Food and Agriculture Organization of the United Nations

SUSTAINABLE DEVELOPMENT GOALS

YUNGA LEARNING AND ACTION SERIES
Challenge badge 13

2707-0123

# Plastics Challenge Badge


YOUTH & UNITED NATIONS GLOBAL ALLIANCE
YUNGA

FAO :: UNEP :: WAGGGS :: WOSM

YUNGA LEARNING AND ACTION SERIES – CHALLENGE BADGES 13 ISSUE 2707-0123

# Plastics Challenge Badge

Developed in collaboration with

Food and Agriculture Organization of the United Nations

UN environment
United Nations Environment Programme

WORLD ASSOCIATION OF GIRL GUIDES AND GIRL SCOUTS

SCOUTS

The World Organization of the Scout Movement (WOSM) and the World Association of Girl Guides and Girl Scouts (WAGGGS) endorse this educational badge framework for use by Guides and Scouts around the world, adapting it as necessary to their local needs and requirements.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS | ROME, 2024

**This booklet is intended as a guide for teachers and youth leaders. These individuals are responsible for the development of programmes and activities that are suitable for their group and for ensuring the required supervision and safety provisions so that all participants are safe and sound.**

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GOALS

The YUNGA Challenge Badges are developed to support the achievement of the Sustainable Development Goals (SDGs).

INTERNATIONAL DAY FOR DISASTER REDUCTION

This challenge badge is in support of the 13 of October International Day for Disaster Reduction. See the themes of previous years at: www.unisdr.org/we/campaign/iddr

This product contributes to the Global Action Programme on Education for Sustainable Development of UNESCO.

Greening Education Partnership

Supporting pillar four of the Greening Education Partnership.

Design and layout by Studio Pietro Bartoleschi

# CONTENTS

# WELCOME

> **Our world is swamped by harmful plastic waste", we must act together "to beat plastic pollution**
>
> United Nations Secretary-General **António Guterres'** message on World Environment Day, 2018

We are currently under a wave of plastic pollution, from the world's most remote islands to our urban city centres, plastic is everywhere.

No ecosystem has been left untouched: plastic can be found on the top of Mount Everest to the Great Barrier Reef, and even our own bloodstreams!

In addition, this plastic wave is a major driver of climate change as it directly affects our atmosphere. The manufacturing of plastics is currently dependent on fossil fuels, with roughly 8-10 percent of the world's oil production attributed to the production of plastics.

The issue is widespread, and their footprint is enormous. While it is true that plastics have allowed us to reduce food loss and waste and have beneficial uses in health and medicine, the staggering increase in low cost and single-use plastics has overwhelmed our ecosystems and our planet.

The issue of single-use plastics must be tackled.

The answer to plastic pollution requires a transformation from all sectors of society, including global organizations, state governments, corporations, nonprofits, and individuals. There are some amazing examples of how some stakeholders have already taken action to inspire us all and at the Fifth Session of the United Nations Environment Assembly, in Nairobi, Kenya in 2022, governments agreed to adopt a new global plastics treaty that would put plans in place to deal with this issue.

While governments are setting out the roadmap, individuals and youth groups must take the necessary steps to put an end to this issue.

Future generations need all of us to take action. They won't be able to see healthy water bodies, benefit from clean air, and live in a world where materials and resources are used efficiently, unless we act now.

This challenge badge will provide you with all the necessary information to understand this issue and its history.

Upon completion, you will be able to identify different types of plastics, the good and the bad.

Finally, you will develop the skills to tackle the plastic issue where you are and be able to pass on those skills to your friends, family, and community.

**"You will be part of the new wave of plastic solutions!**

# ACKNOWLEDGEMENTS

**Great gratitude goes to everyone who made the Plastics Challenge Badge a reality.**

We would particularly like to thank the different organizations, and all the enthusiastic Guides, Scouts, school groups and individuals all around the world who thoughtfully pilot-tested and reviewed the initial drafts of the badge.

Special thanks go to Saadia Iqbal for preparing the first draft of the text and to colleagues at UNEP, WOSM, and WAGGGS who provided comments. In addition, we would like to acknowledge FAO colleagues Suzanne Redfern and Anastasia Tikhonova, and YUNGA colleague Oisín Gill for their inputs and contributions to the text with special thanks to YUNGA coordinator Reuben Sessa for his guidance and support.

See our website (**www.yunga.org**) or register to our free mailing list to find out about current competitions and activities.

# BE SAFE AND SOUND!

## DEAR LEADER OR TEACHER,

The Challenge Badges are designed to support you in undertaking educational activities. As you will be implementing these activities in different contexts and environments, it is up to you to ensure that the activities you choose are appropriate and safe.

Exploring the great outdoors is a fantastic way to learn about the natural world; nevertheless, it is important to take some precautions to ensure nobody gets hurt. Please plan carefully and make sure you have enough adult support to keep participants safe, especially when near water or fire. See the next page for general precautions to consider.

## LOOK AFTER YOURSELF

* Wash your hands after every activity.
* Don't look directly at the sun.
* Don't taste things you find unless you are certain they are not poisonous.
* Don’t drink water from natural sources unless you are sure it is safe.
* Be particularly careful when you’re near deeper water or fire. Make sure there is an adult with you at all times.
* Be careful when using sharp objects and electrical appliances. Young children should be supervised by an adult at all times.
* In some activities, you have the option of uploading pictures or videos to the Internet on websites such as YouTube. Always make sure that everyone in the pictures or video, and/or their parents, have given their permission before you post anything online.

## LOOK AFTER THE NATURAL WORLD

* Treat nature with respect.
* It is better to leave nature as you found it. Never pick protected species. Before collecting plants or picking flowers, get permission. Only take what you really need and make sure you leave at least one-third of anything you find in the wild.
* Be careful if you are working with animals or insects. Wear protection if necessary. Be gentle. Make sure they have appropriate food, water, shelter and air. When you're done, return them to where you found them.
* Recycle or reuse the materials used in the activities as much as possible.

# SUSTAINABLE DEVELOPMENT GOALS

**Since 2015, the Sustainable Development Goals (SDGs) have succeeded the Millennium Development Goals. They are a set of targets that governments, civil society organizations, United Nations agencies and other entities are working towards achieving by 2030 to ensure a more sustainable future for all.**

The Youth and United Nations Global Alliance (YUNGA) actively supports the achievement of the SDGs through the development of initiatives, activities and resources such as the United Nations Challenge Badges and by promoting and encouraging young people to be active citizens in their communities. Additional Challenge Badges are being developed to further support the SDGs.

Learn more about the links between **tackling plastic pollution** and the **17 SDGs**:

**How the Sustainable Development Goals Can Help Fight 'Plastic Soup' | by Impakter.com | B The Change**

© Flickr/Ravi Khemka

# There are 17 SDGs:


**1 – NO POVERTY**
End poverty in all its forms everywhere


**2 – ZERO HUNGER**
End hunger, achieve food security and improved nutrition


**3 – GOOD HEALTH AND WELL-BEING**
Ensure healthy lives and promote well-being for all at all ages


**4 – QUALITY EDUCATION**
Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all


**5 – GENDER EQUALITY**
Achieve gender equality and empower all women and girls


**6 – CLEAN WATER AND SANITATION**
Ensure availability and sustainable management of water and sanitation for all


**7 – AFFORDABLE AND CLEAN ENERGY**
Ensure access to affordable, reliable, sustainable and modern energy for all


**8 – DECENT WORK AND ECONOMIC GROWTH**
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all


**9 – INDUSTRY, INNOVATION AND INFRASTRUCTURE**
Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation


**10 – REDUCED INEQUALITIES**
Reduce inequality within and among countries


**11 – SUSTAINABLE CITIES AND COMMUNITIES**
Make cities and human settlements inclusive, safe, resilient and sustainable


**12 – RESPONSIBLE CONSUMPTION AND PRODUCTION**
Ensure sustainable consumption and production patterns


**13 – CLIMATE ACTION**
Take urgent action to combat climate change and its impacts


**14 – LIFE BELOW WATER**
Conserve and sustainably use the oceans, seas and marine resources for sustainable development


**15 – LIFE ON LAND**
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss


**16 – PEACE, JUSTICE AND 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


**17 – PARTNERSHIPS FOR GOALS**
Strengthen the means of implementation and revitalize global partnership for sustainable development

## This Plastics Challenge Badge specifically supports goals **12, 13, 14** and **15**

GOAL 12

### Responsible consumption and production

**Ensure sustainable consumption and production patterns**


#### Connection to plastic

The crisis of plastic pollution has arisen because of our rampant use of single-use plastics. Our world's future depends on adopting environmentally friendly ways to manage how we produce and consume goods.

#### Specific SDG targets young people can contribute to that will address plastic pollution

**12.5** By 2030, substantially reduce waste generation through refusal, reduction, recycling and reusing

**12.6** Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

**12.8** By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

#### What young people can do

Young people tend to feel strongly about the planet's future and are more motivated to ensure sustainable choices in everyday life, whether by using public transport, avoiding single-use plastics or choosing sustainably-produced products. Also, young people constitute a powerful consumer force that can drive sustainability in producing goods. They are also well placed to help raise awareness, whether in school, at home or, through social networks. Young people have the power to mobilize others to help.

GOAL 13

## Climate action


**Take urgent action to combat climate change and its impacts**

### Connection to plastic

The connection between plastics and climate change might not seem obvious, but there are strong links between the two. Plastics originate from fossil fuels and producing them generates huge amounts of greenhouse gases; discarded plastic waste emits greenhouse-gas emissions; and, by damaging ocean life, plastic hinders the ability of our oceans to sequester carbon dioxide.

### Specific SDG targets young people can contribute to that will address plastic pollution

**13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

**13.a** Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing states, including focusing on women, youth and local and marginalized communities

### What young people can do

By playing an active role in their communities towards reducing consumption and disposal of single-use plastics, young people can contribute to mitigating climate change. Target 13.a specifically mentions the need to involve youth: their efforts will be crucial.

GOAL 14

## Life on water


**Conserve and sustainably use the oceans, seas and marine resources for sustainable development**

### Connection to plastic

Around 14 million tonnes of plastic waste end up in the oceans each year. This plastic debris is injuring and killing marine life and leaking pollutants into the water.

### Specific SDG targets young people can contribute to that will address plastic pollution

**14.1** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

**14.2** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

### What young people can do

Young people have already been key participants in campaigns to save the oceans and reduce plastic pollution. They can continue to use digital tools and trendsetting campaigns to mobilize others and help address marine pollution.

GOAL 15

## 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**

### Connection to plastic

Plastic waste is littering our planet, blocking sewage and drainage systems, leaking pollutants into our soil and tap water, and threatening human, animal and plant health.

### Specific SDG targets young people can contribute to that will address plastic pollution

**15.1** By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

**15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

**15.5** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

### What young people can do

Young people can be powerful agents of change, by channelling their passion and motivation into youth-driven community-based projects for biodiversity conservation. They are well placed to mobilize others to make these changes, whether at school, in the home, within their communities or through social media.

## Score a GOAL where you live!

Why don't you explore with your group which "targets" you could contribute towards achieving in your local community? Find out more about the SDGs at: **www.fao.org/yunga/global-citizens/sdgs** and **https://sustainabledevelopment.un.org/topics**

If you have access to a smartphone, you could then create and record your actions using the SDGs in action app: **https://sdgsinaction.com**

# CREATING **BEHAVIOUR** CHANGE

We work with young people because we want to support them in leading fulfilling lives, help them prepare for their future, and for them to believe that they can make a difference in the world. The best way to make this difference is by encouraging young people to embrace long-term behaviour change. Many current social and environmental problems are caused by unhealthy or unsustainable human behaviour. Most people need to adapt their behaviour, and not just for the duration of a project such as working on this Badge, but for life. Young people know more about these issues than ever before, but still behave in detrimental ways. It is clear that simply raising awareness is not enough to change behaviour.

## So what can you do?

There are some proven ways of promoting behaviour change, so to increase the long-term impact of this challenge badge, try the following:

**FOCUS ON SPECIFIC, ACHIEVABLE BEHAVIOURAL CHANGE**
Prioritize activities that target clear and specific behaviour change – e.g. instead of saying "use less plastic", provide specific suggestions for reusable water bottles or bags and provide reminders to keep using them.

**ENCOURAGE ACTION PLANNING AND EMPOWERMENT** Put young people in charge: let them choose their own activities and create a realistic plan for how to do them.


**CHALLENGE CURRENT BEHAVIOUR AND TACKLE BARRIERS TO ACTION** Encourage participants to scrutinize their current behaviour and think about how it could be changed. Everyone has excuses for why they don't behave in a particular way: lack of time, lack of money, not knowing what to do… the list goes on. Encourage young people to voice these excuses and then work with them to identify helpful alternatives and solutions.

**PRACTISE ACTION SKILLS** You'd like to reduce your plastic waste? Start by changing your shopping habits, e.g. avoid buying goods with unnecessary plastic packaging. You want to tackle plastic pollution in your hometown? Be careful and consistent about recycling and encourage others to do the same. Keep practising until it becomes a habit.

**SPEND TIME OUTDOORS** No one is going to look after something they don't care about. Time spent in natural environments – whether that is the local park or a pristine wilderness – encourages an emotional connection with the natural world that is proven to lead to more pro-environmental behaviour.

**GET FAMILIES AND COMMUNITIES INVOLVED** Why change the behaviour of just one young person when you could change the behaviour of their entire family, or even the whole community? Spread your message more widely: showcase what you have been doing for the local community and encourage young people to involve their families and friends. For an even bigger impact, get political and lobby your local or national government.

**MAKE A PUBLIC COMMITMENT** People are far more likely to do something if they agree to do it in front of witnesses or in a written statement – why not take advantage of this?

**MONITOR CHANGE AND CELEBRATE SUCCESS** Behaviour change is hard work! Revisit tasks regularly to monitor achievement and reward continued success in an appropriate way.

**LEAD BY EXAMPLE** The young people you work with look up to you. They respect you, care about what you think and want to make you proud. If you want them to embrace the behaviour you are advocating, then you must lead by example and make those changes yourself.

Find more information on how to create behaviour change in the publication: **Making it count: increasing the impact of climate change and food security education programmes** *(www.fao.org/3/i4629e/i4629e.pdf)*

# TIPS ON UNDERTAKING THE BADGE WITH YOUR GROUP

**In addition to the suggestions above encouraging behavioural change, the following ideas are intended to help you develop a programme to undertake the Challenge Badge with your group.**

## STEP 1

Encourage your group to learn about single-use plastics and why they are both so popular and so problematic. You may find the background information useful for this. Start by raising participants' awareness about the different types of plastics and how disposable plastic has ended up being a major cause of marine pollution and other environmental problems. Then discuss with the group how all of us can help reduce plastic waste for the benefit of both people and the planet.

