



DESIGN FOR A BETTER WORLD

Pupil activity sheets



practicalaction.org/schools/design-for-a-better-world

**Practical
ACTION**

The Sustainable Development Goals

	No poverty	End poverty in all its forms everywhere.
	Zero Hunger	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
	Good Health & Well-being for People	Ensure healthy lives and promote well-being for all at all ages.
	Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
	Gender Equality	Achieve gender equality and empower all women and girls.
	Clean Water & Sanitation	Ensure availability and sustainable management of water and sanitation for all.
	Affordable & Clean Energy	Ensure access to affordable, reliable, sustainable modern energy for all.
	Decent Work & Economic Growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
	Industry, Innovation & Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.
	Reducing Inequalities	Reduce income inequality within and among countries.
	Sustainable Cities & Communities	Make cities and human settlements inclusive, safe, resilient, and sustainable.
	Responsible Consumption & Production	Ensure sustainable consumption and production patterns.
	Climate Action	Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy.
	Life Below Water	Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
	Life on Land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss.
	Peace, Justice & Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
	Partnerships for the Goals	Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Notes on the world's largest lesson video

Name: _____

Class: _____

1. What are the three main things we all need to survive?
2. List four big problems in the world at the moment.
3. What is the name of the organisation working across 193 countries to tackle poverty and climate change?
4. How many Sustainable Development Goal (also known as Global Goals) are there?
5. What year are we hoping to achieve the all the Global Goals by?
6. Give a few ideas of how you can help reach the targets set for the Global Goals.

World facts and Global Goals

Name: _____

Class: _____

Match the symbol for each Global Goal to its world facts and one of its targets

World facts	Global Goals Symbol	Global Goals Target
<p>One in five people in the world does not have access to electricity.</p> <p>3 billion people rely on wood, coal, charcoal or animal waste for cooking and heating.</p>		<p>By 2030, ensure all people in the world have access to safe and affordable drinking water and sanitation services.</p>
<p>Half of the world's population – 3.5 billion people lives in cities today.</p> <p>828 million people live in slums today and the number keeps rising.</p>		<p>By 2030, ensure everyone in the world can access affordable, reliable and modern energy services.</p>
<p>Globally, one in nine people in the world today (795 million) are undernourished.</p> <p>66 million primary school-age children attend classes hungry across the developing world.</p>		<p>By 2030, ensure all people are well prepared for hazards related to climate change and natural disasters.</p>
<p>Climate change is now affecting every country in every continent.</p> <p>Global emissions of carbon dioxide (CO₂) have increased by almost 50 per cent since 1990.</p>		<p>By 2030, ensure that all people have access to adequate, safe and affordable housing, to upgrade slums and provide access to safe, affordable, and sustainable transport systems.</p>
<p>663 million people in the world don't have access to clean drinking water.</p> <p>4 billion people in the world don't have access to basic sanitation services, such as toilets.</p>		<p>By 2030, end hunger, meaning everyone in the world including people living in extreme poverty has access to enough safe, nutritious food all year round.</p>

Can technology help?

Name:

Class:

1. Add your Global Goal symbol and target into the spaces below.

Global Goal symbol

Target for 2030

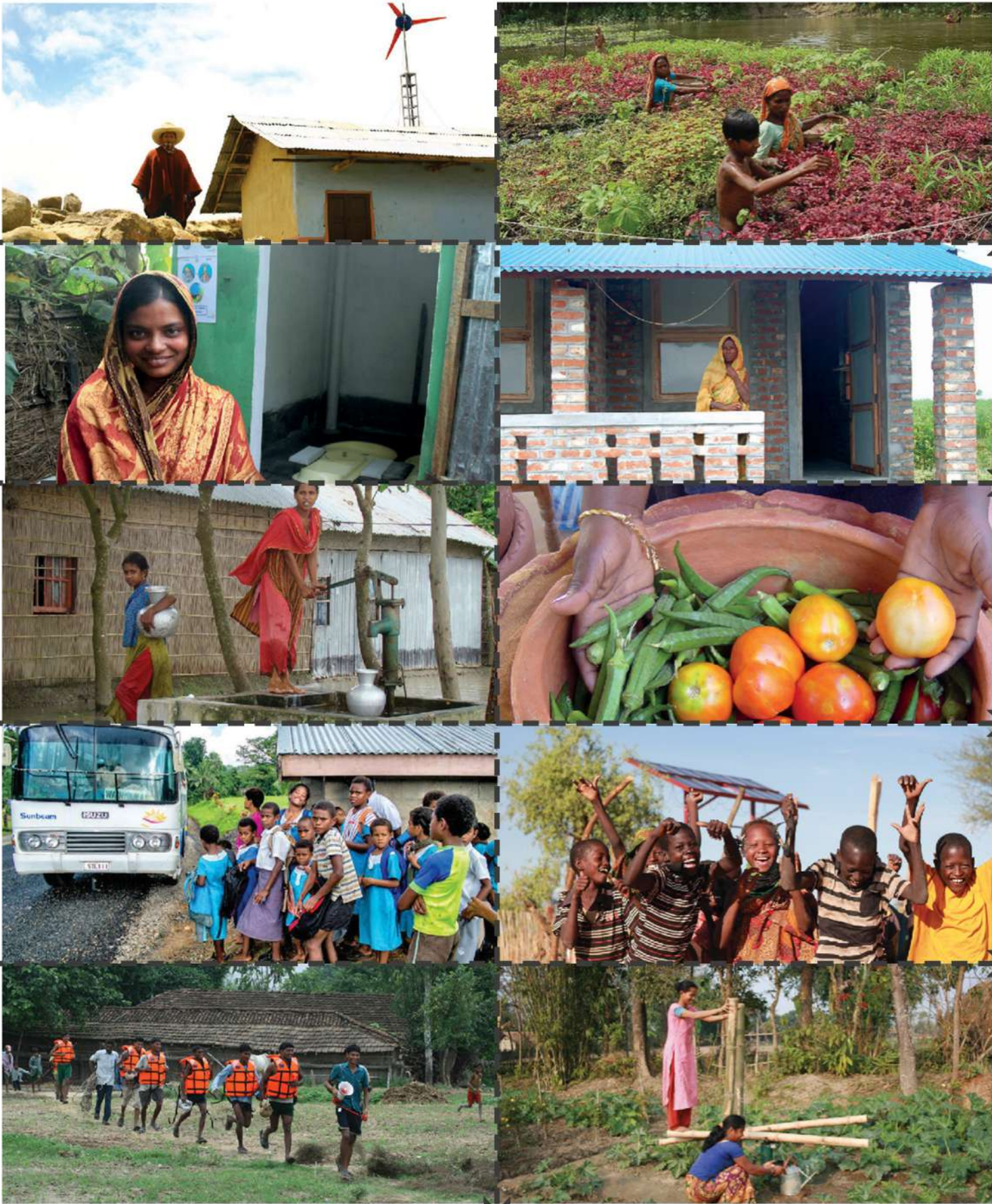
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2. Add two pictures of systems or technologies that could help reach the Global Goal target in the space below.

Around the pictures write down why you feel these technologies can help reach the Global Goal.

GLOBAL GOALS TECHNOLOGY SOLUTIONS

Select two pictures of technologies that you think might help reach your Global Goal targets.



Research

Name: _____

Class: _____

Research

Put a ring around the Global Goal you are exploring?



Write down one of the targets linked to your Global Goal.

Existing technologies

Explore at least one technology that has been developed to help reach the targets for the Global Goal you are exploring.

Record your research findings. Feel free to include pictures.

Research findings

Name:

Class:

Design ideas

Name:

Class:

List the main specification points your design will address.

Develop a range of design ideas and annotate them with their advantages and disadvantages.

Final idea

Name:

Class:

Present a final design that includes annotations about how the technology works and will help reach your Global Goal targets.

GLOBAL GOAL 2 - ZERO HUNGER



World facts

- Globally, one in nine people in the world today (795 million) are undernourished.
- 66 million primary school-age children attend classes hungry across the developing world.

Target

By 2030, to end hunger, meaning everyone in the world including people living in extreme poverty have access to enough safe, nutritious food all year round.

To find out more about the other targets for Global Goal 2 go to un.org/sustainabledevelopment/hunger

Your task

Imagine you are a designer and that you have been tasked to develop an idea for a technology or product that can help reduce malnutrition and hunger in the world by 2030.

Getting started

You might have your own ideas... but here are some questions to get you thinking.

Which technologies are useful to help people to:

- grow enough food in countries affected by drought and/or flooding?
- process and store food after its harvested to last for longer?
- cook food in a way that doesn't use too much fuel?

