

International School Challenge!



Little Inventors
Ingenuous Ideas

SUSTAINABLE DEVELOPMENT GOALS

11 SUSTAINABLE CITIES AND COMMUNITIES

RESOURCE

What is an invention?

An invention is a new object or way of doing things which didn't exist before; an idea thought up by someone.

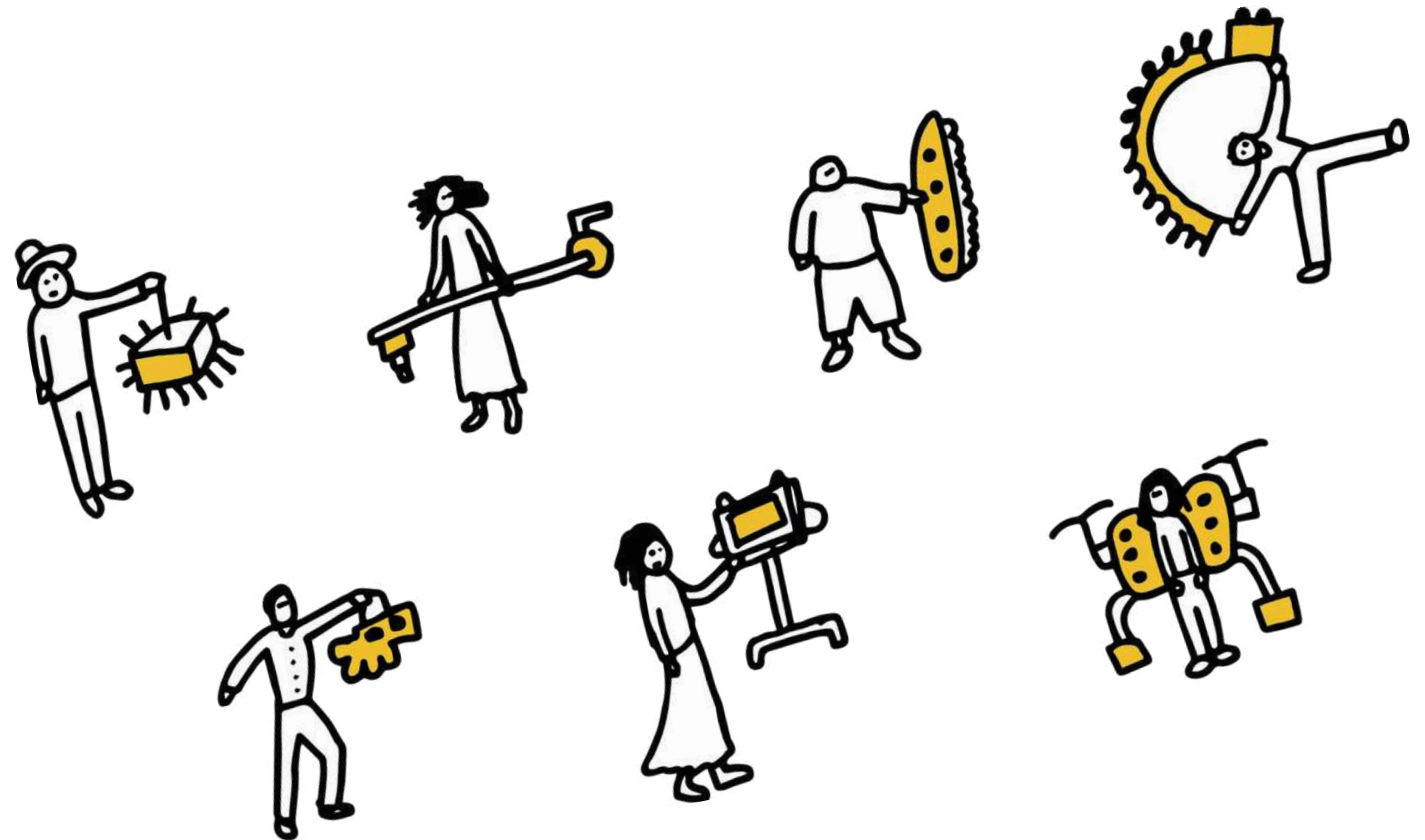
Anyone can create an invention, the main thing needed to invent things is lots of ideas. They can be helpful, useful, big or small!



Who needs inventions?

Everyone! Think about the first humans who had, well, not very much at all, and now look at the world around you. Who do you think came up with the table, a fridge and a watch?

Everything in the world had to be invented at some point! Coming up with inventions is one of the most natural things that humans (and some animals) do – it's how we learn to adapt to our environment, how we solve problems around us.



Discussion

Can you name some well-known inventions?

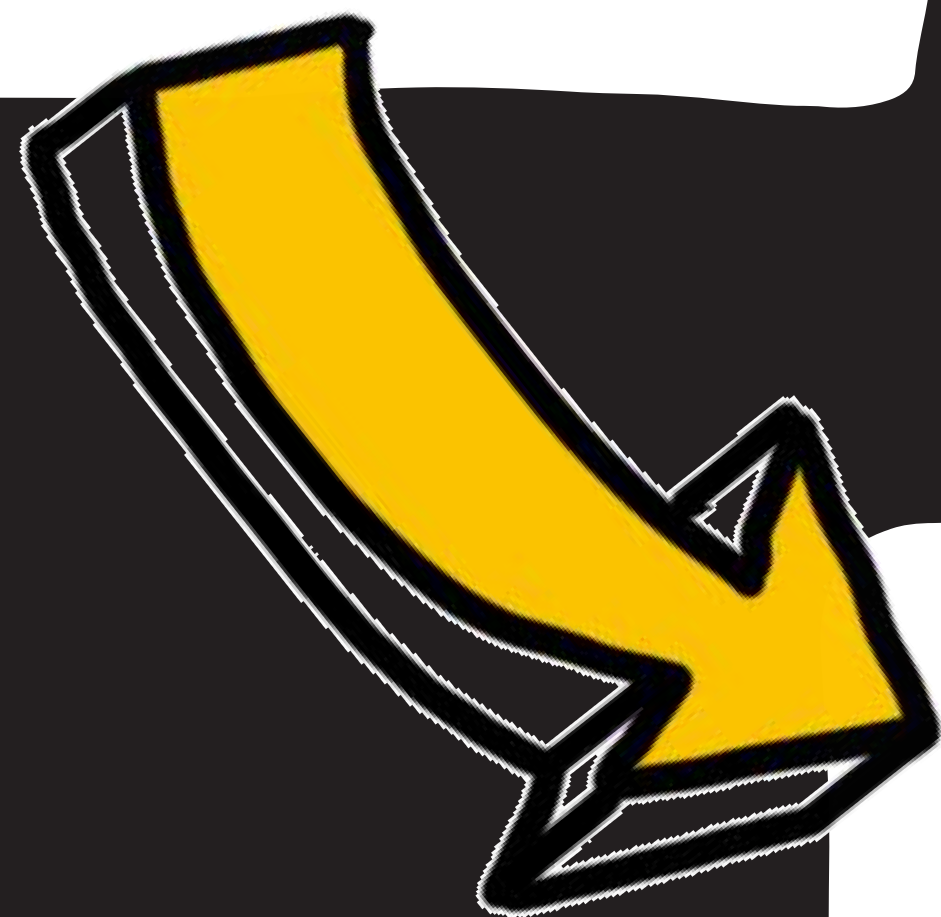
Can you think of things which are difficult to do now, and how they might be easier to do in the future?

Think about 'ordinary' objects? Why were they invented?

Think about 2030 and how the world might have changed. What do you think will be different in everyday life?

Inventions are used to solve problems; can you think about problems or things that could be made more interesting or fun, now and in the future?

Activity 1



Do 'Problem Detection
Comic'

Find it in the ACTIVITIES pack 

What are Sustainable Development Goals?

They were agreed by all United Nations Member States in 2015 to help achieve peace and prosperity for us and our planet, now and into the future.

There are 17 Sustainable Development Goals (SDGs), which are an urgent call for action by everybody.



Find out more
about SDGs

Click to
watch
this video



This Challenge

For this challenge, we will focus on SDG 11: Sustainable Cities & Communities.

We need to make cities and human settlements inclusive, safe, resilient and sustainable.



Activity 2



Do 'Mind Mapping'

Find it in the ACTIVITIES pack 

What is Sustainability?

Sustainability is the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs.

It's about making choices that are good for nature, like recycling, saving energy, and not wasting things. When we live sustainably, we protect plants, animals and people, ensuring there will always be enough clean air, water and resources for everyone in the future.