## STEP 2

The compulsory activities ensure that participants understand basic concepts related to plastic pollution, take steps to reduce their own plastic waste and raise awareness about this in their wider communities. Apart from these compulsory activities, participants are encouraged to select additional activities that best match their needs, interests and culture. As far as possible, let the participants choose which activities they want to do. Some activities can be done individually, others in small groups. If you have another activity that is especially appropriate for your group or area, you may also include it as an additional option.

## STEP 3

Allow enough time for the group to carry out the activities. Support and guide them through the process but make sure they carry out their tasks as independently as possible. Many activities can be conducted in several different ways. Encourage participants to think and act creatively when undertaking their activities.

## STEP 4

Have participants present the results of their Challenge Badge activities to the rest of the group. Do you notice any changes in their attitudes and behaviour? Encourage participants to think about how their daily activities can help reduce plastic pollution. Discuss the experience and reflect on how they can continue to apply it in their lives.

## STEP 5

Organize a celebration for those who successfully complete the badge curriculum. Invite families, friends, teachers, journalists and community leaders to participate in the celebration. Encourage your group to present the results of their project to the community in a creative way. Award them with certificates and Challenge Badges (see page 132 for details).

## STEP 6 SHARE WITH YUNGA!

Send us your stories, photos, drawings, ideas and suggestions. We are always delighted to hear how you have been using these Challenge Badges and we always want to improve our resources, so contact us at: **yunga@fao.org**

# THE CHALLENGE BADGE SERIES

**Developed in collaboration with United Nations agencies, civil society and other organizations, the YUNGA Challenge Badges are intended to raise awareness, educate and motivate young people to change their behaviour and be active agents of change in their local communities.**

**The Challenge Badge series can be used by teachers in school classes as well as by youth leaders, especially Guide or Scout groups.**

To see existing badges, go to **www.fao.org/yunga/resources/en**

To receive updates on new releases and other YUNGA news, register for the free YUNGA newsletter by emailing **yunga@fao.org**

## YUNGA has or is currently developing badges on the following topics:

**AGRICULTURE**: How can we grow food in a sustainable way?

**BIODIVERSITY**: Let's make sure no more of the world's glorious animals and plants disappear!

**CLIMATE CHANGE**: Join the fight against climate change and for a food-secure future!

**DISASTER RISK REDUCTION**: Know the dangers in your natural environment and reduce them.

**UN DECADE ON ECOSYSTEM RESTORATION**: Join #generationrestoration and give life back to your ecosystems.

**ENERGY**: The world needs a healthy environment as well as electricity – how can we have both?

**FORESTS**: Forests provide homes for millions of plant and animal species, help regulate the atmosphere and provide us with essential resources. Let's protect them!

**GENDER EQUALITY:** How can we create an equal and fair world for girls and boys, women and men?

**GREEN CITIES**: Now that 50 percent of the world population live in cities how can we make them greener and nicer places to live?

**HUNGER**: Having enough to eat is a basic human right. What can we do to help the 1 billion people who still go hungry every day?

**NUTRITION**: What is a healthy diet and how can we make food choices that are environmentally friendly?

**THE OCEAN**: The ocean is mesmerizing and amazing. It helps regulate temperatures on Earth, provides us with resources and much, much more.

**POLLINATORS**: We rely on pollinators for most of our crops – but pollinators are fast disappearing!

**SOILS**: Without good soil, nothing grows. How do we take care of the ground under our feet?

**PLASTICS TIDE TURNERS**: Time to say NO to plastics – let this Badge give you the power to take action.

**WATER**: Water is life. What can we do to safeguard this precious resource?

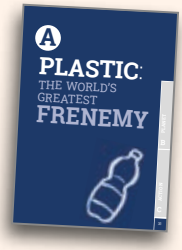
# INTRODUCTION TO THE PLASTICS CHALLENGE BADGE

**The Plastics Challenge Badge is designed to help educate children and young people about the dangers of plastic pollution, how to reduce our plastic waste and how to mobilize others to do the same.**

The booklet is designed to help you develop an educational programme for your class or group to:

* raise awareness on plastic pollution; and
* take tangible steps to reduce plastic pollution, both as individuals and as a wider community.

However, teachers and youth leaders should use their own judgement to develop an appropriate curriculum for their group. This could incorporate additional activities not listed in this booklet, but that allow you to achieve all the educational requirements. Remember the key objective of the Challenge Badge is to educate, inspire and, most of all, **motivate action and behaviour change**.




This booklet includes **basic information** on plastics. It explains how single-use plastics have become so popular and how the world's rampant use of these items means that today our planet is drowning in plastic pollution. It explains the environmental dangers of the hundreds of millions of tonnes of plastic waste we produce each year. The badge then provides tangible ideas for how we can all stop using single-use plastics and how to raise awareness of the issue and also encourage others to cut out single-use plastics.


Naturally, some of this material will be more appropriate for certain ages than others. Leaders should select the topics and level of detail most appropriate for their group. For example, you may wish to skip the more complicated issues with younger groups, but you will probably wish to conduct further research beyond the badge with older groups.

The **badge curriculum** contains a range of activities and ideas to stimulate learning and motivate children and young people to take civic and individual actions in tackling plastic pollution.

Additional resources, useful websites and a glossary explaining key terms (that are highlighted in the text like **this**) are provided at the end of the booklet.

© Flickr/Evan Bench

# LEARNING OUTCOMES

**The Plastic Challenge Badge activities are geared at widening participants' knowledge, attitudes and skills to take the lead on sustainability related issues in their classrooms, families, communities and the wider world.**

Specifically, by the time participants complete this challenge, they will have gained the following:

## Knowledge

Participants will learn about what plastic is, its history of usage in the world, and today's rampant use of single-use plastics. Topics covered include:

1. Different types of plastics, what they are used for, and their recycling codes
2. How plastic pollution is threatening life in oceans and on land
3. How plastic pollution is linked to many of the Sustainable Development Goals
4. How the global community is tackling the issue
5. How individuals can tackle the issue

## Attitudes

Participants will be encouraged to:

1. Realize the importance of reducing their use of single-use plastics, and why reusing and recycling are necessary
2. Internalize that plastic pollution is an issue that all of us are responsible for and not an issue that "others will take care of"
3. Empathize and feel a drive to protect wildlife, particularly marine wildlife, which is suffering as a result of plastic pollution

## Skills

Participants will:

1. **Use different ways** to reduce their own use of single-use plastics
2. Be able to inspire their friends, families, schools and communities to reduce, reuse and recycle single-use plastics
3. Take the lead on a wider scale to create lasting change in their region or community related to the use of single-use plastics, marine litter and microplastics

# BADGE CONTENT AND CURRICULUM

## Badge Structure

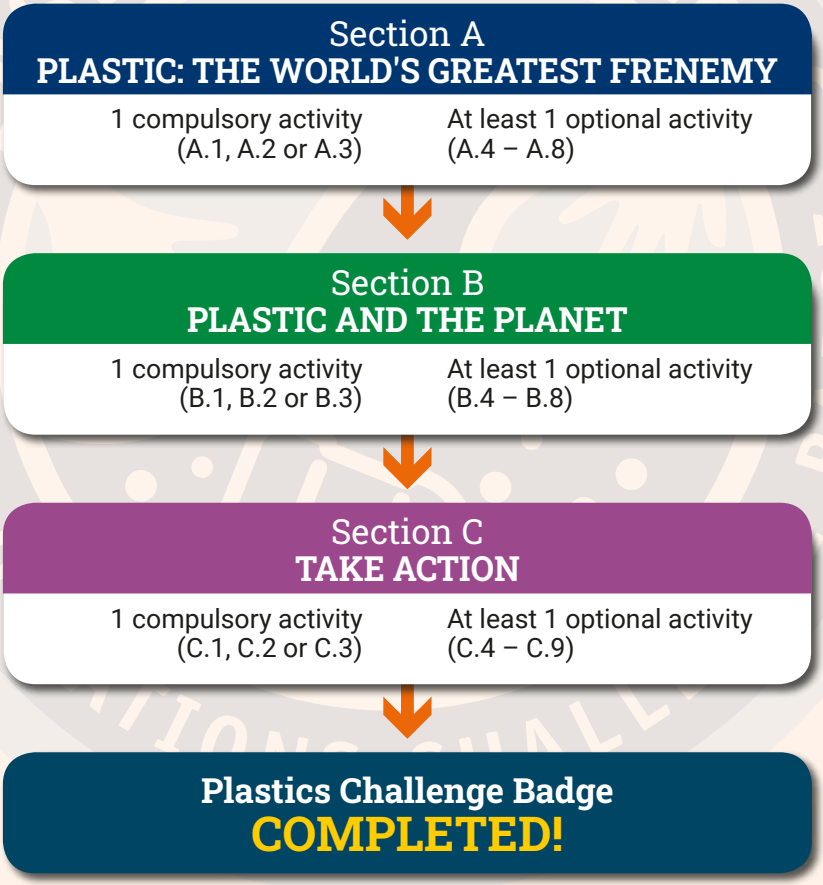
The Background Information booklet (pp. 28-79) and the activities (pp 80-130) are divided into three main sections:

**A. PLASTIC: THE WORLD'S GREATEST FRENEMY**
An intro to single-use plastics and their widespread use.

**B. PLASTIC AND THE PLANET**
How single-use plastics have become a major environmental problem.

**C. TAKE ACTION**
How all of us can help reduce plastic pollution.

**Requirements:** To earn the badge, participants must complete one of the three compulsory activities presented at the beginning of each section, plus (at least) one additional activity from each section, chosen individually or as a group (see graphic below). Participants can also complete additional activities considered appropriate by the teacher or leader.



## Age ranges of activities

To help you and your group select the most appropriate activities, a coding system is provided to indicate the age group(s) for which each activity is most suitable. Next to each activity, a code (for example "Levels 1 and 2") indicates that the activity should be suitable for five to ten years olds and eleven to fifteen years olds. Please note that this coding is only indicative. You may find that an activity listed at one level is suitable for another age group in your particular location.

LEVEL

1 **Five to ten years old**

2 **Eleven to fifteen years old**

3 **Sixteen+**

### REMEMBER!

In addition to learning and skills-building, the Badge activities should be **FUN**. Encourage participants to enjoy the process of earning the badge and have fun while learning about plastic pollution and how to tackle it. The ultimate objectives of the badge are to:

* build awareness of the dangers of single-use plastics; and
* motivate individuals to change their behaviour and create local and international action aimed at reducing plastic pollution.

# SAMPLE BADGE CURRICULA

The sample curricula for the different age groups below provide examples of how the badge could be earned and are intended to help you in developing your own programme.

LEVEL

1 Five to ten years old

2 Eleven to fifteen years old

3 Sixteen+

Each activity has a specific learning aim, but in addition to this, children will have the opportunity to learn more general skills and attitudes including:

* TEAMWORK
* IMAGINATION AND CREATIVITY
* OBSERVATION SKILLS
* AN INTEREST IN SCIENCE, THE EARTH AND PHYSICAL PROCESSES
* CULTURAL AND ENVIRONMENTAL AWARENESS
* NUMERICAL AND LITERACY SKILLS

| SECTION | ACTIVITY | LEARNING OBJECTIVES |
|---|---|---|
| **A** Plastic: the world's greatest frenemy | **A.1: Good plastic, bad plastic** (p. 85) | To learn about the different kinds of plastic and why it is mainly single-use plastics that are problematic |
| | **A.6: Fruit for the win** (p. 97) | Behaviour change towards healthier eating and reducing plastic waste |
| **B** Plastic and the planet | **B.1: R u reducing and reusing** (p. 101) | To learn how to recycle different types of plastic |
| | **B.4: Score some goals** (p. 110) | To understand how plastic pollution ties in with the Sustainable Development Goals |
| **C** Take action | **C.1: Biggest loser** (p. 117) | To foster activism and change in lifeswtyles to reduce plastic waste |
| | **C.4: Get crafty** (p. 128) | To understand that we all live in the same world, and together, we need to protect it and keep it clean |

LEVEL

1 Five to ten years old

2 **Eleven to f fteen years old**

3 Sixteen+

As in level 1, each activity in Level 2 has a specific learning aim, but also fosters additional, more general skills and attitudes including:

* **TEAMWORK AND INDEPENDENT STUDY SKILLS**
* **IMAGINATION AND CREATIVITY**
* **OBSERVATION SKILLS**
* **CULTURAL AND ENVIRONMENTAL AWARENESS**
* **RESEARCH SKILLS**
* **PRESENTATION AND PUBLIC SPEAKING SKILLS**
* **THE ABILITY TO PRESENT AN ARGUMENT AND DEBATE**

| SECTION | ACTIVITY | LEARNING OBJECTIVES |
|---|---|---|
| **A** Plastic: the world's greatest frenemy | **A.3: Single-use plastics@school** (p. 94) | To recognize single-use plastics in daily use at school and foster activism to reduce their use |
| | **A.5: Biodegradable or not?** (p. 96) | To understand the science behind biodegradability and why plastic is harmful |
| **B** Plastic and the planet | **B.2: Mission recycling** (p. 104) | To learn how to recycle different types of plastic |
| | **B.7: Survey your surroundings** (p. 112) | To take concrete steps to encourage recycling in the wider community |
| **C** Take action | **C.2: Powers of persuasion** (p. 121) | To foster activism and leadership to raise widespread awareness of plastic pollution |
| | **C.6: No plastic week** (p. 129) | To foster activism and change in lifestyles to help reduce plastic pollution |

LEVEL

1 Five to ten years old

2 Eleven to f fteen years old

**3 Sixteen+**

General skills and attitudes a level 3 curriculum seeks to develop include:

* **TEAMWORK AND INDEPENDENT STUDY**
* **IMAGINATION AND CREATIVITY**
* **OBSERVATION SKILLS**
* **CULTURAL AND ENVIRONMENTAL AWARENESS**
* **TECHNICAL SKILLS AND THE ABILITY TO RESEARCH COMPLEX ISSUES**
* **PRESENTATION AND PUBLIC SPEAKING SKILLS**
* **THE ABILITY TO PRESENT AN ARGUMENT AND DEBATE**

| SECTION | ACTIVITY | LEARNING OBJECTIVES |
|---|---|---|
| **A** Plastic: the world's greatest frenemy | **A.2: Plastic audit at home** (p. 88) | To assess how much plastic participants use and dispose of on a daily basis |
| | **A.8: Local investigations** (p. 97) | To observe and identify how the local community handles plastic waste |
| **B** Plastic and the planet | **B.3: Cleaning up** (p. 108) | To foster activism and leadership towards reducing plastic pollution in the community |
| | **B.6: Microplastic investigation** (p. 111) | To understand the negative impacts of microplastics, learn to identify which products contain them and reduce use of these products |
| **C** Take action | **C.2: Powers of persuasion** (p. 121) | To foster activism and leadership to raise widespread awareness of plastic pollution |
| | **C.8: Show that no plastic can be fantastic** (p. 130) | To foster activism and citizenship by encouraging a wide commitment on reducing plastic pollution |

# BACKGROUND INFORMATION

**The following section provides an overview of the key issues related to plastic pollution. It is intended to help teachers and youth leaders prepare their sessions and group activities without having to search for the information. Naturally, not all the material will be required for all age groups and activities.**

**Equally, you may find you need additional information or resources for older participants. You may want to allow older children to read the material themselves, so longer sections are subdivided into "factsheets" that can be photocopied easily.**

## A PLASTIC:
## THE WORLD'S GREATEST FRENEMY

A.1: What is plastic?

