



Food and Agriculture
Organization of the
United Nations



working for Zero Hunger

ACTIVITY BOOK

Climate is changing



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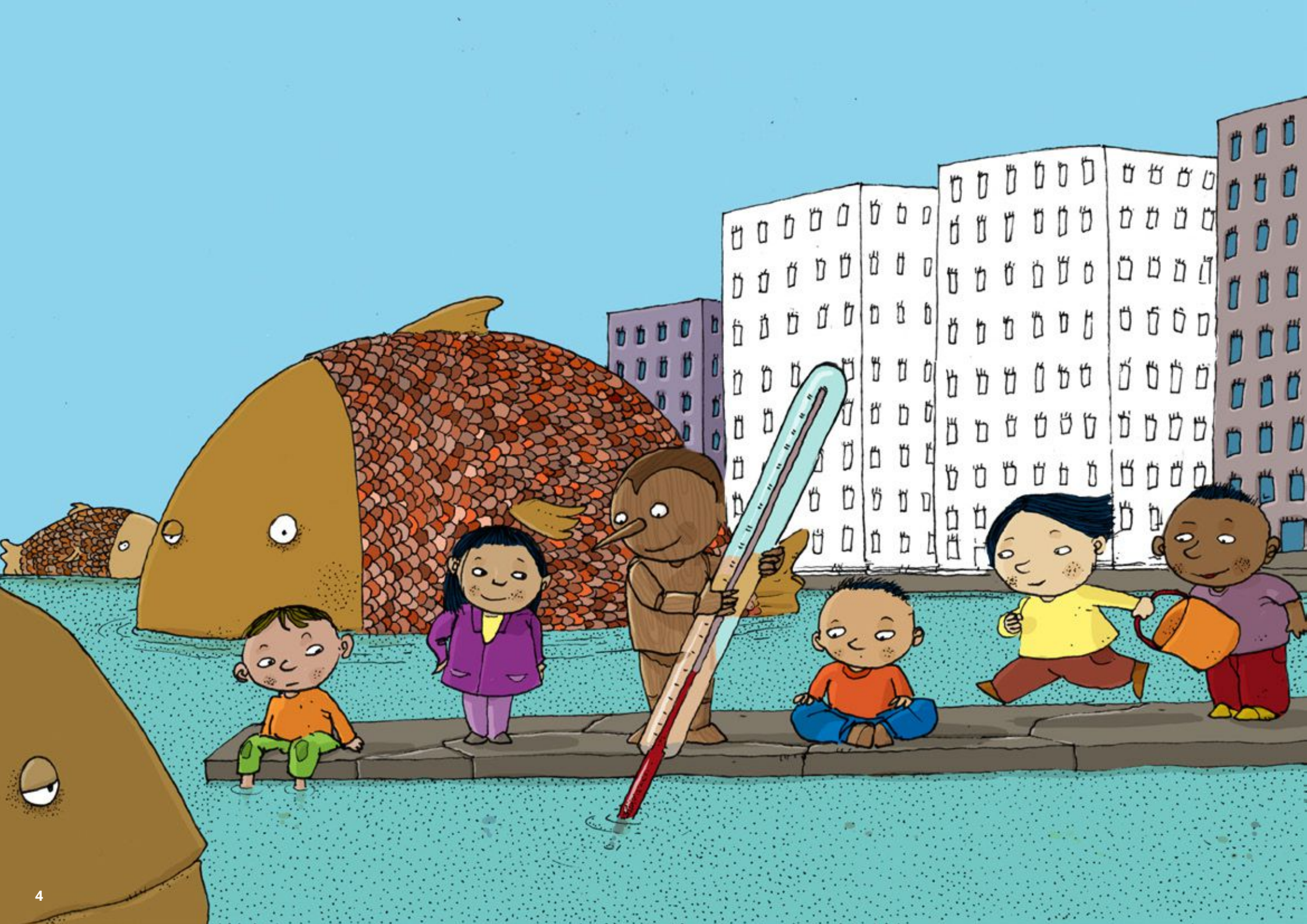
Climate is changing.

Food and agriculture must too.

About FAO

FAO helps countries to fight hunger and malnutrition, making sure that everyone has enough nutritious food to lead active, healthy lives. We work mostly in rural areas, where nearly 80 percent of the world's poor and hungry people live. Our main goals are to end hunger and poverty, make sure that people eat nutritious food, and help countries to better manage their natural resources. FAO is present in over 130 countries around the world, and is headquartered in Rome, Italy.