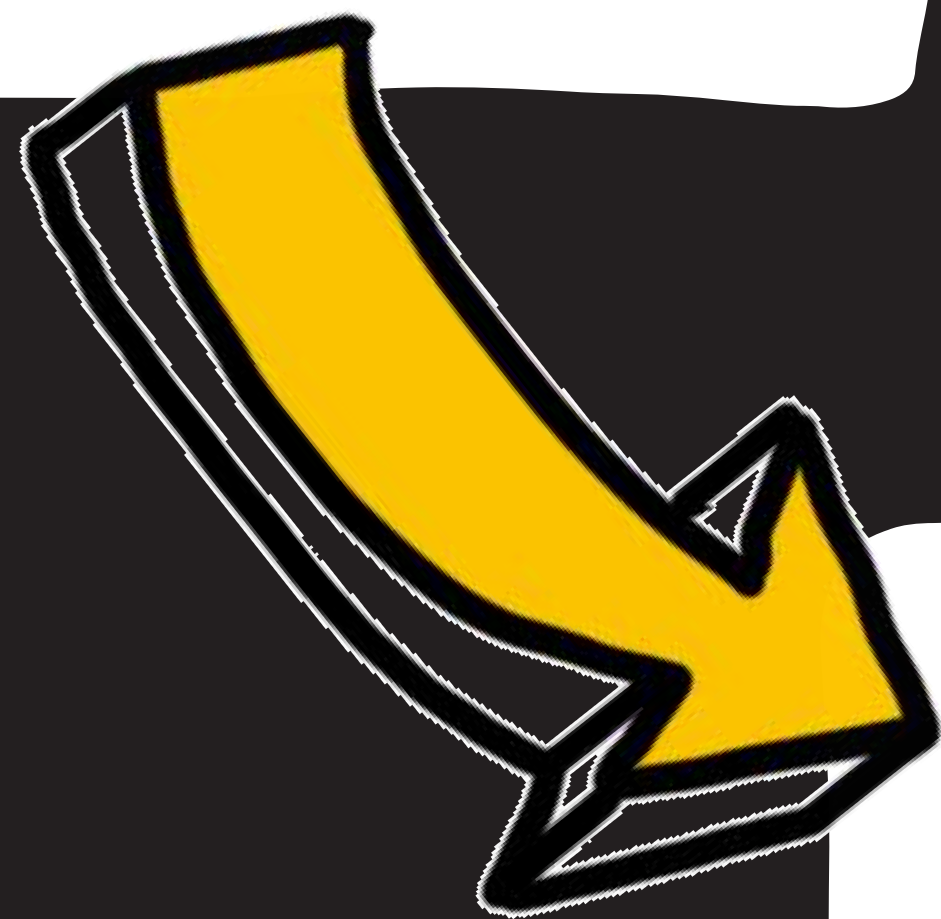
What a wonderful world!

Earth happened to be in the right place at the right time. The right distance from the sun, the right amount of water and the right atmosphere have led to life sprouting on Earth.

It's the only planet in the whole galaxy with life on it... that we know of!



Activity 3



Do 'Homes & Habitats'

Find it in the ACTIVITIES pack 

What is happening?



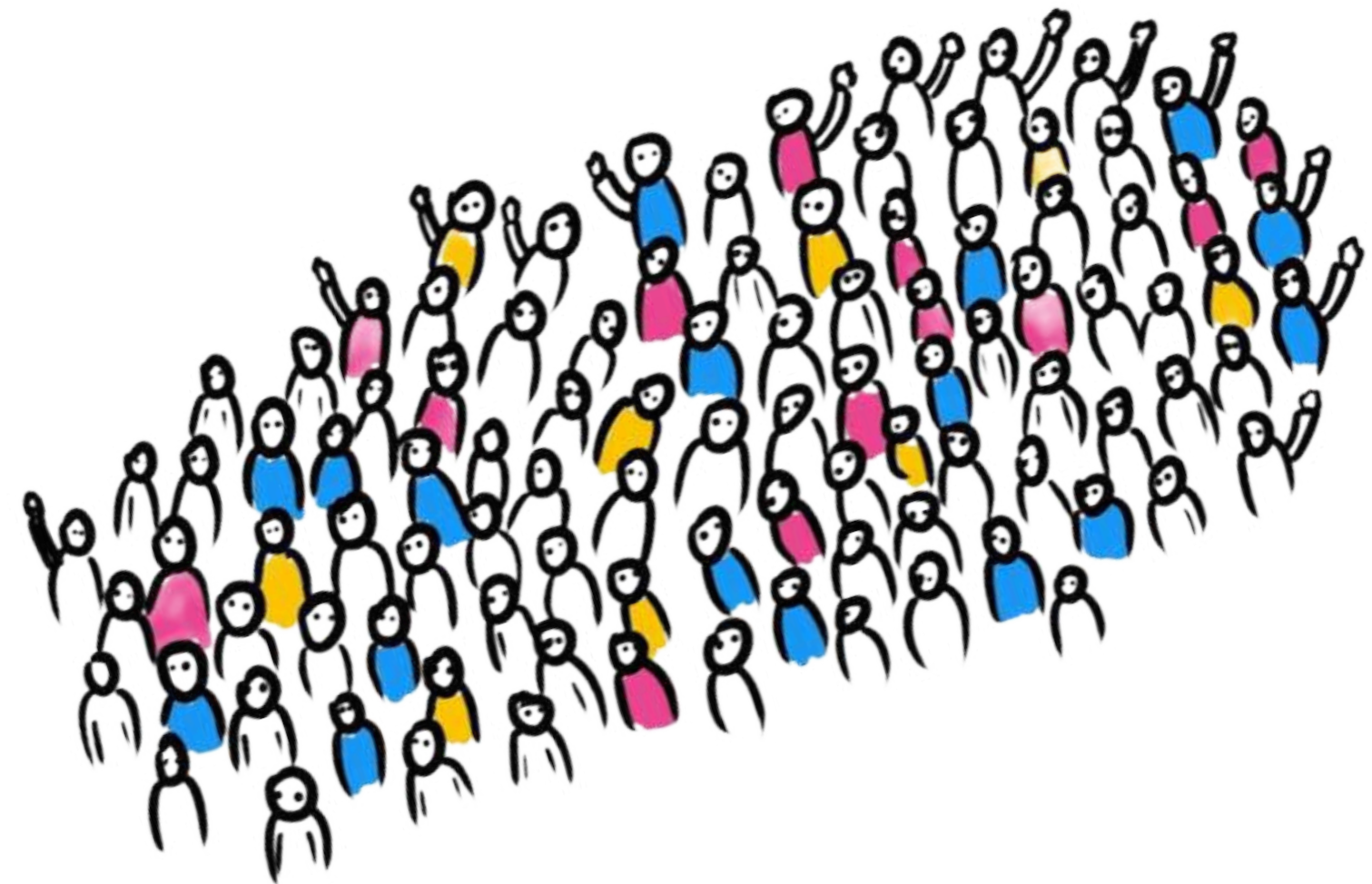
There are a few key reasons why we need to create sustainable cities and communities...



Living Conditions

There are 8.2 billion people on Earth. Over half, 4.4 billion of those people, are 'urban residents' - meaning they live in cities. One quarter, 1.1 billion of those people, live in 'slums'. In the next 30 years, 2 billion more people are expected to live in 'slums'.

A slum is a very crowded area in a city where people live in simple, poorly built homes. They may not have access to clean water, electricity or good toilets.



We need to ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

Activity 4

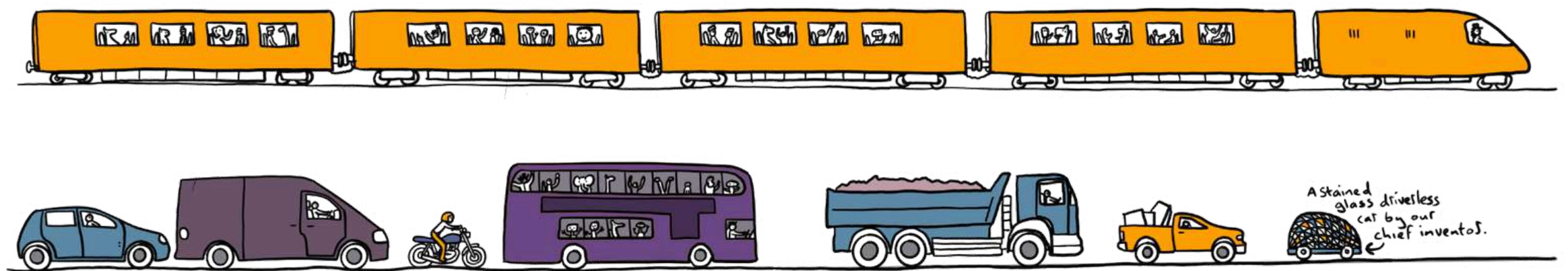


Do 'Dream Home'

Find it in the ACTIVITIES pack 

Public Transport

Only half of Earth's urban residents have convenient access to public transport like buses, trains and trams. This means the other half can't access public transport within a short walking distance (about a 10-minute walk) from their home.



Public transport reduces traffic and pollution, makes it easier for people with and without cars to get to work, school, doctors, hospitals and other important places.



We need to provide sustainable public transport for all, especially women, children, people with disabilities and older persons

Public Spaces

Only 1 in 4 cities on Earth have more than 20% of its area as public spaces like parks, plazas and streets. Public spaces are important because they allow people to gather, move around and connect safely.