A.2: Plastic in daily life

## B PLASTIC AND THE PLANET

B.1: The problem with plastic

B.2: Plastic and the Sustainable Development Goals

## C TAKE ACTION

C.1: Getting involved

C.2. You can make the difference

© Unsplash/OCG-saving-the-ocean

A

# PLASTIC: THE WORLD'S GREATEST FRENEMY

# Anything that sounds too good to be true probably is. Plastic is no exception.

**Cheap, durable and light plastic has made its way into every country, every society, every lifestyle. Yes, it makes life easier in lots of ways. Who among us can say they've never used a plastic straw, plastic shopping bag or plastic spoon?**

**Here's the downside, though: our production and consumption of single-use plastics – plastic products that are used once, or for a short period, before getting thrown away – and our inability to manage plastic waste sustainably have led to a massive global pollution problem. Plastic does not break down easily, and our plastic waste is piling up and damaging our planet's health.**

**In this Challenge Badge, we're going to learn about how to tackle the plastic problem. From cutting back on our use of single-use plastic to recycling more effectively to finding sustainable alternatives to plastic, solutions to plastic pollution are within our grasp.**

© Unsplash/Jonathan Chng

# A.1 WHAT IS PLASTIC?

**Invented in 1907, a plastic is a human-made material that can be formed into almost any shape.**

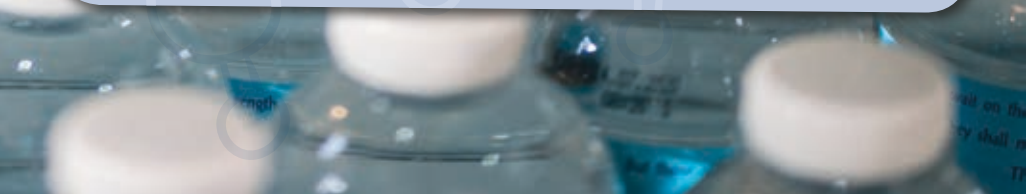
Plastic is really useful and when we first created it, we knew we were onto something big. It is cheap, flexible and hard to break. It lends itself easily to the manufacture of zillions of products.

Humans started out using plastics derived from nature. For example, more than a millennium BCE, the Olmecs in Mexico were making balls out of rubber – a natural polymer. Europeans discovered rubber much later, in the eighteenth century, when a French explorer came upon the rubber tree in the Amazon.

Another century or so later, in the 1840s, Charles Goodyear in the United States of America and Thomas Hancock in the United Kingdom patented "vulcanized" rubber on either side of the Atlantic. Vulcanized rubber is treated with sulphur to make it more durable, and it led the way to making tyres for bicycles and cars (have you heard of the Goodyear tyre company?). Vulcanized rubber was also used to make water-resistant clothing.

## POLYMERS

All plastics are made from a type of material known as **polymers**. The chemical makeup of a polymer includes many smaller units that are bonded together to form a large **molecule**, or group of atoms. Not all polymers, however, are plastic. Some polymers are natural – DNA and cellulose are examples of natural polymers.



## The first commercially-used synthetic plastic was Bakelite, invented by a scientist named Leo Hendrik Baekeland.

*Source*: British Broadcasting Corporation

* Bakelite was the first plastic to be derived from **fossil fuels** – fuels such as petroleum that are made from old plant and animal remains and take millions of years to form.
* Bakelite was made by combining phenol, a common disinfectant, with formaldehyde.
* The original plan was to use it for electronic insulation.
* However, its strength and mouldability, combined with the low cost to produce it, made Bakelite ideal for manufacturing.
* In 1909, Bakelite was introduced to the public at a conference and it generated immediate interest.
* Bakelite was soon being used to manufacture everything from telephone handsets and costume jewellery to parts for light bulbs, automobile engine parts and washing machines.
* Baekeland's work paved the way for the development of many now-familiar synthetic plastics, including polystyrene, polyester, polyvinylchloride (PVC), polythene and nylon.

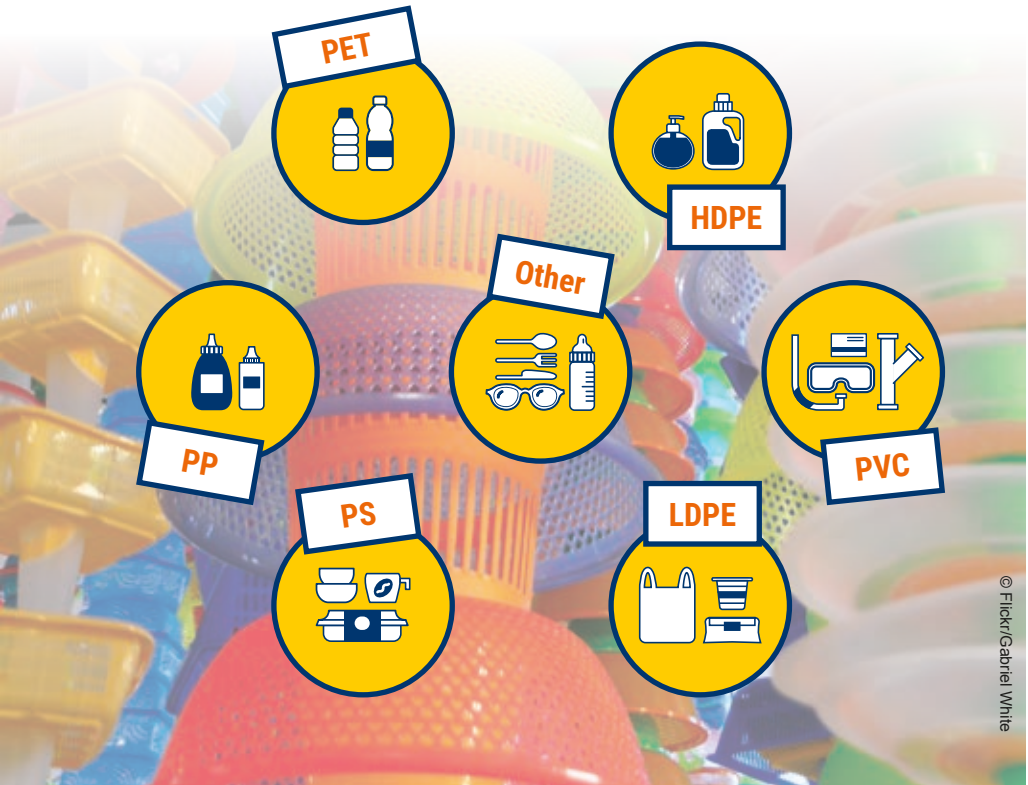
(*Source*: www.thoughtco.com/story-of-synthetic-plastic-1991672)

# A.2 PLASTIC IN DAILY LIFE

**Today, there are more than 50 kinds of plastic in use!**

Take a moment to think about all the plastic you likely encounter on a day-to-day basis. For most of us, the answer is a lot. From shampoo bottles to food packaging to toys and grocery bags – a gigantic amount of the stuff we use every day is either made of plastic or has some plastic component to it.

## Let's learn about the types of plastics we use most often!




© Flickr/Gabriel White

# Type of plastic

## Polyethylene Terephthalate (PET or PETE)

**1**

For a lightweight plastic, the name is pretty heavy. Fortunately, this type of plastic – one of the most commonly used kinds – is usually called PET or PETE for short.

Drink bottles, food bottles and jars (salad dressing, peanut butter, etc.), and polyester clothing.

## High-density Polyethylene (HDPE)

**2**

Polyethylene is the most common plastic in use today. HDPE is resistant to moisture and chemicals, making it ideal for cartons, pipes and building materials.

Grocery bags, toys, milk cartons, detergent bottles, park benches, playground equipment and building materials such as fencing and boardwalks.

Plastic name | Recycling code | Tell me more | Where you'll find it

**Recycling codes** identify the different materials that items are made of, which makes it easier to recycle them.

## Polyvinyl Chloride (PVC or Vinyl)

**3**

This kind of plastic is hard and rigid, so it is commonly used in building and construction materials. PVC is the most dangerous plastic for human health, leaching toxins throughout its lifecycle.

Siding in construction, credit cards, toys, teething rings, medical bags and tubing, oxygen masks.

## Low-density Polyethylene (LDPE)

**4**

Remember HDPE? Meet its cousin, LDPE. This is one of the most durable plastics, and is softer, clearer and more flexible than HDPE.

Plastic wrap, sandwich bags, bubble wrap, grocery bags* and beverage cups.

Plastic name | Recycling code | Tell me more | Where you'll find it

* Although plastic grocery bags and straws are technically made from a recyclable material, they are not accepted in curbside recycling programmes, i.e. when local authorities collect items for recycling placed in bins outside people's homes.

## Polypropylene

**5**

Another super durable plastic, this one is more heat-resistant than others, so it's often used for packaging hot food or food that will be heated up.

Straws,** yoghurt and ice-cream tubs, ketchup bottles, prescription bottles, hot food containers, disposable diapers.

## Polystyrene (PS or Styrofoam)

**6**

You've probably heard of Styrofoam. It's a rigid and cheap plastic that insulates well, which makes it a favourite in food, packaging and construction. Like PVC, it leaches toxins, which can be absorbed into food and are potentially harmful to humans.

Coffee cups, egg cartons, disposable plates and bowls, packing materials.

Plastic name | Recycling code | Tell me more | Where you'll find it

** According to MyDisposal.com: "plastic straws are too lightweight to make it through the mechanical recycling sorter. They drop through sorting screens and mix with other materials and are too small to separate, contaminating recycling loads or getting disposed as garbage." Similarly, plastic films, plastic wrapping and thin plastic bags pose a risk of clogging the processing machinery.

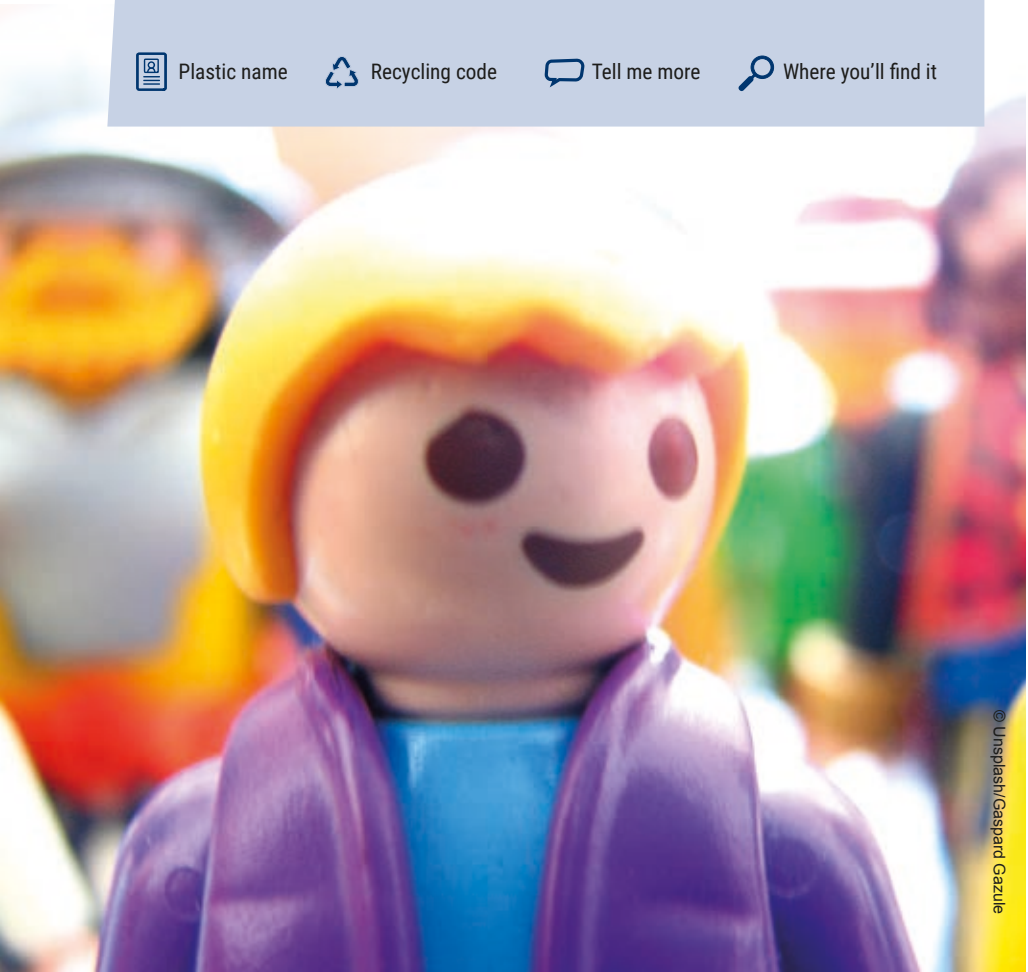
**Other**

**7**

The easiest one to pronounce! As you can see in the following image, there is an actual recycling code for "other!" This category includes plastics that don't fit into any of the groups above.

CDs, baby bottles, eyeglasses, clear plastic cutlery.

