entries will each be awarded with a five pound Amazon voucher and certificate of achievement.

*The designs will also feature on Practical Action's website.*

**Competition guidance**

The design competition is open to all young people around the world between the ages 11-14 years. Students are required to develop an idea for a technology or product that can help reach at least one target for a Global Goal.

We suggest that the students carry out research around the Global Goal(s) to enable them to identify a genuine problem to address and to enable them to learn about existing technologies. A Research sheet is also available for students to record their findings.

**There are student guidance sheets available on five of the Global Goals. They are:**

- Zero hunger
- Clean Water and Sanitation
- Clean and Affordable Energy
- Sustainable Cities and Communities
- Climate Action

If your students choose to develop a design for one of the other Global Goals, they can add that information on to their Design sheets.

Practical Action will be using the criteria below to judge the student entries.

**Criteria**

The judges will be looking for evidence of students work in **Research** and the development of **Design ideas**.

**Research**

In their own words students present evidence that shows that they have explored:

- A Global goal and identified a problem to solve
- Existing technologies that could help reach the Global Goal targets

**Design ideas**

Students develop their design specification and produce a range of annotated designs that include the advantages and disadvantages of each.

**Final design**

Students present a final design that includes annotations about how the technology works and will help reach the Global Goal target.

**Competition entry information**

If your students are entering the design competition, please encourage students to look closely at the criteria and allow them to complete their *Research, Design Ideas and Final* idea on the sheets provided.

**Please send your students sheets by Friday 16th December 2016 to:** Design for a Better World competition, Education Unit, Practical Action, Schumacher Centre, Bourton on Dunsmore, Rugby, CV23 9QZ. Email:schools@practicalaction.org.uk

**Good luck!**

### WHAT NEXT?

We hope that you and your students have enjoyed the design challenge and that it has inspired you to feel part of a global movement for change.

As a teacher there are many other opportunities to encourage students to take further action. Here are our top three recommendations:

- 1 Join the World's Largest Lesson to help students make change in their own communities [www.tes.com/worldslargestlesson/taking-action/](http://www.tes.com/worldslargestlesson/taking-action/) .
- 2 Share the toolkit with your students on how they can join youth organisations who are working together to advocate for change and to hold their government to account for their commitments to the Global Goals [tes.com/worldslargestlesson/taking-action/](http://tes.com/worldslargestlesson/taking-action/) .
- 3 Keep up to date with progress on the Global Goals on social networks at [@GlobalGoalsUN](https://twitter.com/GlobalGoalsUN) and [@PracticalAction](https://twitter.com/PracticalAction)

Finally, please share your news on any actions your students take to achieve the Global Goals by using the tags [#globalgoals](https://twitter.com/globalgoals), [@PracticalAction](https://twitter.com/PracticalAction), [@BrenHellier](https://twitter.com/BrenHellier).