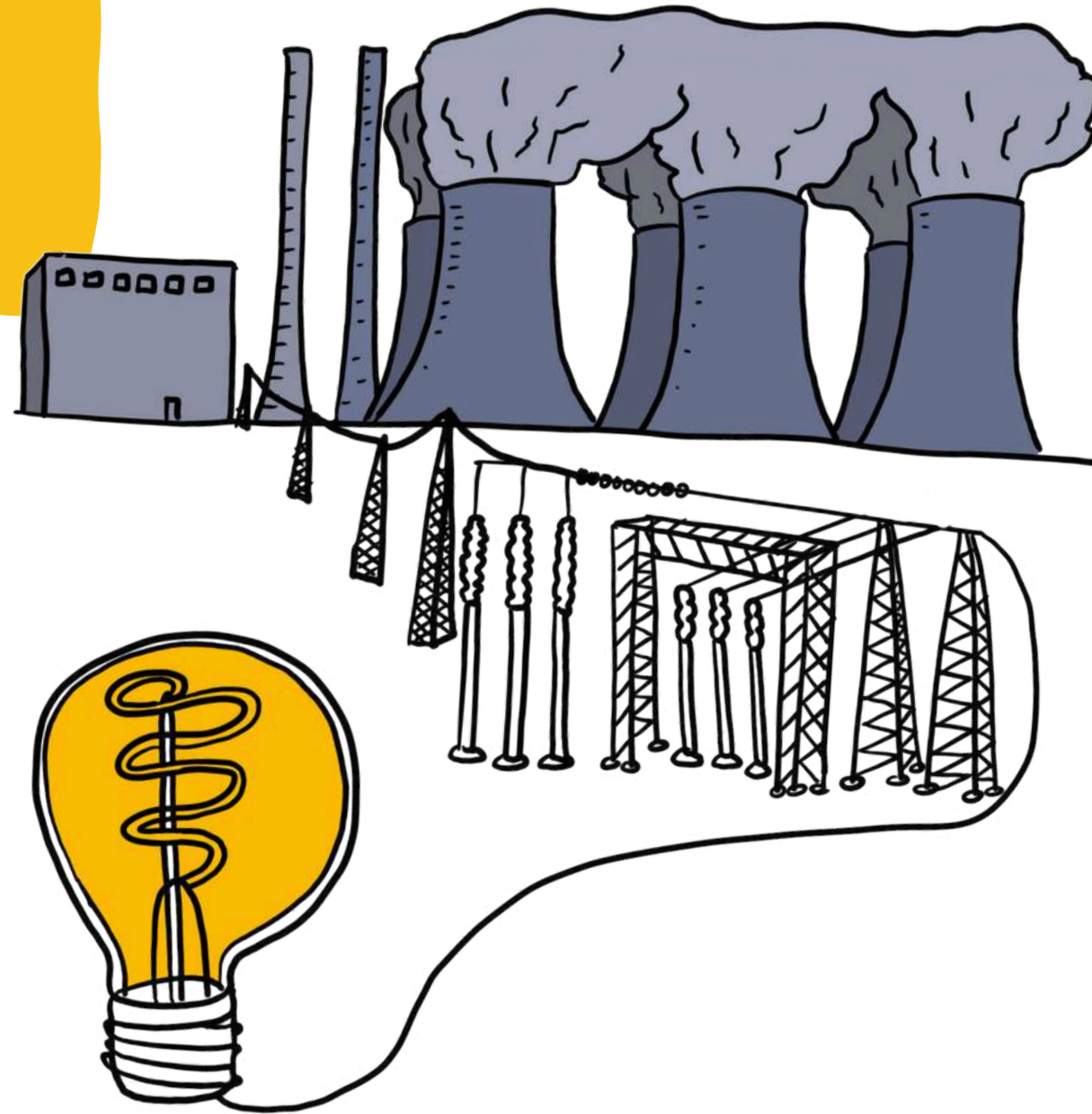
They also encourage physical exercise, help our mental health, reduce air pollution, help create new businesses and jobs and bring nature into cities.



We need to provide open, green, and connected public spaces to help cities thrive, making them better places to live for everyone

Pollution & Waste

Over 90% of people living in cities breathe air that doesn't meet safe health standards, mostly due to car emissions, factories, and dust. Cities also produce a lot of waste and pollution which affects our water and land.



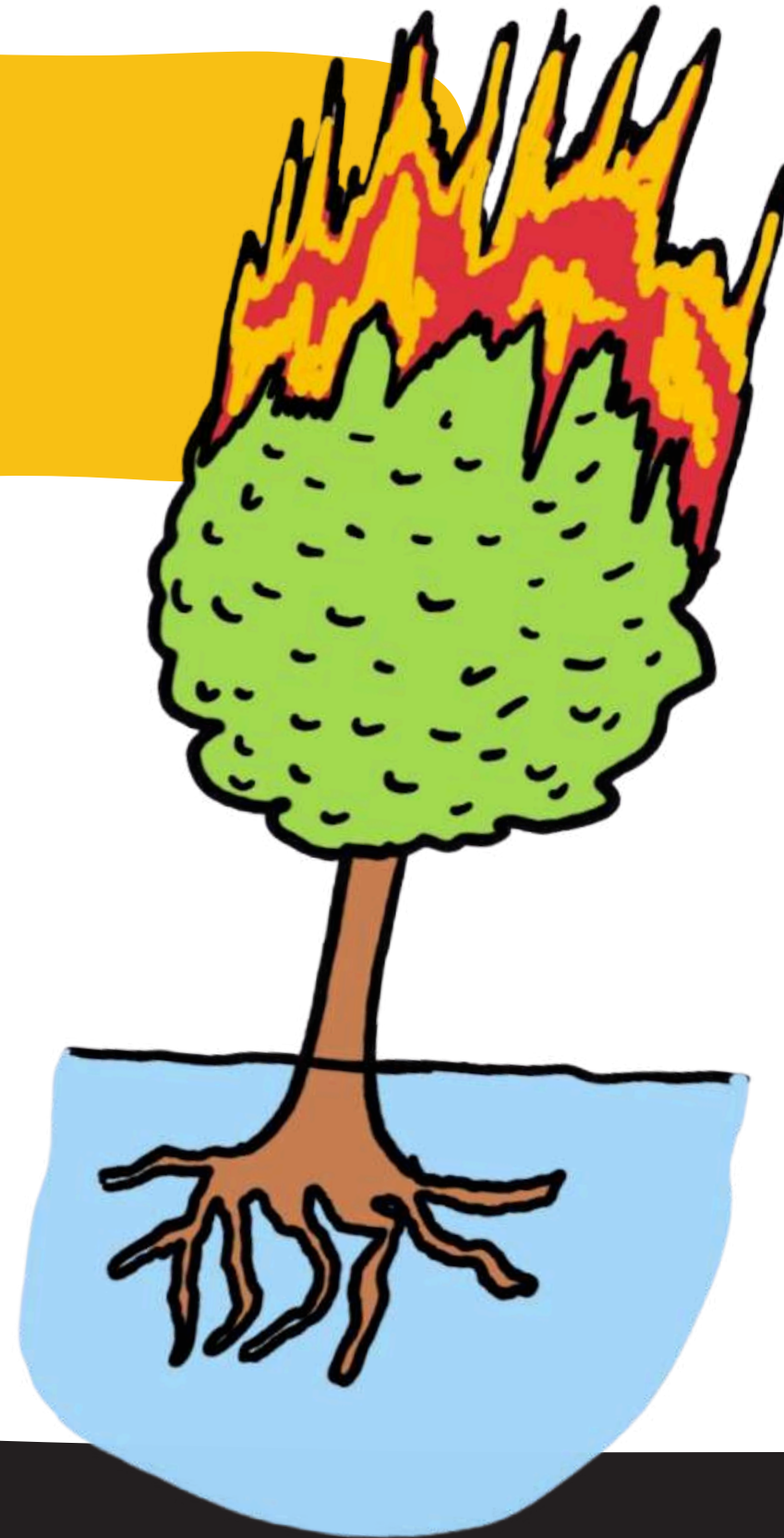
Planting trees and creating green spaces in cities help reduce pollution by absorbing carbon dioxide and other pollutants. They also help cool down cities, reduce noise and provide habitats for wildlife.



We need cities to manage their waste better and reduce pollution to keep people and the environment healthy

Plan For Natural Disasters

More and more cities in the world are at risk of floods, earthquakes, storms and other natural disasters. They can happen gradually or suddenly and cause damage to homes, schools and roads - as well as people and animals.