Plastic name | Recycling code | Tell me more | Where you'll find it




**PET**
**Polyethylene Terephthalate**
Fizzy drink bottles and frozen ready meal packages


**HDPE**
**High-density Polyethylene**
Milk and washing-up liquid bottles


**PVC**
**Polyvinyl Chloride**
Food trays, cling film, bottles for squash, mineral water and shampoo


**LDPE**
**Low density polyethylene**
Carrier bags and bin liners


**PP**
**Polypropylene**
Margarine tubs, microwaveable meal trays


**PS**
**Polystyrene**
Yoghurt pots, foam meat or fish tray, hamburger boxes and eggs cartons, vending cups, pastic cutlery, protective packaging for electronic goods and toys


**Other**
Any other plastics that do not fall into any of the above categories. For example melamine, often used in plastic plates and cups

*Source:* The wherever-you-are guide to plastic recycling
https://www.oasfcu.org/2020/03/24/the-wherever-you-are-guide-to-plastic-recycling

## Recycling around the world

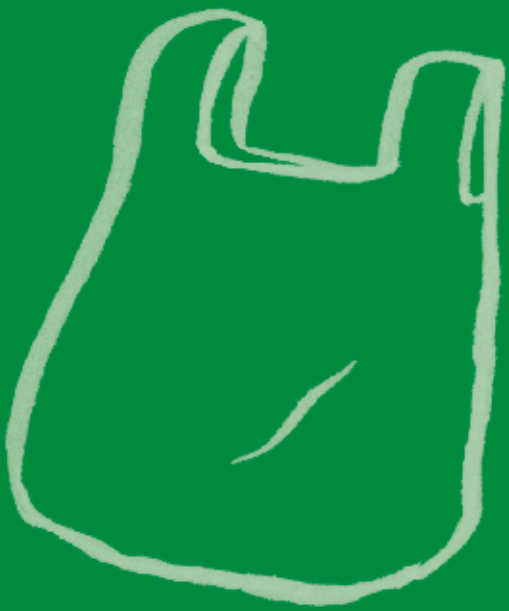
Recycling codes and guidelines are different from country to country. Recycling systems can even vary from one municipality to another. The above are general guidelines that typically apply in most countries. But to understand which products are recycled in your area – and how you can recycle them – would require some local detective work. Perhaps you could try:

* Visiting the website of your local municipality
* Calling or emailing your local municipality
* Hanging around outside on trash/recycling collection day to ask the collectors how the process works
* Tagging local environmental authorities on social media with your questions


© Flickr/Kitsap County Public Works

B

# PLASTIC AND THE PLANET



## B.1 THE PROBLEM WITH PLASTIC

# So, there's a ton of plastic. Why is that such a big deal?

It's a big deal because plastic litter is **non-biodegradable** – it does not break down or decompose naturally in the environment. It can take hundreds of years to decompose and, in the process, leaks toxins that damage our health, hurt wildlife and destroy entire **ecosystems**.

The main problem lies with **single-use plastics**, or things we use just one time and then throw away. These include plastic straws, takeout containers, food wrappers, water bottles and shopping bags. We use and toss far more single-use plastics than we need.

The most common single-use plastics found in the environment are, in order of magnitude:

* cigarette butts
* plastic drinking bottles
* plastic bottle caps
* food wrappers
* plastic grocery bags
* plastic lids
* straws and stirrers
* other types of plastic bags
* foam take-away containers

*Source:* UN Environment Programme

**86 percent** of plastic packaging is used once and thrown away.

*Source:* Stockholm Environment Institute

**50 percent** of all plastic produced each year is for single-use purposes – used for just minutes and then thrown away.

*Source:* Plastic Oceans

© Flickr/mzacha

# The lifecycle of plastic

| | | |
|---|---|---|
| PLASTIC BAG | COFFEE CUP | PLASTIC STRAW |
| 20 YEARS | 30 YEARS | 200 YEARS |
| PLASTIC BOTTLE | PLASTIC CUP | 6-PACK RINGS |
| 450 YEARS | 450 YEARS | 400 YEARS |
| COFFEE POD | DISPOSABLE DIAPER | TOOTHBRUSH |
| 500 YEARS | 500 YEARS | 500 YEARS |

## *Earth wants to know what feels so heavy?*

The **300 million** tonnes of plastic waste we produce each year, that's what. That's nearly the same as the weight of the **entire human population.**

*(Source:* UN Environment)

## Two not-nice nines

Throughout history, humans have produced **9 billion** tonnes of plastic. What does that look like? According to one scientist, if you spread out 9 billion tonnes of plastic at an ankle-deep level, it **would take up an area the size of Argentina** – or nearly four times the size of Texas.


The other nasty nine? Only **9 percent** of the nine billion tonnes of plastic we've created has been recycled (turned into something reusable).

© Flickr/teakwood

# Plastics and the Sustainable Development Goals

The **SDGs** are a set of 17 goals that the international community identified as our world's most pressing needs, which we need to achieve by 2030 to nail a more **sustainable** future for everyone.

It's not a stretch to say we can't achieve the SDGs unless we get a handle on our plastics problem. As you've learned, single-use plastic trash is out of control and is harming our health and our environment. Good thing, then, that the people who designed the SDGs included several goals that are directly linked to plastics.

In this section, we'll learn more about specific SDGs that are connected to plastic pollution.

## Six ways plastic hurts the planet and how they connect to the SDGs


### 1. Harming our marine friends

*Had a bad meal lately?*
*Ocean animals say, "join the club".*

If you've heard about the plastic problem, then no doubt you have heard it being linked to ocean pollution. Why does so much plastic end up in the oceans?

For one thing, our waste management systems don't have what it takes to contain the plastic onslaught. The plastic we throw away goes to landfills, which (in theory, at least) are special sites dedicated to safely containing garbage. A huge quantity of plastic also goes to trash dumps. Many of these are right by the sea, which means trash overflows from them directly into the ocean.
(*Source*: Earthday.org)

Every year, at least **14 million** tonnes of plastic end up in our oceans where it harms marine wildlife. That's the same as pouring an entire garbage truck of plastic into the ocean every minute.

*Source:* IUCN

Landfills are not much better. As it moves to landfills, plastic often flies off in the wind and ends up around drains, from where it enters rivers and ultimately oceans. Same story with litter. Rainwater and wind send plastic litter into streams and rivers, from where, once again, it ends up in the oceans.

Plastics are **non-biodegradable**, which means, unlike say with orange peels or bread crusts, bacteria cannot break plastics down into a harmless state. In other words, plastic trash can take centuries to decompose and, in the process, could leak harmful chemicals into the soil and water.

(*Sources*: World Environment Day and www.Earthday.org)

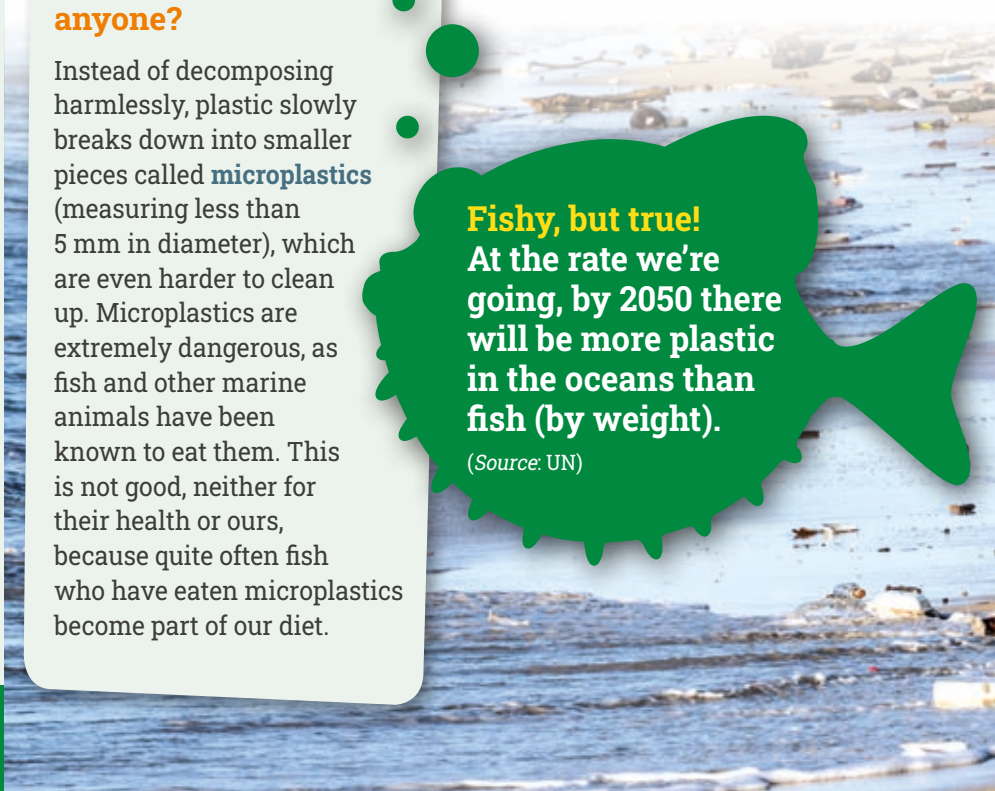
Other factors that contribute to plastic in the sea include people littering beaches, fishing practices and maritime transport.

Many marine animals swallow plastic items or get trapped in them and often die as a result. And around 11.1 billion plastic items are tangled in coral reefs – blocking their oxygen and light and releasing harmful chemicals.

(*Source*: UN Environment Programme)

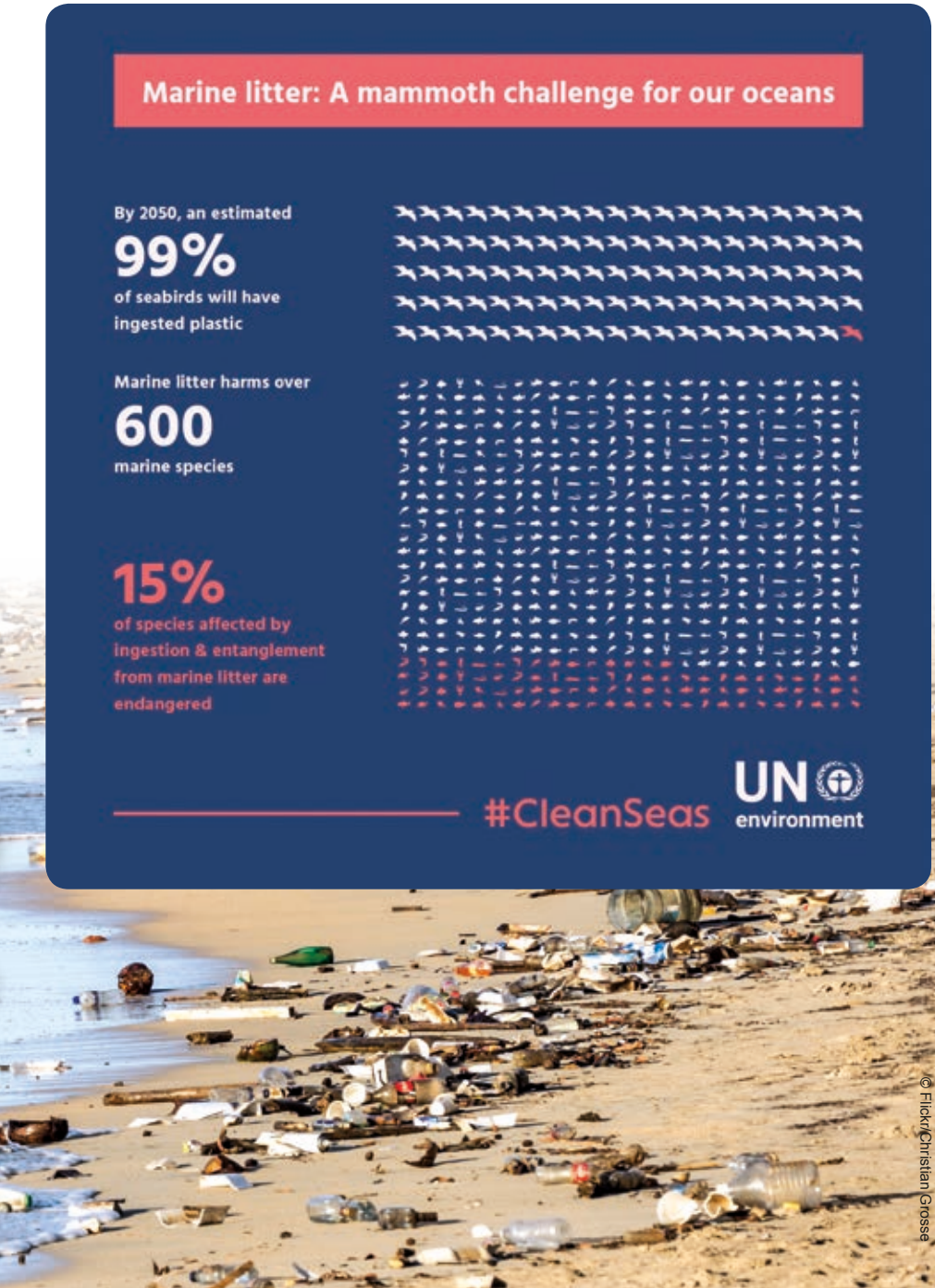
## Plastic for dinner, anyone?

Instead of decomposing harmlessly, plastic slowly breaks down into smaller pieces called **microplastics** (measuring less than 5 mm in diameter), which are even harder to clean up. Microplastics are extremely dangerous, as fish and other marine animals have been known to eat them. This is not good, neither for their health or ours, because quite often fish who have eaten microplastics become part of our diet.



**Fishy, but true!**
**At the rate we're going, by 2050 there will be more plastic in the oceans than fish (by weight).**

(*Source*: UN)




© Flickr/Christian Grosse

## 2. Spoiling our soil

*What's waving its arms saying: "what about me?"*

Soil, that's what. Ocean litter makes all the headlines, but plastic pollution is also causing great harm to our agricultural soils. Could the focus on oceans stem from the fact that dolphins are more photogenic than earthworms? The fact is, the land we use to grow our food is contaminated with far larger quantities of plastic pollution (than oceans), which poses an even greater threat to food security, people's health, and the environment.

(*Source:* FAO)

The use of plastics products in today's agriculture is spread all around the world. Agricultural plastics have many benefits, for example mulching films increase yields while reducing the need of water and pesticides, greenhouses protect and enhance plant growth, irrigation tubes and driplines optimize water use.

© Flickr

© Flickr/François Molle

However, only small fractions of agricultural plastics are collected and recycled, predominantly in developed economies. There is evidence that huge amounts of agricultural plastics are burned, buried or landfilled.
(*Source*: FAO)

Moreover, waste waters from our homes and cities are often put in fields to fertilize the soil. However, those waste waters contain huge amounts of microplastics, leaking from our clothes in the washing machines, from cosmetics, and other hygiene products.

© Flickr/Bigstock®

All those microplastics go directly in our fields, being a major source of plastic pollution in soils.