Every year, we celebrate World Food Day on 16 October to remember the birth of FAO in 1945 and call on people to join the fight against hunger. Over 150 countries across the world celebrate with us to raise awareness about hunger and the need to ensure that everyone has access to safe and nutritious food. The theme for World Food Day 2016 was "Climate is changing. Food and agriculture must too."



Colour the white sections to complete the picture.



Climate is Changing

What would happen if we cut down all the forests and if we did nothing to protect our oceans or the people affected by climate change? This Activity Book looks at key issues related to climate change and agriculture in an enchanted world, through illustrations by Lorenzo Terranera. Each illustration explores an important message related to the 2016 World Food Day theme. Join your favourite fairytale characters in finding

solutions to climate change and hunger. Each of these solutions can become a reality if we all do our part, and the tips we provide at the end of this book are a great place to start! Every picture is incomplete, and we need you to use your imagination to colour in the white spaces. Show us how by working together, we can fight climate change, protect our planet and end hunger.

Climate change, food and agriculture

Our everyday actions, decisions and behavior all have an impact on the climate. Climate change is affecting the health of our planet and changing our world. It is causing more natural disasters and environmental problems, which make it harder for us to grow food. Growing food is part of the problem too, as we have been taking shortcuts and harming our planet, to produce what we need.

In order to feed a growing population, set to reach 9.6 billion by the year 2050, we will have to learn to grow what we need in a way that doesn't continue to destroy the planet.

Adapting to climate change

Adapting to climate change means changing how we grow food to make sure that our planet remains healthy and able to produce the food we will need in the future. It also means protecting the poorest people, affected most by climate change, by preparing them for natural disasters such as drought and increasing their ability to recover faster from disasters that can't be avoided.

We need to adapt food and agriculture to climate change in a sustainable way. Sustainability is all about the future – it's about building and maintaining a healthy planet that can feed our growing population and the generations to come.

We are the Zero Hunger Generation

Did you know that around 1 in 9 people go to bed hungry every night? That's more than 800 million people. We already produce enough food in the world to feed everyone, so why are there still hungry people? Hunger exists for many reasons: poor people may not have the money to buy food; war can prevent people from having access to food; natural disasters can cause hunger; and too much food is wasted. The good news is that leaders around the world want to end hunger. In 2015, 193 countries committed to 17 Sustainable Development Goals, with an overall aim to end hunger by 2030. But leaders can't do this alone. They need the help of international organizations, farmers, schools, universities, companies and you. We can become the first generation to cancel hunger from the planet – the Zero Hunger Generation – if we work together. Ending hunger is everyone's responsibility and all of us have a role to play, even through changing our simple day-to-day actions and decisions.

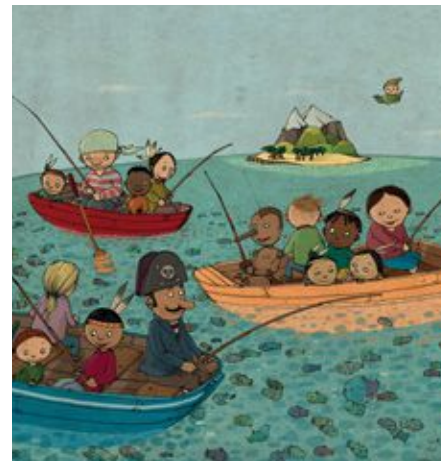
Seven areas for change

This book looks at seven different areas related to food and agriculture where change needs to happen if we want to deal with climate change. This is the only way that we can end world hunger.



These are:

- **Forestry**
- **Agriculture**
- **Livestock management**
- **Food Waste**
- **Natural Resources**
- **Fisheries**
- **Food Systems**



Forestry

Many people around the world live in forests or depend on them for food. Forests not only provide shelter and food for people and other creatures, they also produce oxygen, clean the air we breathe by absorbing gases like carbon dioxide, and give us plenty of fresh water. Our forests are quickly disappearing, with thousands of trees being cut down each year to clear land for farming, among other uses. We have to protect and care for our forests to keep our planet and those who live on it healthy.



Colour the white sections to complete the picture.

Agriculture

As the climate changes, the way food is grown and produced must change too. Climate change is making it harder to grow food because of natural disasters, like floods, droughts, and warmer seasons. Food and agriculture need to adapt to the effects of climate change in order to produce more for a growing global population in a sustainable way. Many of the world's poorest people are farmers, who are hit hardest by the increase in natural disasters caused by climate change. We need to strengthen their ability to prepare for bad weather, but when it's particularly bad and disasters are unavoidable, we need to help them recover by reducing the damage and losses.