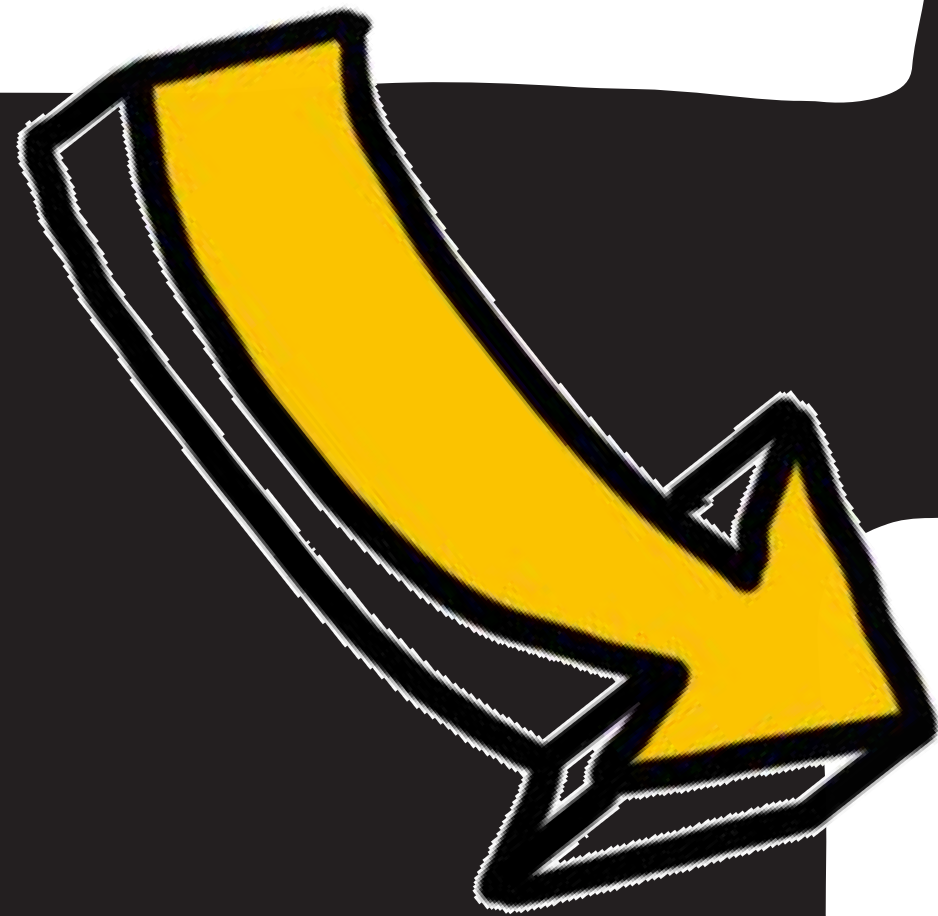


Designing safer buildings, using green spaces as shields, installing early warning systems, creating safe gathering spaces and educating people on what to do are all ways we can help plan for natural disasters.



We need cities to plan and prepare for natural disasters to protect people, animals, homes and businesses

Activity 5



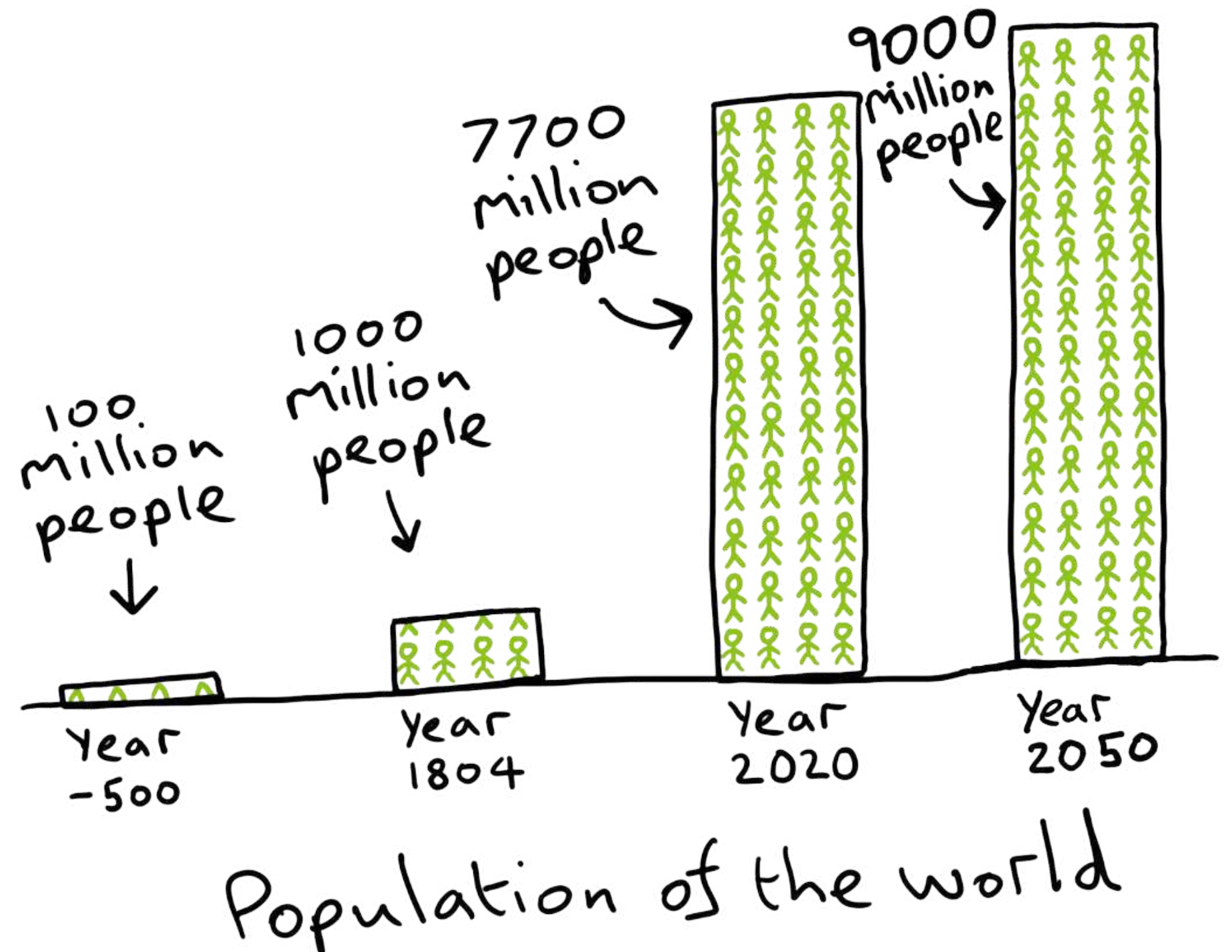
Do 'Community
Profiler'

Find it in the ACTIVITIES pack 

How did we get here?

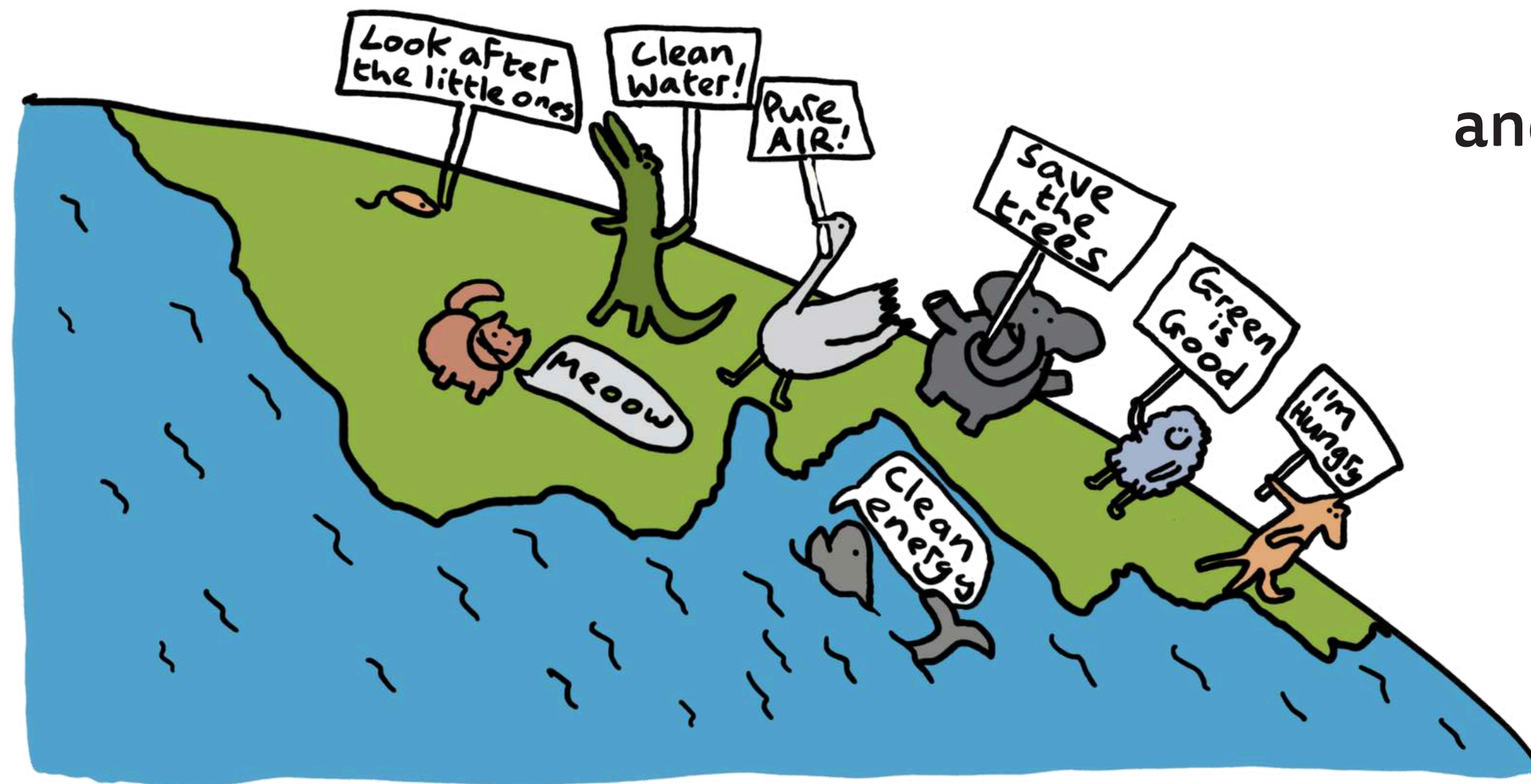
Over time, the way we live has changed, and all of these changes have created the need for us to think differently about how we make cities and communities inclusive, safe, resilient and sustainable.