Useful sites

Food and agriculture case studies practicalaction.org/our-work/projects

Technical information on food processing answers.practicalaction.org/our-resources/agriculture-and-food

GLOBAL GOAL 6 - CLEAN WATER AND SANITATION



World facts

- 663 million people in the world don't have access to clean drinking water.
- 2.4 billion people in the world don't have access to basic sanitation services, such as toilets.

Target

By 2030 to ensure all people in the world have access to safe and affordable drinking water and sanitation services.

To find out more about the other targets for Global Goal 6 go to un.org/sustainabledevelopment/water-and-sanitation

Your task

Imagine you are a designer and that you have been tasked to develop an idea for a technology or product that can help people in the world to access to clean drinking water and sanitation services by 2030.

Getting started

You might have your own ideas... but here are some questions to get you thinking.

Which technologies help people to:

- collect water?
- clean water so that it's safe enough to drink?
- transport and store water to keep it clean?
- encourage hygiene when water is limited?
- develop toilets that don't use water?

Useful sites

Water and sanitation case studies practicalaction.org/our-work/projects

Technical information on water and sanitation technologies
answers.practicalaction.org/our-resources/water-sanitation-and-hygiene

GLOBAL GOAL 7 - AFFORDABLE AND CLEAN ENERGY



World facts

- One in five people in the world does not have access to electricity.
- 3 billion people rely on wood, coal, charcoal or animal waste for cooking and heating.

Target

By 2030, to ensure everyone in the world can access to affordable, reliable and modern energy services.

To find out more about the other targets for Global Goal 7 go to un.org/sustainabledevelopment/energy

Your task

Imagine you are a designer and that you have been tasked to develop an idea for a technology or product that can help people in the world access affordable and sustainable energy by 2030.

You might have your own ideas... but here are some questions to get you thinking.

Getting started

You might have your own ideas... but here are some questions to get you thinking.

Which technologies could help people to:

- generate electricity in rural areas where there is no national grid access to electricity?
- develop a cook stove that reduces the amount of wood or charcoal needed?
- light their homes so that children can do homework in the evening?

Useful sites

Renewable energy case studies practicalaction.org/our-work/projects

Energy solutions information answers.practicalaction.org/our-resources/energy

GLOBAL GOAL 11 - SUSTAINABLE CITIES AND COMMUNITIES



World facts

- Half of the world's population – 3.5 billion people – live in cities today.
- 828 million people live in slums today and the number keeps rising.

Target

By 2030, to ensure that all people have access to adequate, safe and affordable housing, to upgrade slums and provide access to safe, affordable, and sustainable transport systems.

To find out more about the other facts and targets for Global Goal 11 go to un.org/sustainabledevelopment/cities

Your task

Imagine you're a designer who has been tasked to develop new ideas for technologies or products that can help people in the world live in safe and sustainable cities by 2030.

Getting started

You might have your own ideas... but here are some questions to get you thinking.

Can you think of ideas for technologies that can help people to:

- live in affordable and safe houses?
- use affordable and sustainable transport systems?
- reduce the amount of energy consumption in cities?
- deal with 'waste' materials in a way that's best for people and the environment?

Useful sites

Urban water and waste case studies practicalaction.org/our-work/projects

Technical information construction and transport
answers.practicalaction.org/our-resources/construction-and-transport

GLOBAL GOAL 13 - CLIMATE ACTION



World facts

- Climate change is now affecting every country on every continent.
- Global emissions of carbon dioxide (CO₂) have increased by almost 50 per cent since 1990.

Target

By 2030 to ensure all people are well prepared for hazards related to climate change and natural disasters.

To find out more about other facts and targets for Global Goal 13 go to un.org/sustainabledevelopment/climate-change-2

Your task

Imagine you are a designer who has been tasked to develop a technology or product that can help people in the world either to:

- Prepare for the hazards related to climate change and natural disasters.
- Reduce the environmental impact of the resources they use.

Getting started

You might have your own ideas... but here are some questions to get you thinking.

Which technologies could help people to:

- grow crops in areas that are increasingly hit by natural disasters (especially flooding or drought)?
- prepare themselves and their homes from the risks of flooding?
- reduce their personal use of world resources including energy, water and materials?
- reuse materials in a way to reduce environmental impact of the planet?

Useful sites

Climate change case studies practicalaction.org/our-work/projects

Technical information on disaster Risk Reduction
answers.practicalaction.org/our-resources/environment-and-adaptation-to-climate-change