Colour the white sections to complete the picture.

Livestock Management

The way that farmers look after animals, including cows, goats, sheep, pigs, donkeys and camels, produces most of the greenhouse gases that come from agriculture. Changing the way farmers look after these animals is an important step in making sure they produce less harmful gasses. This is especially important, considering that we will need even more animals in the future to feed the growing population. More natural resources are also used to provide meat than vegetables or pulses (e.g. lentils, beans, peas and chickpeas), especially water. Eating at least one meat-free meal every week is something you can do to help.



Colour the white sections to complete the picture.

Food waste

A large amount of greenhouse gases are released to produce the food we eat every day. But the worst thing is that over one third of the food produced worldwide is lost or wasted. Wasting food means wasting the money, labour, and resources such as energy, land and water that go into producing the food. Wasted food usually ends up in landfills where it rots, and rotting food is harmful to our environment, because it releases methane gas, one of the most powerful greenhouse gases. You can throw away less food by saving leftovers, freezing portions of food, helping your parents to plan your meals, buying only what you need at the supermarket and trying to buy ugly fruits and vegetables.



Colour the white sections to complete the picture.

Natural Resources

At the moment, we're using far more natural resources than we need to produce food. There are only a limited amount of these resources and they need to be available for families in the future. We're also using the earth's precious resources poorly and damaging important ecosystems. We're cutting down forests, polluting our water systems and ruining our soils. When managed sustainably, soils can store a large amount of carbon and therefore they have a huge potential to decrease the greenhouse gases in the atmosphere. If we manage our natural resources sustainably, not only can we help to end hunger, but we can also fight climate change.



Colour the white sections to complete the picture.

Fisheries

Many people around the world depend on oceans and wetlands to make a living and feed their families. Oceans also store a large amount of carbon dioxide in their depths and are home to over half of all life on earth. Rising ocean levels, warmer water temperatures, pollution and over-fishing mean that our oceans and wetlands are no longer healthy, and that among other things, we will run out of fish soon, unless we do something. Changing how we fish and what fish we eat will help to keep our oceans full of fish for years to come.



Colour the white sections to complete the picture.

Food Systems

One of the things that will help us to end hunger by 2030 is to make sure that we create sustainable food systems. What is a food system? Food goes through many stages before making it onto your plate, travelling from farms and fields to the market and supermarkets, and finally to your home. This long process is linked like a chain and is known as a food system. If a link breaks (or doesn't work like we expect it to because there isn't enough food for example), the whole process is interrupted. A sustainable food system can feed our growing population without damaging the planet. It's the key to ending hunger for good and becoming the Zero Hunger Generation. You can help by choosing to buy food that is sustainably produced, locally grown and has the fair trade stamp.



Colour the white sections to complete the picture.



What can I do?

Climate actions to change our world

Our planet is heating up. Glaciers are melting, sea levels are rising, and extreme weather events like droughts, cyclones and floods are becoming more common. All of these events have two things in common: 1. they have the worst effect on the world's poorest people, many of whom work as farmers, and make it harder for them to grow food; and 2. they threaten the global goal to end hunger by 2030.

The good news is that we can help. We need to waste less food, save our forests, consume less energy or use energy sources that cause less pollution, and protect the earth's precious natural resources like water and land, among other things.

What can YOU do about it? You can tackle climate change by changing your daily habits and making simple decisions. We challenge you to pick four of the actions and stick to them.

Preserve the earth's precious natural resources

The earth provides us with everything we need to grow food and live healthy lives, in the form of natural resources. These resources are land, water, animals and plants. We can't grow food without water and soil, and we will have a much harder time growing enough healthy and nutritious food if the water we have is polluted and the soil has been stripped of all the rich minerals that make it fertile. If we want to be able to continue to grow enough safe and nutritious food for everyone on the planet we have to protect our natural resources.



Don't waste water. Take a short shower rather than a bath. Bathtubs use gallons more water than a 5-10 minute shower. And turn off the water while brushing your teeth. Cleaning your teeth with the tap running uses 6 litres of water, while cleaning them with the tap off uses less than 1 litre of water. Remind your parents to fix any leaks - a leaky tap can waste more than 11,000 litres of water in a year! The plants in your garden can also be watered with collected rainwater and 'grey water' which is the water you use to wash your hands and/or dirty dishes.