Cities are getting bigger and overcrowded resulting in a shortage of good housing and services like roads, public transport, water supplies and healthcare. More people in cities means more traffic and waste - which means more pollution.

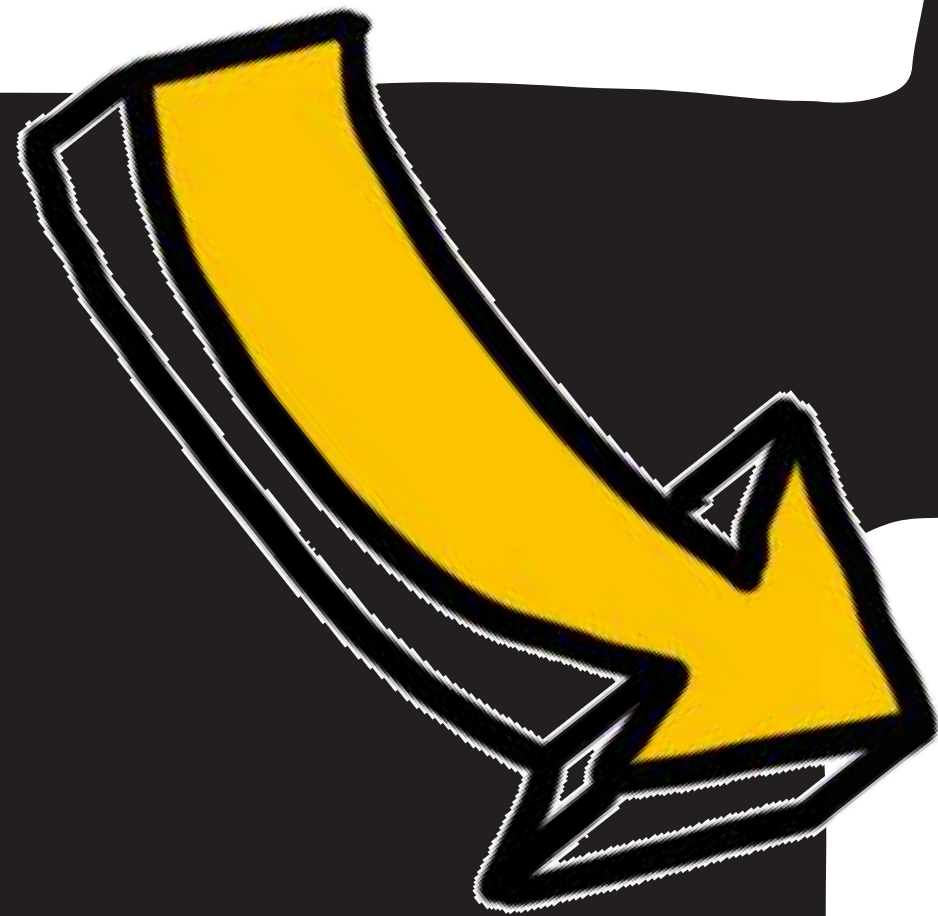


Inventing a sustainable future

To achieve this, we all need to make changes - and inventions can make a huge difference.



Activity 6



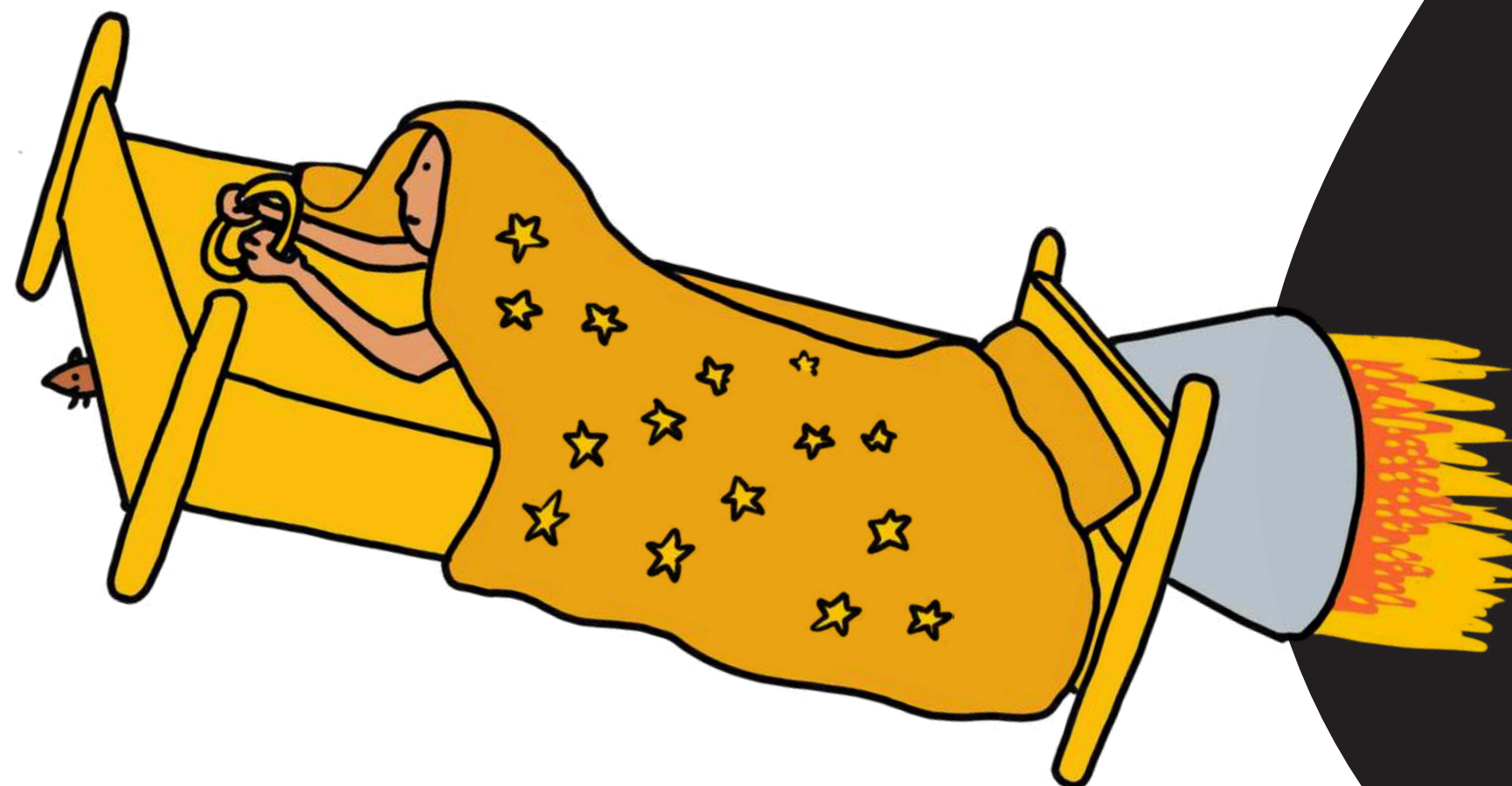
Do 'What's the Story?'

Find it in the ACTIVITIES pack 

It's in our hands...

We all have a responsibility to do what we can to tackle climate change. Young people all over the world are taking part in climate action and making their voices heard.

One person can make a difference, and together we can change the world.



"We children are doing this to wake the adults up. We children are doing this because we want our hopes and dreams back."