Plastic leakage into the soil and water has the potential to hurt the health of soil, plants and soil dwellers that help the **ecosystem**, like earthworms, ultimately reducing agricultural yields.

At first, plastics dispersed in the environment leak harmful chemicals which have negative impacts on the health of animals and ecosystems.

Secondly, both small and large plastic residues have the potential to harm wildlife through entanglement and ingestion. In addition, mega and macroplastics, and films in particular, have the ability to block out sunlight and also impede the movement of essential elements in soils, such as air, moisture, nutrients and the mobility of soil organisms including earthworms. (*Source:* FAO)

Moreover, by entering the soil, plastic finds its way back to us via the crops we eat. Therefore, microplastics derived from agricultural plastic products can enter the food chain, with the possibility of adversely affecting human health. (*Source*: FAO)

Not just that, but some animals end up eating plastic litter. According to National Geographic:

***Plastics have been consumed by land-based animals, including elephants, hyenas, zebras, tigers, camels, cattle, and other large mammals, in some cases causing death.***

(National Geographic, 2019).

To achieve a sustainable use of agricultural plastics it is important to ban the most harmful products, reduce the amount of plastic products used in agriculture, promote the use of alternatives (such as cover crops, or biodegradable materials), adopt reusable items, establish collection and recycling mechanisms, and recover the damaged environments, to prevent plastics leakage to the environment through all its life cycle. This is called the **6R approach**: refuse, redesign, reduce, reuse, recycle, recover.

Moreover, concerning specifically waste waters, they must be treated at different steps to eliminate any plastic residues: introducing filters to washing machines, banning cosmetics and hygiene products which contain microplastics, improving wastewater treatment, raising awareness of the problem in civil society to adopt best practices.

**Nearly one-third of the plastic packaging we use ends up clogging our city streets and polluting our natural environment.**

(*Source*: IUCN)

To conclude, it is important to find a balance between benefits and tradeoffs of plastics used in agriculture, using the 6R approach to achieve food safety, food security in line with the three dimensions of sustainability.

## Out of the trash can and into the fire...

Many poor countries do not have good systems in place to recycle or dispose of plastic waste. Worse, many rich countries around the world send hundreds of thousands of tonnes of plastic waste to be dumped in developing countries – although a 2019 treaty has made it harder to do so. With no way to deal with this onslaught of plastic, most of the rubbish ends up being burned in open fires. This produces harmful fumes that pollute the air, make people sick and even cause death. Burning plastic also pollutes the surrounding soil, affecting plants, crops, and human and animal health. According to Tearfund's 2019 report, **No Time to Waste**:

*"...between 400 000 and 1 million people die each year in developing countries because of diseases related to plastic and other mismanaged waste. That's up to one person every 30 seconds."*

13 CLIMATE ACTION

## 3. Cranking up climate change

***Plastic contributes to* climate change, *too.***

Plastic is made from petroleum and making plastic products accounts for 8 to 10 percent of the world's oil production. That figure is projected to rise to 20 percent by 2050 [*Source*: World Economic Forum (pdf)].

Drilling for oil and processing it into plastic releases greenhouse gases into the environment, which causes global warming and contributes to climate change.

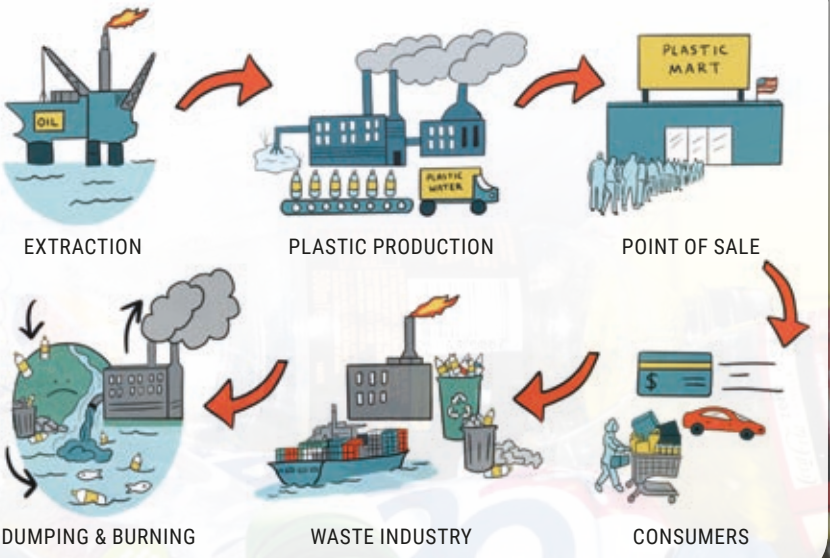
Almost **98 percent** of single-use plastic is made from virgin **fossil fuels** – in other words, it is not created from recycled materials, but is plastic produced for the very first time.

*Source:* sourceofplasticwaste.org

But wait, there's more. Even when it's just sitting around in seawater and sunlight, plastic releases greenhouse gases. (*Source:* FAO)


© Flickr/John Englart

## Plastic pollution lifecycle




## 4. Blocked drain, major pain

We're still going. Did you know that plastic waste can cause flooding in cities? Plastic debris can clog drains and waterways, which is a key cause of urban **flooding** in many countries such as India and Bangladesh.

Plastic litter in the Asia-Pacific region alone costs its tourism, fishing and shipping industries USD 1.3 billion per year. In Europe, cleaning plastic waste from coasts and beaches costs about EUR 630 million per year. Studies suggest that the total economic damage to the world's marine ecosystem caused by plastic amounts to at least **USD 13 billion** every year.

*Source:* UN Environment Programme


## 5. Sick of plastic!

When plastic bags block sewage systems, this creates stagnant water that provides a breeding ground for mosquitoes and other pests. This situation can spread malaria and other vector-borne diseases.

(*Source*: Single-Use Plastics—A Roadmap for Sustainability)

Also, poor waste disposal systems, such as burning plastic waste, are leading to air and soil pollution, which have a range of harmful impacts on people's health. Soil pollution affects our crops and can damage the entire food chain.


## 6. Costing us big bucks

Cleaning up after ourselves is expensive. In fact, we spend billions each year dealing with trash. Plastic affects our economies in other ways, too, for example by discouraging tourism. Turns out people do not want to visit places covered in plastic trash.

## Don't mean to keep you up at night, but...

Around the world,

**1 million**

plastic drinking bottles are purchased every minute.

Every year we use up to

**5 trillion**

single-use plastic bags. What does that look like? Well, if tied together, plastic bags could be wrapped around the world seven times every hour.

**50%** of all the plastic we use is single-use

*Sources:* worldenvironmentday.global/en/about/beat-plastic-pollution and The State of Plastic

### Earth needs to look #instaready too!

The beauty industry has been in the spotlight lately for its rampant use of plastics. From **microplastics** in facial scrubs to excessive plastic packaging to the practically indestructible facial and wet wipes, a wide range of beauty products are wreaking havoc on the planet. We all need to choose our products more carefully. We can't be making ourselves look good while ruining the Earth's natural beauty.

Learn more at: *www.teenvogue.com/story/the-beauty-industry-has-a-plastics-problem*

# C TAKE ACTION

# C.1 GETTING INVOLVED




## There are lots of crazy opinions out there, right?

Fortunately, it seems most of the world at least agrees on the dangers of disposable plastic. Governments are stepping up everywhere to take action against plastic pollution, from banning plastic bags and straws to enforcing levies to cutting down on foamed plastics products like Styrofoam.

Learn more about what governments around the world are doing about plastic in UN Environment's publication: **Single-use plastics: A roadmap for sustainability | UNEP - UN Environment Programme** (*www.unep.org/resources/report/single-use-plastics-roadmap-sustainability*) and in this story from Global Citizen: *www.globalcitizen.org/en/content/plastic-waste-government-initiatives*

- So far, more than **60 countries** have introduced national laws on plastic bags and Styrofoam products.
- When you count regulations at local levels as well, there are more than **140 laws around the world** aimed at banning and discouraging the use of **plastic bags** and **Styrofoam**.
- Mostly, it's too soon to say if the laws are actually working. But in **30 percent** of cases, dramatic drops in plastic pollution and plastic bag usage have already been reported.
- In Africa, **34 countries** have introduced bans on plastic bags. Rwanda is a star player here, having banned plastic bags back in 2008. Rwanda has also introduced **Umuganda**, (*https://matadornetwork.com/read/rwanda-community-work-day/*) a community clean-up held on the last Saturday of each month.
- The European Union has banned certain single-use plastics for which **alternatives are available**, such as plastic straws, plates and cutlery.
- In 2022, Canada banned the manufacture and import of **6 single-use plastics** and, in december 2023, it **banned the sale of the items**. (*www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/single-use-plastic-overview.html*)
- France has placed a **ban on plastic packaging** for many kinds of fruit and vegetables and Spain introduced a new **tax on non-reusable** plastic packaging. (*www.fas.usda.gov/data/spain-spanish-tax-non-reusable-plastic-packaging-enters-force*)
- New York City, United States of America, **banned all Styrofoam products** in 2017.
- India has vowed to **eliminate single-use plastics** in mid-2022. In addition, several states and cities in the country have introduced **bans on plastic carrier bags** and other plastic materials.
- Indonesia is working to reduce ocean plastic leakage by **70 percent** by 2025.

Where countries are reporting little or no impact, the main issues seem to be

1. lack of enforcement; and
2. lack of affordable substitutes to plastic bags and Styrofoam.

According to the **United Nations Environment Programme** (*www.unep.org*), plastic bag bans, if properly planned and enforced, can be a big help towards tackling one of the main culprits of plastic overuse.

However, to really get to the roots of the problem, governments also need to:

* improve waste management practices
* introduce financial incentives to encourage consumers, retailers and manufacturers to change their habits
* create strong policies that push for a more **circular** design and production
* fund research and development of alternative materials
* raise awareness among consumers
* make sure that plastic products are properly labelled so they can be easily recycled
* engage a broad range of stakeholders in the decision-making process as they seek to tackle the crisis


© Flickr/Nyani Nwanri/Arete

## What is circular design?

Circular design means designing things in a way that they can be shared, leased, reused, repaired, refurbished and recycled as long as possible. In this way, the life cycle of products is extended. One of the most important aspects of **sustainability** is achieving a **circular economy**, where waste and pollution are designed out of the system.

## The Food and Agriculture Organization of the United Nations is working on better food packaging

A big share of plastic packaging comes from food. FAO is working on ways to replace plastic packaging with packaging made out of **biomass**. This could include packaging made from tree fibres, corn starch, potatoes and food waste. Making the switch will help us move away from polluting plastics.

It will also provide a nice circular solution, because when bio-based packaging reaches its end-of life it can be used for **composting**.

Adapted from the FAO report Bio-based food packaging in Sustainable Development: *www.bit.ly/2t8m9RB*

Learn more about FAO's work on creating a bio-based, reuse economy: *www.bit.ly/2ROcxFS*


### #CleanSeas

In February 2017, UN Environment launched the **Clean Seas** campaign to bring together governments, the general public and the private sector to fight marine plastic pollution. So far, **63 countries** have joined the movement, and many companies – Volvo, Dell, Ikea and General Motors among others – are also joining in.

**www.cleanseas.org**

## Good company

It's not just countries that need to crack down on plastic but companies, too. According to the Plastic Waste Makers index (*www.minderoo.org/plastic-waste-makers-index*) just 20 companies are responsible for producing **more than half** of all the single-use plastic waste in the world!

However, many companies are taking big steps to tackle the plastic problem.

* A Dutch supermarket, **Ekoplaza**, launched a plastic-free aisle in 2018, which contains about 700 items packaged in compostable material, glass, metal or cardboard. [Dutch Supermarket Introduces Plastic-Free Aisle - The New York Times (*nytimes.com*)]
* **Costa Coffee**, one of the world's largest coffee companies, has created sustainable coffee cups, introduced a scheme to make reuse easier, and was the first coffee chain to introduce recycling points in every store. (*www.costa.co.uk/behind-the-beans/planet/cups-and-packaging*)
* **Evian**, a world-famous brand of bottled water, has made a pledge to only produce bottles that are 100 percent recycled by 2025. (*www.evian.com/en_us/sustainable-bottled-water/water-bottle-recycling-and-packaging*)
* Sportswear manufacturer **Adidas** has a collaboration with Parley to transform marine plastic into trainers, swimsuits and t-shirts. (*www.adidas.co.uk/parley*)

## Cool ideas in action

The **Consumers Beyond Waste** project brings together leading private, public and civil society players to help consumers find sustainable alternatives to single-use plastic.

Spanish football team Real Madrid's kit is made completely from ocean plastic!

250 organizations responsible for 20 percent of the plastic packaging produced around the world have committed to reducing waste and pollution.

The initiative is called the New Plastics Economy Global Commitment. Members include H&M, Unilever, PespsiCo, L'Oreal, Nestle and Coca-Cola.

*Source:* National Geographic

From door-to-door refilling services to mobile phone apps that connect people to their nearest recycling station, there are lots of innovative ideas out there to tackle plastic waste. Check out some of them at: *www.weforum.org/agenda/2021/12/fight-plastic-pollution-innovations* and *innovate-eco.com/10-innovative-solutions-to-global-plastic-waste*

# C.2 YOU CAN MAKE THE DIFFERENCE

We're fortunate to have as beautiful a place as planet Earth to call home. And let's not forget, we share this home with amazing plants and animals, all of whom are doing their part to keep the planet healthy and beautiful. Let's do our part too. Let's keep our oceans, forests, rivers and roads picture perfect and plastic-free.

**So, enough talking. It's time to act. You can do a lot of things in your own life to tackle plastic pollution and they are easy steps to take.**

**Students from MRSM Mukah School in Malaysia, YUNGA photo contest winners for tackling plastic pollution in their local community.**

*Students:*
Nurin Amanina Binti Nahrawi
Syakira Elzahra Binti Ahmadlaji
Melsywenna Resaserifah Anak Undi
Kristina Suda Anak Entingnge

## Individual actions

**Here are some everyday steps you can take. Remind your friends to do the same.**

### Say no to plastic straws

© Flickr/Kevin Rheese

This one is obvious, but still. A lot of the time, straws are not necessary, but if you do need one, there are **plenty of alternatives** (*Source*: *www.globalcitizen.org/en/content/alternatives-to-plastic-straws-eco-friendly/*) to plastic straws now.

### Bring your own bag

© Flickr/Kate Ter Haar

Be on trend and carry around a reusable bag. Choose a reusable bag that helps you spread the word about a cause you care about. Or design your own!