Eat new things. Try to eat an all-veggie meal (including pulses like lentils, beans, peas and chickpeas) instead of one meat meal a week. More natural resources are used to provide meat than plants or pulses, especially water. Millions of acres of rainforest are also slashed and burned in order to turn the land into grass pastures for livestock including cows.

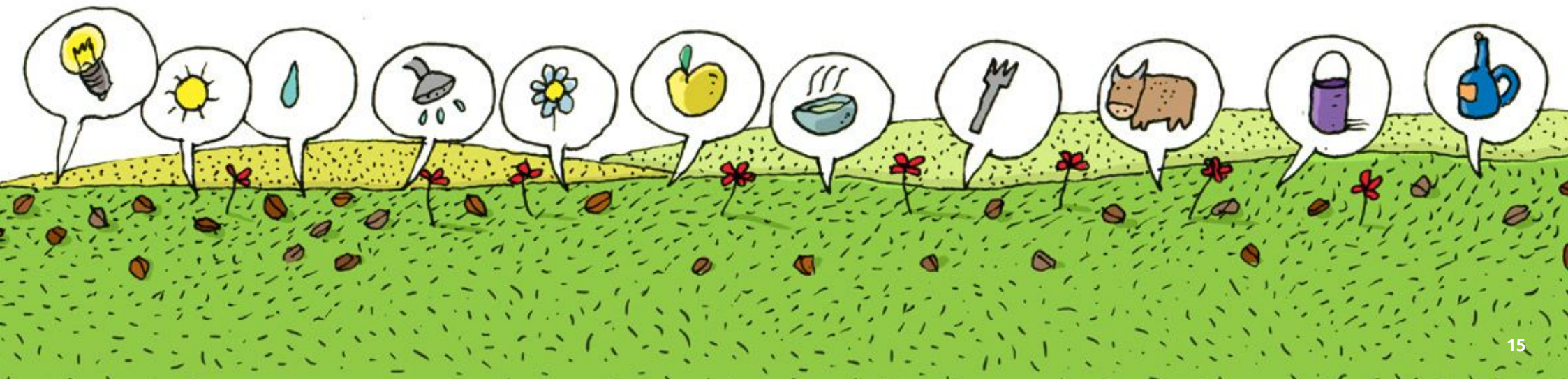
Keep our oceans full of fish. Convince your friends and family to eat fish species that are more abundant, such as mackerel or herring, rather than those that are at risk of being overfished, like cod or tuna. You can also buy fish that has been caught or farmed sustainably, such as eco-labelled or certified fish, and if you order seafood at a restaurant, always ask if it's sustainable.

Energy efficient is best. If your family is thinking of replacing household appliances, like a fridge or a washing machine, you can recommend that they buy energy-efficient appliances, that use less electricity. Save energy also by turning off the lights when you leave a room, unplugging your TV, stereo or computer, rather than leaving them on standby, and by using energy efficient light bulbs. You could also put on an extra jumper in the winter and ask your parents to turn down the heating, or shade the windows from the sun in summertime.

Buy organic. Organic farming helps our soil to stay healthy and retain its ability to store carbon, which helps reduce climate change. Help your parents to find organic and fair-trade products in your local supermarkets or farmers' markets.

Keep soils and water clean. Pick up litter and ask your parents to choose household cleaners, paint and other products that are free from bleach or other strong chemicals. By reducing litter and using eco-friendly products we can limit water contamination and soil degradation.

Use solar panels or other green energy systems. Find out if you can do so at home, school or at work by asking your teacher or parents to research available grants and government incentives.



Waste less and reduce your footprint

Just like the carbon footprint we produce every year, through the release of greenhouse gases like carbon dioxide (by travelling in cars or planes and using electricity for example), we also produce a foodprint through the hidden emissions of the foods we choose to eat. Unlike a car, you can't see the release of greenhouse gases from your dinner, but the hidden trail of a meal's entire trip from the farm to your plate is filled with carbon-emitting processes. In addition to eating more vegetables or pulses and less meat, we can also reduce waste in the following ways:

Buy only what you need. Help your parents to plan family meals by preparing a weekly shopping list and stick to it! Not only will your family waste less food, they will also save money!

Pick ugly fruit and vegetables. Funny fruit or vegetables are often thrown away because people don't want to buy them but in fact, they taste the same, if not better. Talk to your parents about buying ugly fruit and vegetables and make use of food that might otherwise go to waste.

Don't let labels fool you. There's a big difference between 'best-before' and 'use-by' dates. Sometimes food is still safe to eat after the 'best before' date, whereas it's not the 'use by' date, which tells you when it's no longer safe to eat. Teach your family the difference and ask your parents to check things carefully before they throw them out.