Greta Thunberg
Activist

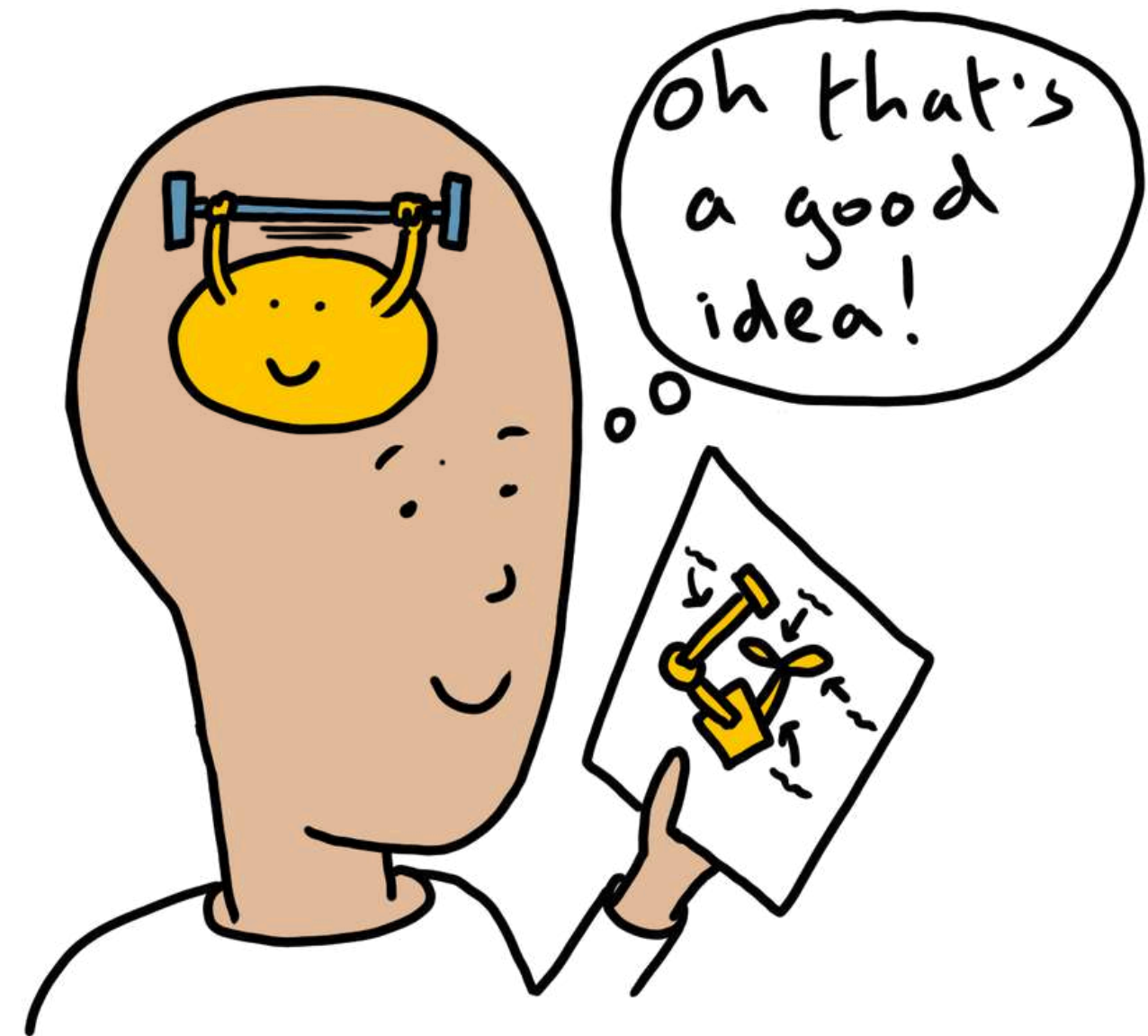
Coming up
with ideas...



1

Follow the thought

- ➔ Try to stop thinking for a minute. It's pretty much impossible!
- ➔ Our brains are constantly taking in information and working out what to do with it.
- ➔ Trust your brain and try to catch a thought, go with it, and see where it takes you!



2

Who needs your help?

➔ Thinking about who your invention is for is a great place to start.

➔ It could be for someone in your family or an animal you spot while you're out and about.

➔ Imagine what they like, dislike, what they might find difficult or boring - how can you help them?



3

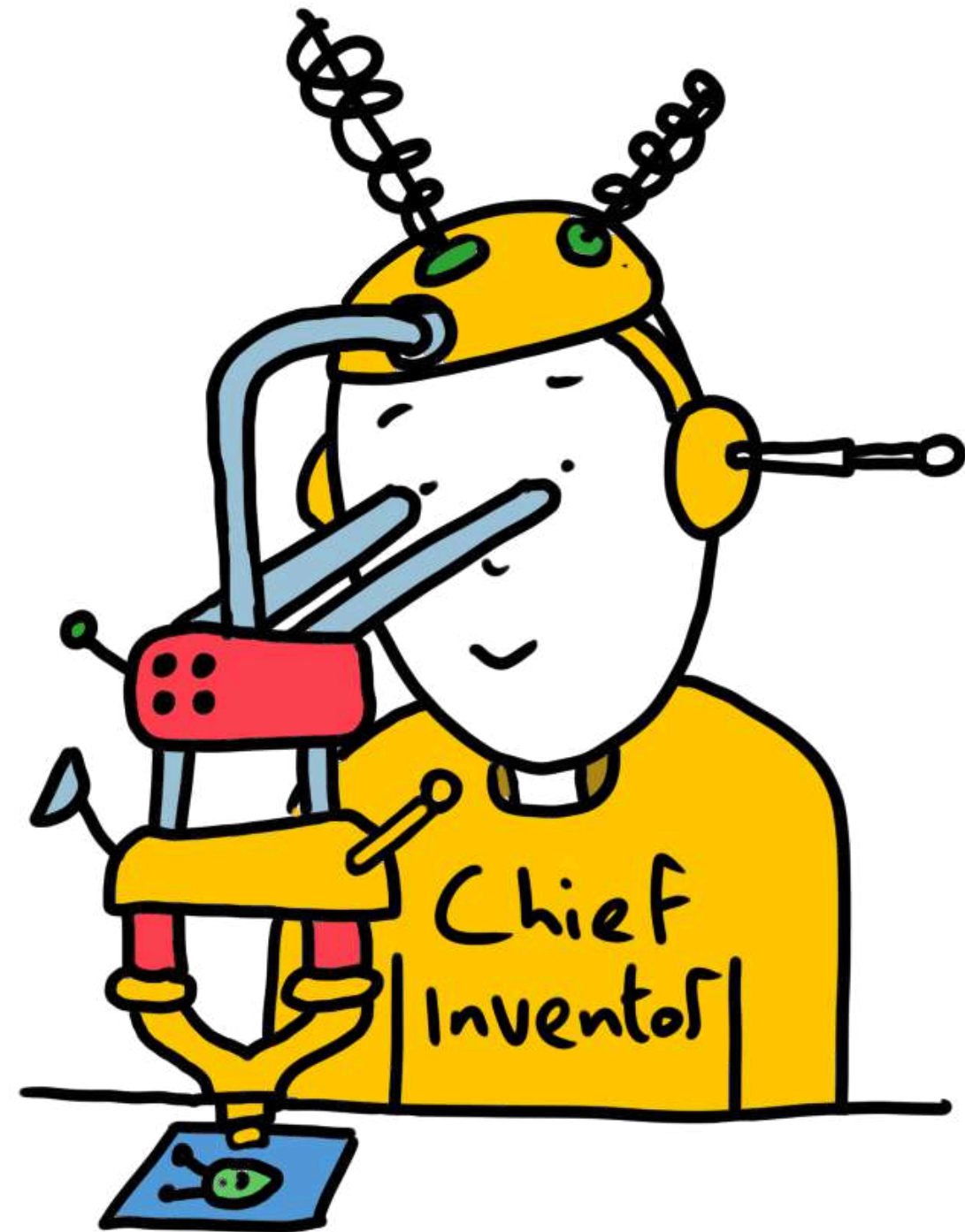
No problem too small



It might be how to help a snail go faster, how to water a cactus, or how to protect a ladybird (ladybug) from the rain.



No problem is too small to capture your inventive imagination!



4

No limits!