### Farewell plastic water bottles

© FreeImages/@botigotti

Did you know that a single person using a reusable, refillable water bottle instead of single-use plastic water bottles can save as much as 170 bottles from being produced each year? (*Source*: *www.4ocean.com/blogs/blog/15-ways-to-reduce-your-plastic-use-4ocean*)

## Quit plastic cutlery

© Flickr/Marco Verch

Takeout food orders often include plastic cutlery by default. When ordering, ask them not to include plastic forks, spoons or knives. If you get takeout a lot while on the go, start carrying your own cutlery around with you.

## Speaking of takeout...

© Flickr/Eugene Peretz

Move away from Styrofoam and traditional plastic food containers and start bringing your own reusable containers with you when you order food.

## Boycott microbeads

© Flickr/Ornela Preciosa

Use the app from *www.beatthemicrobead.org* to check for microbeads in products and stay away from those that contain them.

## Wrapping be gone

© Flickr/crabchick

Avoid buying snacks and food items with unnecessary packaging. For example, when in search of a snack, pick an apple, banana or orange instead of a packaged item. Choose washing powder in a cardboard box instead of a plastic bottle. Buy bars of soap instead of liquid soap. Find other ideas on page 10 of **this guide** from Clean Seas.

## Shop smart

© Flickr/Rob Sinclair

Many stores sell or allow customers to bring refillable containers for food items such as oil, grains, salt, etc. They're also doing it for household liquids such as washing machine detergent. Bringing your own refillable container when you shop is a great way to reduce plastic waste, especially since food and household products are some of the biggest culprits when it comes to plastic packaging. Farmers' markets, which offer fresh produce with no packaging, are a great option for your fruit and veg shopping.

### Find more plastic reducing tips and tricks at:

* This **toolkit by the CleanSeas** campaign *https://p.widencdn.net/qixxa4/CleanSeas-EDU-Pack-ENG-Temp_UN-3-EDITS*
* *www.earthday.org/2018/06/08/what-you-can-do-to-end-plastic-pollution*
* *www.greenpeace.org/usa/oceans/preventing-plastic-pollution*
* *kids.nationalgeographic.com/nature/kids-vs-plastic/article/10-tips-to-reduce-your-plastic-use*
* *www.wwf.org.uk/updates/ten-tips-reduce-your-plastic-footprint*
* *www.earthday.org/actions/act-on-plastic-pollution*

### Reuse

* Reuse plastic items as much as possible. Find ideas at: *www.fairharborclothing.com/blogs/news/30-ways-to-reuse-plastic*

## Recycle

* If you do select an item that comes with packaging, make sure it's easy to recycle. Check out the different types of plastics and their recycling codes on pages 36–40 and find out from your local municipality about how different plastic products are to be recycled in your area. Learn more about what and how to recycle with this excellent article from National Geographic: *blog.nationalgeographic.org/2018/04/04/7-things-you-didnt-know-about-plastic-and-recycling*
* Find more ideas at: *www.earthday.org/2018/06/08/what-you-can-do-to-end-plastic-pollution/*

© Unsplash/quokkabottles

# All About Packaging



## Glass

Is 100 percent recyclable and can be recycled endlessly without losing quality. This makes it a pretty good option when choosing between different types of packaging.



## Paper

Is far more **biodegradable** than plastic and very easy to recycle. But it's important to be careful: a lot of flexible paper-based packaging is lined with plastic/aluminium, making it non-recyclable.



## Cardboard

Can be reused and recycled, and it is biodegradable.



### Bamboo

Is gaining popularity as a packaging material, as it is renewable, compostable and durable.



### Compostable or biodegradable

Biodegradable packaging has the ability to break down and decompose into natural elements within a year or less. Compostable packaging is similar, but after breaking down it actually provides nutrients back to the earth.



### Metal

Can be recycled infinitely, so it's a good option when selecting packaging. But be careful: many food tins are lined with a substance called Bisphenol A (BPA) that can be harmful and is difficult to recycle.

## Making noise: civic actions for greater impact

**If you're already taking some of the above steps to reduce plastic waste in your life, that's great! Now how about taking things a step further and getting others to join in? Wondering where to start? Here are some ideas.**

**Organize a local clean-up.** Choose a nearby location that has a litter problem and team up with friends and family to clean it up. Spread the word in your community via flyers, social media and word of mouth. Post photos of the place before and after the clean up on social media and tag your local municipal authorities. Maybe even make it a monthly event.

### World Cleanup Day

Did you know there's a day dedicated to making the world cleaner? A whole global movement comes together to do something about litter and mismanaged waste.

Cleaning up your room might be a bore but cleaning planet Earth is fun – especially when you're joining forces with millions of people in 180 countries around the world. Find out when it takes place this year and how to take part: **Worldcleanupday.org**

© GLOBAL 2000/Evelyn Knoll

© GLOBAL 2000/Martin Aschauer

**Write a letter to your authorities or contact them via social media.** What are your suggestions for reducing plastic waste where you live? More recycling bins? More information and awareness? Contact local authorities with your ideas and recommendations. Send photos of highly littered locations in your community to draw their attention to the problem.

**Poster power.** Place posters raising awareness of plastic pollution and what to do about it in your school and (with permission) in local hotspots like libraries and grocery stores.

**Facilitate.** Make it easy to cut down on single-use plastics at home by placing reusable grocery bags in prominent places and making clearly labelled recycling bins to sort plastic waste.

**Social media.** There's power in numbers. Add your voice to existing online campaigns to reduce plastic pollution and invite others to join, too. You can also start your own campaign, depending on which issues are important where you live. For instance, a campaign for better labelling to make it easier for people to recycle plastic, or a campaign to stop burning plastic and prevent the resulting soil and air pollution. Here are a few existing hashtags to use and campaigns to look into.

#CleanSeas

#BreakFreeFromPlastic

#PlasticFreeCoastlines

@RethinkPlastic

@PlasticFreeJuly

@PlasticPollutes

## Cool campaigns

**The Last Plastic Straw**
A project of the Plastic Pollution Coalition. You can join in at: **@NoPlasticStraws**

**Bye bye bottle**
A range of "bio bottles" are available now that decompose after use. Check out one such bottle – made from a jelly-like material – at: *www.facebook.com/watch/?v=10154808164996479*. Find what else is out there by searching for the hashtag **#biobottle**.

**I'd like this product to be plastic free**
This project by Greenpeace places a label on overpackaged fruit and vegetables, saying: "I'd like this product to be plastic free." The campaign encourages consumers to share photos on Instagram and Twitter of overpackaged products. Share your own finds at: **#Ridiculouspackaging**

**#StopSucking**
A campaign launched by Lonely Whale to reduce single-use plastic products and packaging. Share your own content using the hashtag: **#StopSucking**

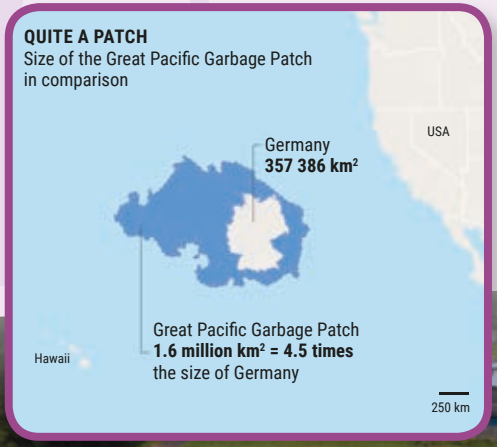
**CutTheCutlery**
Join the social media movement to end plastic knives, forks and spoons. **#CutTheCutlery**

## What do you say to your friend who doesn't care about plastic pollution?

**Tell them to Google the "Great Pacific Garbage Patch."**

It is as gross as it sounds: a great big floating garbage heap in the middle of the beautiful Pacific. We actually have five such garbage patches in our oceans but the Pacific one (as you might have guessed by its name) is the biggest. And by big we mean three times the size of France. Remember when we said plastic takes forever to break down? Some of the plastic found in the Great Pacific Garbage Patch was produced in 1977. And it's still got a long life ahead.

Learn more at:
*www.theoceancleanup.com/great-pacific-garbage-patch/#what-is-the-great-pacific-garbage-patch.*




© Plastic Atlas 2019/Nature

© Flickr/Bob Doran

# PLASTICS BADGE CURRICULUM

## Letter to parents/guardians

**Note to teachers/group leaders:**
Below is a form letter that you can send to participants' parents, so that parents and families are aware of their child's participation in the Plastics Challenge Badge and can provide support and engagement. You can send this in the form of a letter, email or SMS/WhatsApp message.

We are **tackling plastic pollution** with the **Plastics Challenge Badge!**

*Dear Parent:*

*This week/month, we are learning about plastic pollution and are going to get involved in the issue by doing the Plastics Challenge Badge (challenge badges). This means that your child will be learning and discovering not only about why single-use plastics are so harmful to the environment but, more importantly, how we can all make a difference by making simple changes in our everyday lives.*

*Your support and engagement will be very important in helping your child perform some of these activities. For example, you can:*

- ✓ *Help your child analyse and quantify how much plastic comes into the house.*
- ✓ *Creatively brainstorm as a family about how to reuse plastic items as far as possible, e.g. using a plastic jar as a pen holder or a water bottle as a vase.*
- ✓ *Support your child in creating effective systems for reuse, recycling and disposing of plastic products.*
- ✓ *Jointly decide as a family about which single-use plastic items you may be able to stop buying and using.*
- ✓ *When grocery shopping, jointly discuss as a family how to avoid products that are overpackaged in disposable plastic.*

*Please review the background information of the Plastic Challenge Badge for helpful tips and suggestions on how to reduce your use of single-use plastics.*

***Thank you for help! Let's support and empower the next generation of young leaders to preserve and protect our beautiful planet!***

# SECTION A

# ACTIVITIES:

## PLASTIC: THE WORLD'S GREATEST FRENEMY

**AFTER COMPLETING THE PLASTIC: THE WORLD'S GREATEST FRENEMY ACTIVITIES, YOU WILL:**

* **BE AWARE of how much plastic you use in your daily life**
* **KNOW what plastic is and its different forms**

1. **Read Section A of the Background Information: Plastic: the world's greatest frenemy, including the Types of plastic illustration on pages 36–40, which identifies the most common plastics we encounter in our daily lives.**

2. **Choose which compulsory activity you will do.**

   **DO EITHER A.1, A.2 OR A.3, AND (AT LEAST) ONE OTHER ACTIVITY OF YOUR CHOICE.**

   - **A.1 GOOD PLASTIC, BAD PLASTIC**
     suitable for all age groups
   - **A.2 PLASTIC AUDIT AT HOME**
     suitable for older participants
   - **A.3 SINGLE-USE PLASTICS @SCHOOL**
     suitable for older participants

# A.1. GOOD PLASTIC, BAD PLASTIC

Suitable for Level 1 discussion and list-making in large and small groups

Completion time (approx.): 1 day

## Activity guide

This activity involves participants learning about different types of plastics and why single-use plastics are problematic.

**Key lessons:**

- Understanding what plastic is
- Understanding the difference between single-use and other plastics

- Read Section A of the Background Information: **Plastic: the world's greatest frenemy**.
- Refer to the **Types of plastic** illustration on pages 36–40, to help recognize plastic materials you may encounter.
- Guide participants to understand that not all plastics are problematic. A lot of plastics are essential to different industries. For example, in healthcare, plastics are used for a variety of purposes, including prosthetics, surgical devices, heart valves and joint replacements, to name a just a few. Plastics are also used to make important and life-saving products such as bicycle helmets, child safety seats and airbags in automobiles. Plastics make up parts of our cell phones, computers, TVs and other modern appliances.
- It is single-use plastics that we need to be careful with. Our rampant use of single-use plastics is leading to an environmental crisis. Read Section B of the Background Information section Plastic and the planet for detailed information on how single-use plastics pose a huge environmental problem.

## Discussion points

Read and discuss the **Types of plastics** on page 36 of the Background Information section with the group. Show the group the different plastic items you have brought as examples. Ask the group questions such as:

* Which plastics do they think are ok to use and why?
* Which ones would it be better to stop using and why?
* Why are plastics we only use one time and then throw away bad for the environment?
* What other examples of "good" and "bad" plastics can they think of?

## You will need

* Examples of "good" plastics to show the group, such as: a helmet, a pen, eyeglasses with plastic frames, a remote control, pictures of medical devices and toys made of a safe plastic such as polypropylene
* Examples of "bad" single-use plastics, such as straws, disposable forks and spoons, plastic grocery bag, plastic water bottle and a disposable takeaway food container
* Materials to make lists and drawings: paper, pencils, pens, markers

# A.1 GOOD PLASTIC, BAD PLASTIC

**This activity involves learning about different types of plastic and understanding which plastic products are ok to use and which ones are not good for the planet.**

## Part I

As a group, think about and write on a board the different types of plastics you encounter in your daily life. For example:

- ✓ Is any part of your car made of plastic?
- ✓ Are any of your toys made of plastic?
- ✓ Do any of your electronic devices include plastic parts?
- ✓ Do you get plastic bags when you go shopping?
- ✓ Do you use plastic straws, forks, spoons or containers?

Look at the list you came up with.
Can you split them into two main groups:

1. the ones you use only once and then throw away; and
2. the ones that are long lasting?

## Part II

- ✓ Individually, make lists with drawings of all the single-use plastic items you use regularly. Which ones would be the easiest to stop using? Which would be the hardest? Can you try going for three weeks without using one of these products?

# A.2 PLASTIC AUDIT AT HOME

Suitable for Levels 2 and 3 – group discussion, followed by individual activity

Completion time (approx.): 1 week

## Activity guide

This activity involves participants taking stock of single-use plastics in daily life over the course of one week.

* Read Section A of the Background Information section **Plastic: the world's greatest frenemy.**
* Refer to the **Types of plastic** illustration on pages 36–40, to help recognize plastic materials you may encounter

**Key lessons:**

* Awareness of how much single-use plastic we use
* Awareness of how we have been disposing of single-use plastics

## Discussion points

Before they embark on the activity:

* Guide participants to identify the different types of single-use plastics they use on a regular basis. This could be anything from food packaging to grocery bags to plastic cutlery.
* Encourage participants to observe how easy or difficult it is to reduce, reuse or recycle the single-use plastics they use the most.
* Remind participants of the different ways to cut down on single-use plastics. Refer to section **C2. You can make the difference** for tips and suggestions.

* Encourage them to think about things like:
  - Choosing non-packaged produce over produce that comes in plastic packaging.
  - If plastic packaging is unavoidable, then choosing goods where the plastic can be separated and recycled easily, and not glued/attached to other materials
  - Taking their own reusable/refillable bottles and containers when buying bulk goods or getting takeaway meals.