Limit your plastic. Ask your family to buy food with less packaging, bring their own bags when they shop, and use refillable water bottles and coffee cups.

Recycle paper, plastic, glass and aluminum and reduce the amount of waste that goes to landfills (pits of buried rubbish).

Store food wisely. When your family stacks up the cupboards or fridge, suggest that you move older products to the front and new ones to the back. Once open, use air-tight containers to keep food fresh in the fridge or close packets to prevent insects from spoiling them.

Love your leftovers. If your family has cooked too much, don't throw it away! Ask your parents to freeze a portion for another day or to transform it into something else for the next day's meal. If you're at a restaurant, less is more. Ask for half a portion if you think a full one might be too big and ask to take your leftovers home. Again, you'll save food and money.

Make plant food. Sometimes food waste is unavoidable, but that doesn't mean it needs to end up in a landfill. Instead of throwing your fruit and veggie peelings and eggshells in the rubbish bin, ask your parents to help you to set up a compost bin. This is a great way to recycle foods that otherwise release greenhouse gases into the air, and at the same time, you can give your garden a nutrient-filled boost.



Other ways to be climate smart

We've shown you different ways to look after the earth's natural resources and waste less food, but there are other things you can do that will also help us to keep our planet healthy and to end hunger. Do you do any of these things already? Is there something you could try?



Be rubbish-savvy. In addition to reducing, re-using and recycling, learn about how to recycle or dispose of items that should never be thrown in a regular rubbish bin – batteries, paints, mobile phones, medicine, chemicals, fertilizers, tires, ink cartridges, etc. These are terrible for the environment, especially if they get into water systems.

Bike, walk or use public transport. Reduce your family's carbon footprint by asking if you can walk or cycle to places close by or, if possible, suggesting that you sometimes take public transport.

Shop locally. Shop KM 0. By buying local produce, your family can support neighbourhood businesses and lower your foodprint, for example, by preventing trucks from driving long distances.

Make cities greener. Add some green to the scene by encouraging your teacher to help create and maintain a school garden. You could also create your own vegetable garden at home, or a container garden on your rooftop or balcony. If there's no space available, talk to your family about teaming up with neighbors to grow a community garden on a vacant lot. Plants or green areas create shade, clean the air, cool the cityscape, and reduce water pollution.

Protect forests and save paper. Use as little paper as possible: photocopy and print on both sides and print only when you really need to. Collect scrap paper at school and at home to use for drawing and notes and encourage your school and family to buy and use forest-friendly recycled paper, paper towels, toilet paper, etc.

Keep up to date on climate change. Follow your local news and stay in touch with FAO's climate change website or social media at @FAOclimate.

Spread the word! If you see an interesting social media post about combating climate change, click share rather than like. And make yourself heard! Find out more about your local and national authorities and think of ways they could be engaged in initiatives that are aimed at helping the planet.

Pass it on. See what clothes, toys or books you can pass on to friends, family and charity organizations. Better yet, buy second-hand books, clothes and other goods as much as possible to save energy and money.

Be an eco-traveler. When you go on holiday with your family, consider not travelling by plane if you can. Planes emit a huge amount of CO2 into the atmosphere. If you can't avoid it, either try to choose air companies that have carbon emission offset programmes, or participate in a tree planting campaign or renewable energy project to help to offset your emissions.



Tell your friends and family about the actions you have chosen to combat climate change, and ask them to choose some of their own!

1. _____
2. _____
3. _____
4. _____



Look at the pictures to the right.

What do you see? Does one scene look better than the other? What do you think they both mean?

Climate change can change our world in many ways, some for the better, but others for the worse. We need to make sure that families don't suffer because of climate change, and that these changes don't stop future families from being able to grow enough food to feed a growing global population.

To make sure that climate change doesn't change our world for the worse, we need to change the way we do things TODAY. The four actions you picked may seem small, but if everyone joins in and does their part, we will be able to keep our world and its people fed, and become the Zero Hunger Generation.



Activity Book Series

You can download the FAO Activity Book Series on our [Building the #ZeroHunger Generation](#) portal together with a range of material to support educators and parents in the preparation of activities or classes on important global issues at the core of FAO's work: www.fao.org/building-the-zerohunger-generation



▶ Your guide to FAO



▶ Working for Zero Hunger



▶ Change the future of Migration

Contact us:

FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

Viale delle Terme di Caracalla
00153 Rome, Italy

world-food-day@fao.org

www.fao.org

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