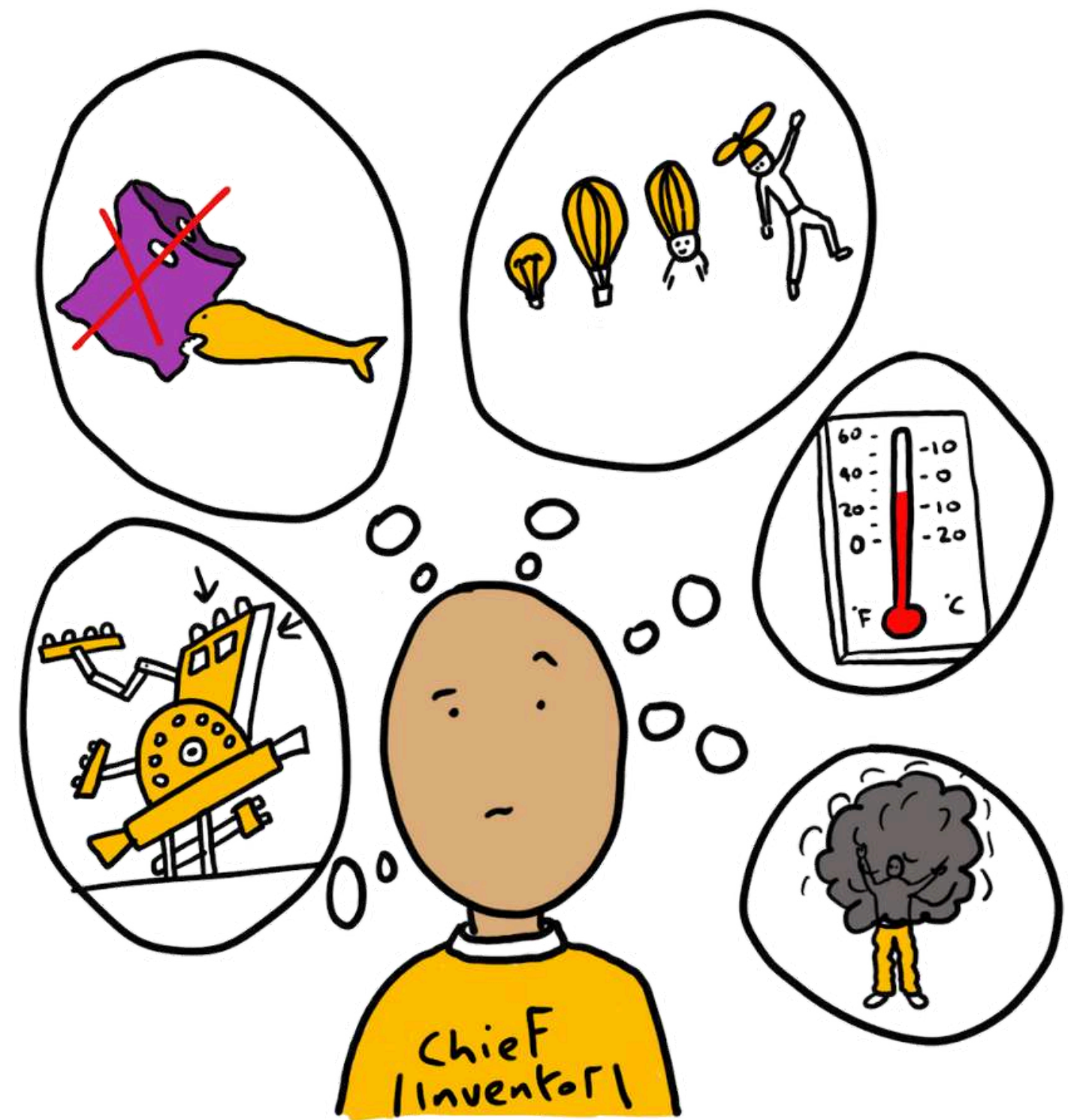
And of course, the opposite is also true - there is no problem too big to have a go at either!



If you worry about how to reduce the pollution in the atmosphere or how to make travel faster, safer and non-polluting, then have a go.



We need all kinds of ideas to help our planet be sustainable!

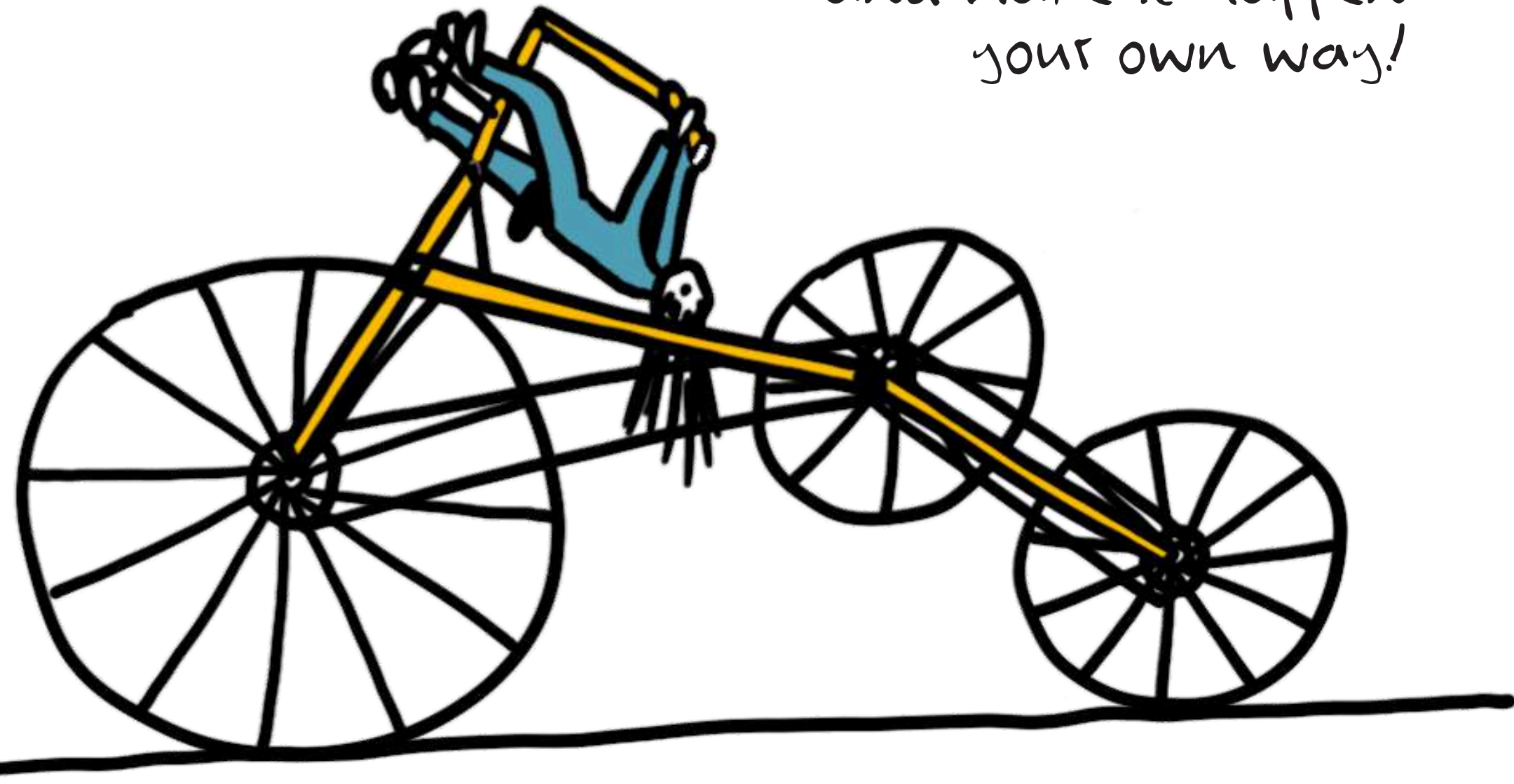


5

Break the rules

New inventions happen when we try to think or do things differently - in other words, when we break the rules.

So forget how things are supposed to work and make it happen your own way!



6

NEVER GIVE UP!



The more you do it, the better you will become at thinking creatively.



keep thinking

Don't give up!