## You will need

* Several bin bags labelled for **Reuse**, **Recycle** and **Trash**.
* A pen and your powers of observation. You can fill out the audit sheet below in the badge or print the audit sheet. Optional: print multiple sheets to share with family and friends.

# A.2 PLASTIC AUDIT AT HOME

**This activity involves taking stock of how much plastic YOU use in your daily life.**

## Part I

- ✓ Circle the plastic objects that you have used in the past two months
- ✓ Place a check by the frequency of use
- ✓ Place a check to indicate what happens to these items after use
- ✓ Over the course of one week, separate the plastics by the ones you set aside for reuse, for recycling, or for throwing away. Use your labelled bin bags to collect these.

| Plastic bags | Plastic water bottles | Plastic straws | Plastic cups |
|---|---|---|---|
|  |  |  |  |
| ☐ Daily<br>☐ Once a week<br>☐ Once a month<br>☐ Once in the past 2 months | ☐ Daily<br>☐ Once a week<br>☐ Once a month<br>☐ Once in the past 2 months | ☐ Daily<br>☐ Once a week<br>☐ Once a month<br>☐ Once in the past 2 months | ☐ Daily<br>☐ Once a week<br>☐ Once a month<br>☐ Once in the past 2 months |
| **Where does it go after use?** | | | |
| ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash | ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash | ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash | ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash |
| **Balloons** | **Disposable food containers and cutlery** | **Packets and wrappers** | **Styrofoam** |
|  |  |  |  |
| ☐ Daily<br>☐ Once a week<br>☐ Once a month<br>☐ Once in the past 2 months | ☐ Daily<br>☐ Once a week<br>☐ Once a month<br>☐ Once in the past 2 months | ☐ Daily<br>☐ Once a week<br>☐ Once a month<br>☐ Once in the past 2 months | ☐ Daily<br>☐ Once a week<br>☐ Once a month<br>☐ Once in the past 2 months |
| **Where does it go after use?** | | | |
| ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash | ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash | ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash | ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash |

## Part II

Assess your plastic habits. Create a series of drawings or an infographic (see box on the next page) answering the following questions:

1. Which single-use plastics do you use the most? How many of these have you used in the past two months?
2. Which ones do you hardly use? How many of these have you used in the past two months?
3. How many bin bags of plastic did you throw away in one week?
4. How many bin bags of plastic did you recycle in one week?
5. How many bin bags of plastic did you keep to reuse in one week?
6. Which items can you manage without?
7. Which items do you really need?
8. Can you think of ways to replace the single-use plastic items that you need the most with items made from other materials?

## Part III

Compare notes as a group. What were the most common single-use plastics? Which items got reused the most and which ones got recycled or thrown away the most?

## Part IV

Each member of the group commits to cutting out one single-use plastic for 21 days. After 21 days, see if you can continue without using that item.

## What is an infographic and how can you make one?

An infographic is a big picture that summarizes a topic. Infographics use very little text and instead present information in a catchy way that is easy to understand.

Check out page 46 in the Background Information section for an example of an infographic. Infographics use simple icons, symbols, graphs and maps to illustrate data.

You can create your own infographics easily using free tools such as **Google Sites** or **Canva**.


© FACKYUNGA

# A.3 SINGLE-USE PLASTICS @SCHOOL

Suitable for Levels 2 and 3 – group discussion, followed by individual activity

Completion time (approx.): 1 week

## Activity guide

This activity takes place over the course of one week. Participants will use the audit sheet below to identify single-use plastics that are used regularly at school.

**Key lessons:**

- Awareness of "hidden" plastics in commonplace items
- Global citizenship by promoting sustainability at school

- Read Section A of the Background Information section **Plastic: the world's greatest frenemy**.
- Refer to the **Types of plastic** illustration on pages 36–40, to help recognize plastic materials you may encounter.
- Encourage participants to observe how easy or difficult it is to reduce, reuse or recycle the single-use plastics they use the most.
- Remind participants of the different ways to cut down on single-use plastics. Refer to section **C.2 You can make the difference** for tips and suggestions.
- Find specific ideas for how to reduce plastics at school: *www.plasticfreejuly.org/get-involved/what-you-can-do/at-school*

## Discussion points

Before they embark on the activity, encourage participants to:

* Identify single-use plastics commonly used at school
* Think about and share ideas for how to replace these items with sustainable products

## You will need

A pen and your powers of observation. You can fill out the audit sheet below in the badge or print it out.

# A.3 SINGLE-USE PLASTICS @SCHOOL

**How dependent are your classrooms and cafeterias on single-use plastics?**

## Part I

In small groups, use the audit sheet below to conduct a thorough inspection of different sections of your school.

| Classroom | Cafeteria | Events | Labs |
|---|---|---|---|
| ☐ Glitter<br>☐ Plastic straws for crafts<br>☐ Plastic for lamination<br>☐ Packaging for pencils, pens and other school supplies<br>☐ Other | ☐ Straws<br>☐ Plastic cutlery<br>☐ Plastic food containers<br>☐ Plastic drink bottles<br>☐ Food wraps and packaging<br>☐ Other | ☐ Plastic decorations<br>☐ Plastic cutlery<br>☐ Plastic plates and cups<br>☐ Plastic drink bottles<br>☐ Food wraps and packaging<br>☐ Other | ☐ Single-use plastic items such as pipettes, filter bottles, petri dishes and test tubes<br>☐ Plastic garbage bags<br>☐ Other |
| **Where does it go after use?** | **Where does it go after use?** | **Where does it go after use?** | **Where does it go after use?** |
| ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash | ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash | ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash | ☐ Segregate and recycle<br>☐ Reuse<br>☐ Trash |

## Part II

Assess your school's plastic use. Create a series of drawings or an infographic (see box on page 46) answering the following questions:

1. Which single-use plastics does your school use the most?
2. How much plastic does your school throw away per week?
3. How much plastic does your school recycle?
4. How much plastic does your school reuse?
5. Can you think of ways your school can replace the single-use plastic it uses the most with items made from other materials?

## Part III

Spread the word

- ✓ Turn your infographic into a poster and add messaging about how everyone at school can help cut down on single-use plastics.
- ✓ Place the poster in prominent spots at school where single-use plastics are used most often.
- ✓ Share the results of your plastic audit with school authorities and provide them with some ideas for reducing disposable plastics at school.

# CHOOSE (AT LEAST) ONE ADDITIONAL ACTIVITY FROM THE LIST BELOW:

## A.4 SCORECARDS.

LEVEL ● ● ①

As a group, create scorecards for the items commonly found in your local supermarkets. How environmentally friendly is the packaging? How easy is it to reuse or recycle? How easy is it to separate the recyclable parts from the rest? You can use a system of colours or numbers to create your scorecards.




For example, in the United Kingdom, a "traffic light" system of colours, indicates the nutritional value of food items.

## A.5 BIODEGRADABLE OR NOT?

LEVEL ● ② ①

Conduct an experiment to learn about the **biodegradability** of different objects. Collect several objects such as: plastic foam plate or takeout container, plastic shopping bag, cardboard, a leaf, aluminium foil, something labelled "biodegradable" or "compostable" and an apple core. Choose a spot in your home or school yard where you can dig small holes in the soil and leave the objects undisturbed for two weeks. When two weeks are up, carefully dig up your samples and examine them. Which items turned out to be the most biodegradable? Which were the least? Find detailed instructions for your experiment at: *www.sciencelearn.org.nz/resources/1549-biodegradability-experiment*.

**A.6 FRUIT FOR THE WIN.** Switching our snacking habits can help tackle the plastic waste problem, too. Many snacks come in plastic packaging that gets thrown away. Snacking on fruit instead of crisps or sweets is not only good for your health but better for the planet's health, too. Plan your fruit snack the night before each day for three weeks, so you're prepared ahead of time. Make it fun by trying new fruit or making a creative fruit salad and packing it in a reusable container. Compare notes with friends. Who was able to avoid a plastic-packaged snack for three weeks?

LEVEL 3 2 1

**A.7 HARMFUL BUT WHY?** PVC and Styrofoam are two of the most harmful plastics for human health and the environment. Yet, they are both used for commonplace items such as food packaging and children's toys. Do some research to discover how they can harm health and the environment, why they are still being used and what some of the best alternatives might be. Showcase your findings as a presentation, infographic or video.

LEVEL 3 2

**A.8 LOCAL INVESTIGATIONS.** Scout your neighbourhood/town/village/city with a new perspective. What is the plastic situation where you live? Is there a lot of plastic litter in the streets, parks, rivers, etc.? Are there conveniently-placed trash cans and recycling bins? Do people burn rubbish including plastic trash or are there good systems in place for sorting and disposing of different kinds of waste? Are there informal recycling systems, such as people collecting old newspapers or plastic bottles for a small payment? What is working well? How could things be improved?

LEVEL 3

**A.9.** Do any other activity approved by your teacher or leader.

LEVEL 1 2 3

# SECTION **B**

# ACTIVITIES:
## PLASTIC AND THE PLANET

**AFTER COMPLETING THE PLASTIC AND THE PLANET ACTIVITIES, YOU WILL:**

- **UNDERSTAND what makes plastic harmful to the environment**
- **EXPLAIN how plastic contributes to a range of environmental problems**

**1. Read Section B of the Background Information section Plastic and the planet for information on the environmental problems associated with single-use plastics.**

**2. Choose which compulsory activity you will do.**

**DO EITHER B.1, B.2 OR B.3, AND (AT LEAST) ONE OTHER ACTIVITY OF YOUR CHOICE.**

- **B.1 R U REDUCING AND REUSING?**
  suitable for younger participants
- **B.2 MISSION RECYCLING**
  suitable for all age groups
- **B.3 CLEANING UP**
  suitable for all age groups participants

# B.1 R U REDUCING AND REUSING?

Suitable for Level 1 discussion in large group followed by individual activity

Completion time (approx.): 2 weeks

## Activity guide

This activity involves learning how to reduce single-use plastics and reuse plastics as far as possible. The activity takes place over the course of two weeks.

**Key lessons:**

* Global citizenship by taking tangible steps to cut down on single-use plastics
* Creativity by finding ways to reuse plastic

## Discussion points

* As a group, go over Section B of the Background Information section **Plastic and the planet**. Discuss the causes and impacts of plastic pollution with the group.
* Explain that the main problem lies with single-use plastics, or things we use just one time and then throw away. These include plastic straws, takeout containers, food wrappers, water bottles and shopping bags. We use and toss far more single-use plastics than we need.
* Discuss why single-use plastics are creating a major environmental problem. Explain to the group that plastic litter is non-biodegradable – it does not break down or decompose naturally in the environment. It can take hundreds of years to decompose and, in the process, leaks toxins that damage our health, hurt wildlife and destroy entire ecosystems.

* Explain how reducing our use of single-use plastics and reusing plastic products as much as possible can make a big difference towards tackling the problem.
* Ask participants to share their ideas about how to do so.

## You will need

* A board to write down the group ideas
* Papers and pencils for everyone to write down what they will do over the next two weeks to reduce and reuse plastic

# B.1 R U REDUCING AND REUSING?

## Part I

Prepare a list of ways you can reduce and reuse plastic at home. This could include:

- ✓ Reusing a peanut butter or mayonnaise jar as a pen holder or vase
- ✓ Taking reusable bags to the grocery store
- ✓ Avoiding buying items that come in unnecessary plastic packaging
- ✓ Asking your parents to find stores where you can buy bulk items such as rice, lentils, laundry powder, etc. in your own refillable containers

Put as many of your ideas into action as possible over the next two weeks.

## Part II

At the end of the two weeks, create a report, drawing or poster about what you accomplished.

- ✓ Do you feel you made a difference towards reducing plastic pollution?
- ✓ Do you think you could keep taking these steps to reduce plastic pollution? Does it get easier as you make it a habit?
- ✓ Could you ask your parents to tell their friends and family to take these steps too? Would it help if you created an action plan for them with your ideas?

# B.2 MISSION RECYCLING

Suitable for Levels 2 and 3 – group discussion, followed by individual activity

Completion time (approx.): 2 weeks

## Activity guide

This activity involves learning about how to recycle different types of plastics. The activity takes place over the course of two weeks. It may take longer if you choose to complete the part involving a meeting with a local recycling authority.

### Key lessons:

* Learning about the different types of plastics and how to recycle them
* Global citizenship and leadership by meeting and learning from local authorities

## Discussion points

* As a group, go over Section B of the Background Information section Plastic and the Planet. Discuss the causes and impacts of plastic pollution with the group.
* Explain that the main problem lies with single-use plastics, or things we use just one time and then throw away. These include plastic straws, takeout containers, food wrappers, water bottles and shopping bags. We use and toss far more single-use plastics than we need.
* Discuss why single-use plastics are creating a major environmental problem. Explain to the group that plastic litter is non-biodegradable – it does not break down or decompose naturally in the environment. It can take hundreds of years to decompose and, in the process, leaks toxins that damage our health, hurt wildlife and destroy entire ecosystems.

* Explain how reducing our use of single-use plastics, and recycling and reusing plastic products as much as possible can make a big difference towards tackling the problem.
* Ask the group about recycling facilities where they live and whether they are careful about recycling.

## You will need

* Cardboard boxes and markers to create recycling bins for home and school
* Names and contact info for local recycling authorities
* A notebook to take notes

### Crack the codes!

In the **Background Information** section, on pages 36–39, you learned the recycling codes for different types of plastics. Start checking the codes when you need to buy a plastic product, so you'll know how easy or difficult it is to recycle. If it's made of a material that's hard to recycle, such as PVC or Styrofoam, consider buying a different product instead.

© Flickr/James Mann

# B.2 MISSION RECYCLING

For this activity, you will explore:

- ✓ How plastic recycling is conducted in the area where you live
- ✓ Which plastics are recyclable
- ✓ Which plastics are not recyclable
- ✓ What happens to a plastic after you put it in the recycling bin

As you know, all plastics are not equal. Some are more harmful than others to the environment. Some are more easily recycled than others.

Below is quick guide:

## Plastic bags, wraps, and films

While these items can be recycled, they cannot go in your household recycling bin. Many grocery stores accept these materials for recycling. Make sure to cut off the sealable zippers from freezer bags before recycling them.

## Plastic bottles and caps

These are typically recyclable.

## Styrofoam

It is usually not possible to place Styrofoam in curbside recycling.

## Plastic containers, cups, and cutlery

This depends on what kind of plastic they are made of and whether your local recycling service accepts them. Items that still have food remains cannot be recycled. Plastic utensils are not accepted in most recycling programmes.

