INDUSTRY INNOVATION AND INFRASTRUCTURE

RESOURCE FOR TEACHERS AND FACILITATORS

Active Citizenship Unit 2018

CONCERN worldwide

INDUSTRY INNOVATION AND INFRASTRUCTURE

EDUCATION RESOURCE

The sustainable development goals are 17 targets for all countries in the world to make the world a better place for all, and to leave no one behind. A key part of being able to reach these goals is building our world in a sustainable way so that people can meet their needs, as well as ensuring that we aren't damaging our planet. Over half the worlds population now live in cities, with this set to increase, so the need for effective and sustainable infrastructure for transport, housing, sanitation and energy is vital. **SDG9** focuses on making sure that industries and infrastructure is future proofed and responsive to the needs of people, giving people the tools to find long term solutions to problems.

SDG9: Industry, innovation and infrastructure

The aim of the sustainable development goals is to make the world a better place for all life on the earth, as well as taking into consideration environmental concerns. SDG9's specific focus is on:

- Creating employment for people which takes into considering the environment as well as the changing needs of societies
- Reducing emissions to tackle climate change and it's impacts
- Increasing manufacturing jobs in developing countries to provide income to communities as well as whole countries
- The conditions which mean that people can live with access to their human rights

KEY TERMINOLOGY:

- **Industry:** Industry refers to all the people and activities involved in making a product or providing a service (e.g. motor industry, textile industry, tourist industry).
- **Innovation:** Innovation is a new idea, method or piece of equipment which meets the needs of people and communities in an effective way.
- **Infrastructure:** Infrastructure is the basic facilities needed for communities and societies. These are things like roads, transport systems, schools, healthcare facilities, power supplies, etc.
- **Sustainable:** Sustainable means the ability to keep going over time at a particular level. For example, running for a long period of time at top speed is not sustainable because it uses lots of energy, but a slow jog can be sustained for longer.

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TEACHER/ FACILITATOR ACTIVITY

Use this activity to get your group thinking about the importance of innovation in the past and for our future.

INSTRUCTIONS:

1. Display the statement **"Necessity is the mother of invention"** displayed on a board/whiteboard so that all students can see it. Ask students if they've ever heard this saying before. This is a well-known phrase in the English language and is often attributed to the ancient philosopher Plato.
2. Ask them to discuss in groups what they think that this phrase means and share with the rest of the group afterwards
3. Next, ask the students in their groups to brainstorm inventions throughout history. Ask them to write down anything about why these came into being, who invented/discovered them, and when they were made/discovered. (e.g. The Smallpox vaccine, the Internet) Feedback to the whole class.
4. Finally, students write down issues that their own community face, their national community face and the global community face. What do they think that the next inventions/innovations will be to tackle these issues?

DID YOU KNOW?

Plumpy'Nut is a nut paste product that is used to treat malnutrition in children under five. It is an example of Ready-to-use Therapeutic food (RUTF) which organisations such as Concern use when famine and disasters strike.

It was first created in 1996 by André Briend, a French nutritionist and Michel Lescanne and inspired by Nutella! Before this, treatment for malnutrition for children had to be given by medical professionals in clinics – not very practical for families who may have to travel great distances on foot each day for treatment!

Pumpy'Nut doesn't need to be stored in a fridge, needs no preparation and can be kept for two years. It can also be importantly be taken at home and made locally at a low price. It is a simple, yet important invention which has impacted the lives of many.

SDG9 KEY FACTS:

2.6 billion people struggle to access full time electricity. This impacts on access to healthcare, being able to study as well as affecting jobs and businesses. (UNDP.org 2018)

Basic infrastructure such as roads, schools and health facilities are scarce in many communities across developing countries. This limits peoples access to healthcare, access to markets to sell and buy goods and people's ability to find work (UNDP.org 2018)

By 2040, the world population is expected to grow by 2 billion people – 25% of the current population! In order to support all needs, innovative solutions to ensure that all people have access to basic needs whilst ensuring that we aren't damaging our environment.

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CONCERN AND SDG9

To tackle long term issues facing communities new ways of working are needed. One example of this is the Fab Lab in the University of Nairobi, Kenya.

The Concern funded project in Nairobi focuses on equipment needed for hospitals and medical centres. The majority of any equipment found is a hospital is designed for a European context – this means smooth floors, quick access to parts if something is broken, engineers to fix things, electricity on demand. These can't always be taken for granted in developing countries.

- Buying spare parts can be very expensive
- It may take months to ship the parts over
- The environment of the hospital/medical centre may mean that the equipment breaks quickly or doesn't work as effectively
- The equipment may not suit cultural needs and attitudes

DID YOU KNOW?

Fab Lab's are an example of a Maker Space - these are collaborative work places that bring together people from different fields to work together on projects with the aim of finding new and innovative ideas.

They exist all over the world for local people to develop technology and ideas.

The **FabLab Nairobi** is working on creating locally made and produced medical equipment with local and cost effective materials. They are developing ventilation machines, incubators and labour beds which respond to the local environment. This means that access to good medical equipment will be affordable and more efficient for health practitioners in developing countries!

Three top tips to take action on SDG9!

1. Get your community thinking about innovations which would benefit them and write to your local TD to tell them about it!
2. Fundraise in your community for our projects such as the FabLab's which help local people take action on local issues!
3. Contact us to organise a workshop to explore how important infrastructure is on lifting people out of poverty in the countries we work in.

GET IN TOUCH!

- **Contact concern to take part in a workshop: schools@concern.net**
- Follow us on twitter @concernactive, and tweet us to tell us about any actions you have taken to work towards SDG9