Amazing idea



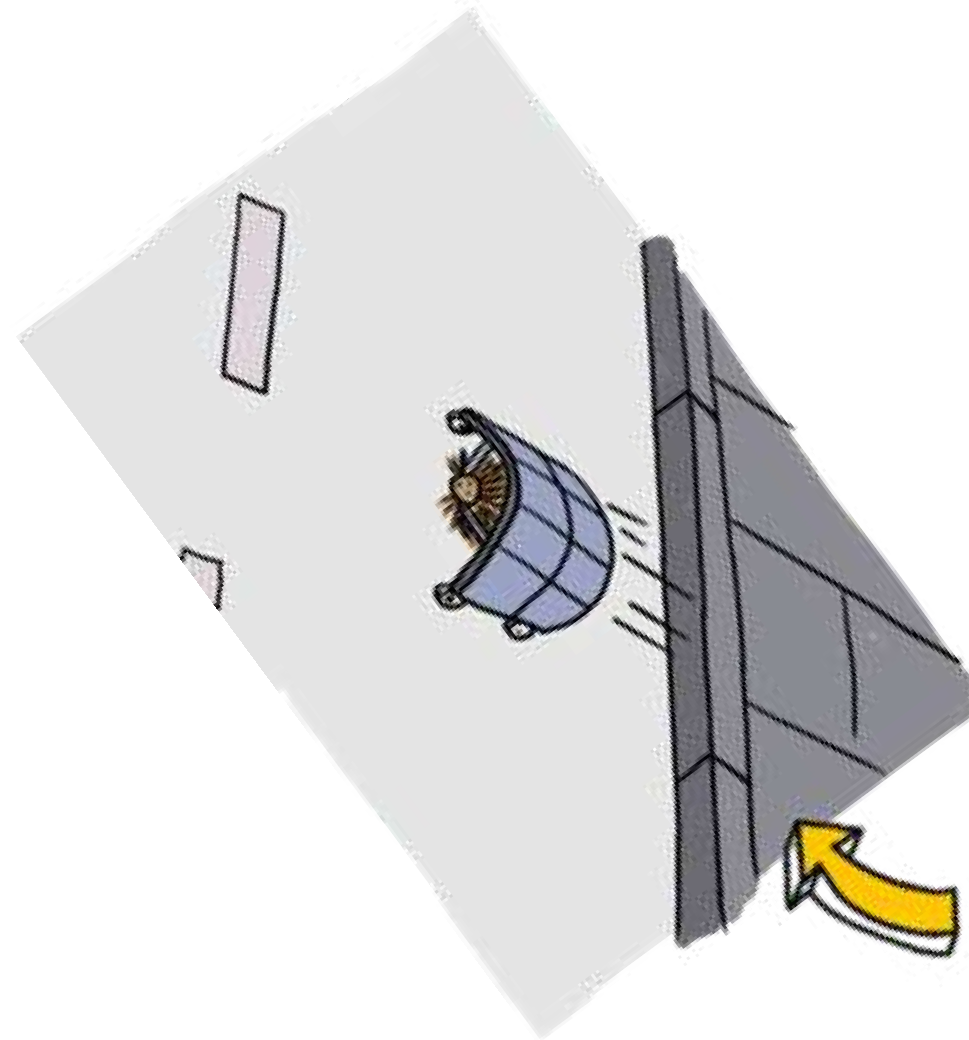
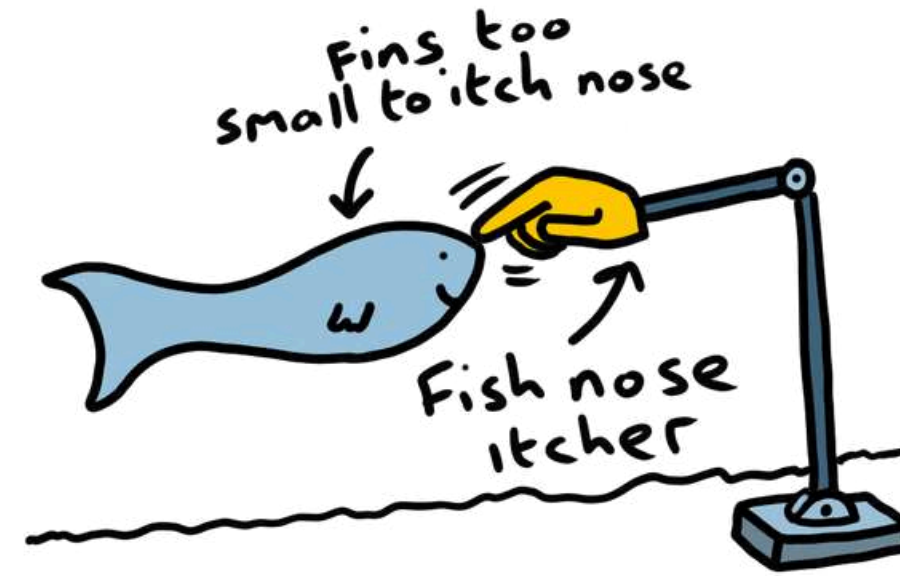
Even if your first idea doesn't work, it can lead to better ideas. Each try takes you closer to an amazing idea.

7

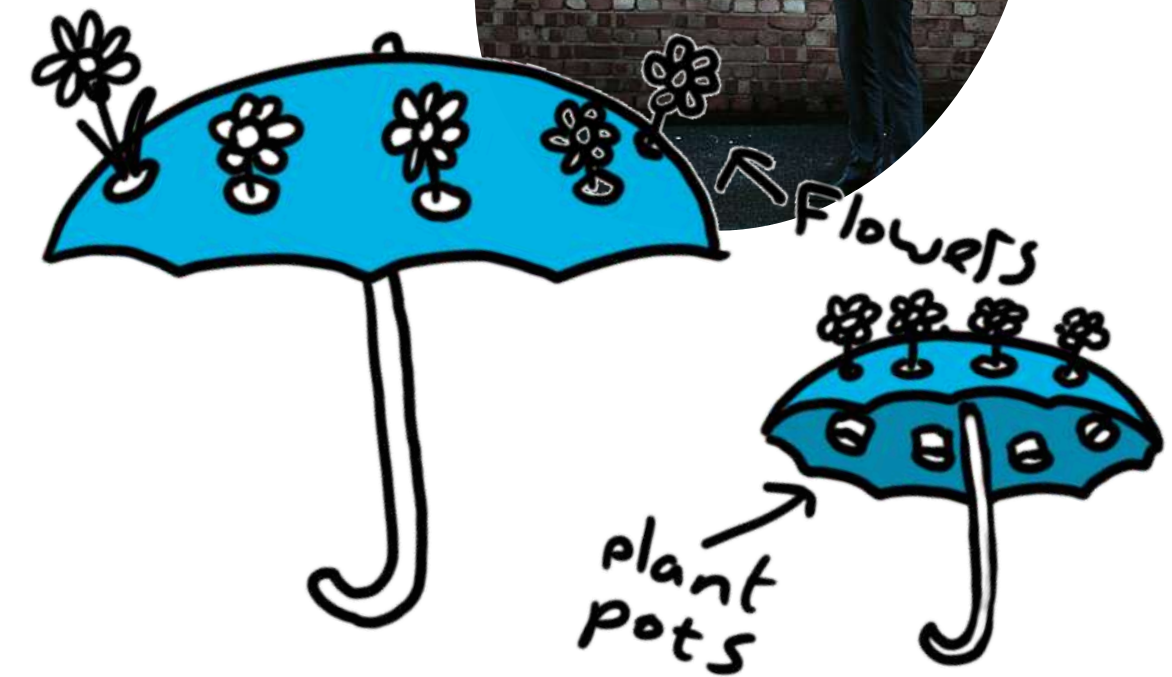
Bonkers is BRILLIANT!

Here are some bonkers ideas from Dominic, our Chief Inventor.

Dominic loves to draw to get the ideas out of his brain and onto paper. Sometimes he doesn't even know what they'll be until he starts drawing but putting pen to paper is the first step to inventing!



Hedgehog road crossing device

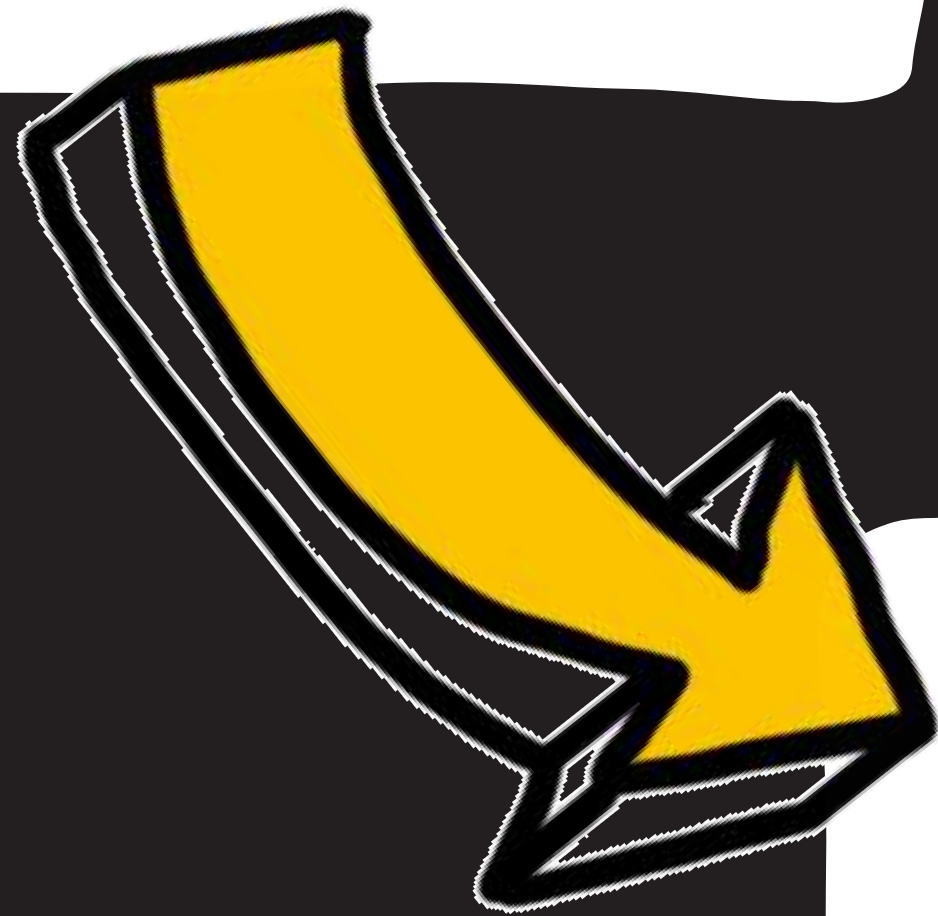


See for yourself

Click to
watch
this video



Activity 7



Do 'Mini Challenge
Cards'

Find it in the ACTIVITIES pack 

THE MAIN CHALLENGE!

What can you invent to help make our cities and communities more sustainable?



Use the Invention Drawing Sheet in the Activity Pack!