## PVC

PVC products such as toys and packing materials are a health threat and very difficult to recycle.

## Cigarette butts

Did you know that cigarette butts are the most commonly polluted plastic? Smokers around the world buy roughly 6.5 trillion cigarettes each year. That's 18 billion every day! [*Source*: Cigarette butts are toxic plastic pollution. Should they be banned? (*www.nationalgeographic.com/environment/article/cigarettes-story-of-plastic*)] .Cigarette butts are made of cellulose acetate, a humanmade plastic material, and contain hundreds of toxic chemicals. Their plastic components can take up to ten years to completely degrade and the chemicals they release can stay in the environment long beyond that. (*Source*: *www.Earthday.org* -) Let alone being recycled, only about a third of cigarette butts make it into the trash – the rest are just tossed into streets, out of car windows, on the beach, or wherever. Cigarette butts are not usually recycled at the municipal level, but some companies do recycle them.

## Items marked as biodegradable

Items labelled as biodegradable often need to be recycled as part of the #7 recycling code products. According to National Geographic, "current biodegradable products can only decompose if they are sent to a special factory, where the temperature and humidity is specially controlled…"

## Part I

Set up an appointment with a representative at your local recycling programme. (For younger participants, this can be done as a group along with a teacher or leader). Interview them about plastic recycling in your area. Example questions could include:

- ✓ Which plastics does your programme accept?
- ✓ Which plastics do you not accept? What are the recycling codes for these plastics?
- ✓ What can we do with the plastics that your programme does not recycle? Is there another place we can take them?
- ✓ What can be done about cigarette butts? Are there any local programmes that recycle them?
- ✓ What happens to the plastics you collect?

## Part II

Based on the information you've collected, create a few bins out of cardboard boxes for your home and classroom at school. Use the bins to separate different types of plastic:

**Plastics that the local recycling programme accepts.**

**Plastics your local recycling program does not accept.** Can you take these to a different recycling programme? Can you find another use for them in your home, or could you donate them to a local thrift store or craft shop so they don't end up in a landfill? Could you avoid using these altogether and find a sustainable alternative instead?

**Plastics to take to local grocery stores.** Find out if your local grocery store collects grocery bags and plastic wraps.

# B.3 CLEANING UP

Suitable for all age groups 1 2 3 – group discussion, followed by large group activity

Completion time (approx.): 1 month

## Activity guide

This activity involves selecting an area with a litter problem (e.g. a local park, river bank or field) and teaming up to keep it clean for one month.

### Key lessons:

* Global citizenship and leadership by taking tangible steps to reduce plastic pollution
* Global citizenship and leadership by communicating with local authorities and/or media about plastic pollution

## Discussion points

* As a group, go over Section B of the Background Information section **Plastic and the Planet**. Discuss the various environmental impacts of plastic pollution.
* Ask the group about plastic pollution in their neighbourhood or community. Do their friends and families use a lot of single-use plastics? Are people careful about recycling and not littering?
* As a group, decide on a local spot that you would like to collectively clean up and maintain for one month.

## You will need

* Protective gloves, large **biodegradable** bags to collect trash in and a camera or notebook
* Contact information of local politicians who work on pollution/ environment
* Contact information for local media that may be interested in featuring your clean-up

# B.3 CLEANING UP

## Part I

Identify a location near you that has a plastic/litter problem. It could be a local park, beach, neighbourhood or field. As a group, commit to keeping this area clean for at least one month. Invite friends and family to join you. To amplify your movement, involve a local politician and the media, if possible, to help raise awareness of your efforts and showcase its success. Take photos or make notes to keep track of all that you find. How much of what you found could have been recycled instead?

## Part II

At the end of the month, compile your findings and send them to your local municipality with your suggestions for how to reduce litter. For example:

- ✓ Does your town/city/neighbourhood need more trash and recycling bins?
- ✓ Would it help to have signs specifying which items can be recycled and why it matters?
- ✓ Should there be more signs reminding people not to litter?

* Please exercise safety and wear protective gloves when doing this project or use waste pickers if possible.

**Younger participants may need adult supervision for this activity, to avoid picking up hazardous objects

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YUNGA Japan at a World Cleanup Day event, 2020

# CHOOSE (AT LEAST) ONE ADDITIONAL ACTIVITY FROM THE LIST BELOW:

## B.4 SCORE SOME GOALS.

LEVEL ● ● 1

Make a large poster of the 17 SDGs for your classroom, leaving space to add more information. Then play a game as a group to think of ways the different SDGs might be affected by plastic pollution. Do you think plastic pollution could be connected to poverty? Health? Gender equality? Discuss your ideas as a group and work with your teacher and leader to better understand the connections between plastic pollution and the SDGs. Add your findings to your poster and place it in a prominent space at your school.

LEVEL 3 2 ●

Possible addition for older participants: Investigate the links between plastic pollution and the SDGs in your communities. Is burning plastic a common practice? Do you live by a coast where the impacts of marine plastic pollution are obvious? Are your streets full of plastic litter? Take pictures and add them to your posters.

## B.5 MAKING MOVES WITH MOVIES.

LEVEL ● 2 1

Here's a fun way to learn more about the plastics problem: watch a movie! Here are a couple worth checking out:

**Plastic Pollution: How Humans are Turning the World into Plastic** – an excellent film by Clean Seas that has been seen by 8 million people
*www.youtube.com/watch?v=RS7IzU2VJIQ*

**Is this the ocean of the future?** – a short but moving look at how plastic is affecting our oceans
*www.youtube.com/watch?v=xKzqLdkuj6I*

Watch one of them and then share the link with friends. Even better, organize a screening with at least five people. Discuss the movie after watching: is anyone inspired to cut down on single-use plastics? Can you make a joint agreement to cut out one or two single-use items completely? You can also share the link to the movie you watch on social media, along with your thoughts on the movie. Encourage your friends and connections to watch the movie too and share their opinions in the comments to your post. Consider making a public commitment on social media as well.

**B.6 MICROPLASTIC INVESTIGATION.** LEVEL 3 2 1 Which everyday items contain **microplastics**? A few examples include tennis balls, tea bags, wet wipes, glitter, face wash, and laundry and dishwasher tablets. Conduct an inventory at home to discover which items around your house contain microplastics. Look out for words like "polypropylene" and "polyethylene" on their ingredient labels, which indicate the presence of plastic microbeads. Visit *beatthemicrobead.org* for a comprehensive guide on what to avoid and for a useful product check. Create a photo collage of all the products you find and then compare notes as a group. What steps can you take to move away from using these products?

## B.7 SURVEY YOUR SURROUNDINGS.

LEVEL 3 2

Conduct a survey of at least 100 people in your neighbourhood/area. Find tips on how to conduct a survey at: *www.mathsisfun.com/data/survey-conducting.html*. Include questions such as:

Do you recycle plastic waste?
If not, why not?

- Don't know how
- Don't believe stuff really gets recycled
- Can't be bothered

What would help you start recycling plastic waste?

- More information on what can be recycled and how to do it
- Easier recycling facilities
- Other (explain)

Compile and analyse your findings. How many of the people surveyed recycle? What would help them do so? Contact your local municipal authorities with your survey results and your suggestions on how to ensure that more people start recycling plastic waste.

## B.8 LOCAL POLLUTION.

LEVEL 3 2

What impact is plastic pollution having where you live? Do you live near a beach or river? Is marine pollution a major issue? Conduct some research to learn about your local ecosystems, the impact of plastic pollution, and any endangered species that may live in your area. Create a short documentary of your findings.

## B.9

Do any other activity approved by your teacher or leader.

LEVEL 1 2 3

# SECTION C
# ACTIVITIES:
## TAKE ACTION

**AFTER COMPLETING THE TAKE ACTION ACTIVITIES, YOU WILL:**

- **TAKE tangible steps to reduce single-use plastics in your daily life and in your wider community**
- **RAISE awareness on the dangers of plastic pollution**

**1. Read Section C of the Background Information section Take Action for ideas on individual and civic actions everyone can take to tackle plastic pollution.**

**2. Choose which compulsory activity you will do.**

**DO EITHER C.1, C.2 OR C.3, AND (AT LEAST) ONE OTHER ACTIVITY OF YOUR CHOICE.**

- **C.1 Biggest loser**
  suitable for all age groups
- **C.2 Powers of persuasion**
  suitable for older participants
- **C.3 Country crackdown**
  suitable for older participants

# C.1 BIGGEST LOSER

Suitable for all age groups 1 2 3 – group discussion, followed by group activity

Completion time (approx.): 1 week

## Activity guide

This activity takes place over the course of one week. The activity will provide participants with a tangible idea of how much disposable plastic they use, and will also create a healthy competition among classes/groups. Finally, the activity encourages behaviour change by incentivizing participants to cut down on single-use plastics.

**Key lessons:**

* Self-awareness and raising awareness among peers about plastic waste
* Global citizenship by organizing a tangible activity to reduce plastic waste
* Habit building to sustain the results achieved

## Discussion points

Review **Section C. Take action** of the Background Information section with the group.

* Ask participants if they can think of additional ideas for cutting out single-use plastics.
* Ask participants if they can think of simple alternatives to the most commonly used single-use plastics.

## You will need

* Two dedicated spaces in your school where you can deposit a week's worth of plastic waste
* A class reward for achieving the final challenge: reducing your plastic waste by 20 percent and sustaining this for at least 21 days

# C.1 BIGGEST LOSER

## Part I

**Collect**. Organize a "plastic face-off" between your class and another class at school. Everyone in both classes will save the plastic they use over the course of the week, from plastic shopping bags to water bottles to food packaging. Keep a tally sheet (you can use the template below) where everyone marks off each item they add to the pile. Have each class create a "mountain" of everything collected and, at the end of the week, do a comparison. Which class has more items in its mountain? What were the main items found in each?

| Plastic name | Quantity |
|---|---|
| Bags | |
| Straws | |
| Drink bottles | |
| Sandwich/Ziploc® bag | |
| Plastic wrap | |
| Food container | |
| Drink cup | |
| Utensil | |
| Coffee cup lid | |
| Food/condiment wrappers | |
| Other | |

## Part II

**Discuss**. Follow up with a discussion. Did the activity make everyone realize how much plastic they use? Was everyone surprised by the final amount of plastic that piled up?

## Part III

**Start losing**. Now organize a second show-down to see which class can "lose" more plastic from their daily lives and produce a smaller mountain at the end of the week. Use a tally sheet again to quantify the final amount and the differences from the first round. By what percentage did your class reduce its plastic?

## Part IV

**Keep losing**. Challenge yourselves as a class to lower the amount of plastic you throw away by 20 percent and to maintain this for 21 days. Decide on a class reward if you are able to achieve this goal. Design a plan for different types of plastic:

- ✓ Reduce

  _____

- ✓ Replace

  _____

- ✓ Recycle

  _____

- ✓ Collect and clean

  _____

# C.2 POWERS OF PERSUASION

Suitable for Levels 2 and 3
Level 1 participants can create posters and place them in prominent locations, but can forego the online activities.

Completion time (approx.): 1 week

## Activity guide

This activity takes place over the course of one week. The activity will encourage civic action from participants, to draw attention to the issue of plastic pollution.

**Key lessons:**

* Creativity to design impactful posters
* Global citizenship by raising awareness and influencing to reduce plastic waste
* Leadership

## Discussion points

Review **Section C. Take action** of the Background Information section with the group.

* Ask participants for their ideas on how to effectively influence people to reduce single-use plastics. What kinds of messaging do they think would work?
* Ask participants why people might know about the problems with single-use plastics but still continue to use them. Do they know people like that? Have they done that themselves? What might make people change their habits?

## You will need

* Materials to create posters, sample reusable goods to showcase and web skills* to:
  - Create a sign-up page for people to receive updates (you can also do this manually with a sign-up sheet)
  - Email those who sign-up with updates on your campaign and suggestions for a plastic-free life
  - Manage a social media campaign

* Younger participants may skip the steps involving web and social media activity.

# C.2 POWERS OF PERSUASION

## Part I

As a group, identify a shopping area nearby where single-use plastics are commonly used. This could include stores offering plastic bags and food courts/restaurants offering plastic straws, plastic takeaway containers and plastic food packaging. Do you notice a lot of shoppers with plastic drink bottles? Are the trash cans overflowing with plastic waste? Great! This is the ideal spot for your campaign.

**Step 1.** Get permission from the mall management or relevant authorities to place posters around the shopping area explaining plastic pollution.

**Step 2.** Create posters to raise awareness of plastic pollution. Read the Campaigns That Work report for ideas on how to create the greatest impact. In short, make sure your posters:

**1. Inform.** People need accessible, relevant and timely information about the plastic products and packaging they are buying.

**2. Motivate.** Beyond simply being aware of the problem, individuals need to feel that the plastic waste problem is relevant to them, understand what they can do about it, and be prepared to choose differently in their use of plastics.

**3. Specify.** People cannot shift to **sustainable consumption** of plastic unless they have clear alternatives.

(Adapted from: Campaigns That Work)

**Funny is powerful.** Studies show that campaigns are more effective when they tap into people's positive emotions, rather than using fear as a motivator. Humour can be a great tool. Think about it: don't you remember things more easily when they make you laugh rather than yawn? But be careful to avoid trivializing the issue. Inspiring joy or a sense of accomplishment can also be effective.

Here is a great example from the EU's #BeReadytoChange campaign: *www.youtube.com/watch?v=3aiDlHhYrmg*


**Scan the QR code to see more examples!**

*Source:* Campaigns That Work

As a starting point, your posters could:

- ✓ Use drawings and infographics to provide facts and figures about the dangers of plastic pollution. Use the Background Information section for some initial facts. Try to find specific information about your country or region.
- ✓ Cite examples (*www.unep.org/news-and-stories/story/what-are-businesses-doing-turn-plastic-tap*) of companies and countries that have cut or banned single-use plastics or only use recyclable plastics – it is possible and it is happening!

- ✓ Suggest specific alternatives, for example.:
  - Suggest customers bring their own reusable takeout containers, tote bags, and drink bottles. Find out where these items are being produced sustainably and direct people to purchase them from these outlets.
  - Suggest that people refuse plastic straws.
  - Remind consumers to be careful about how they dispose of their trash and that they place all recyclables in the correct bins.
- ✓ Explain how people can recycle items such as plastic bags and cigarette butts that are not collected by municipal recycling.
- ✓ Demonstrate, if this is the case, that plastic pollution is hurting tourism in your region and therefore hurting the local economy.

Go a step further: could your school set up a stall selling or providing reusable containers and tote bags at this location?

## Part II

### Build and maintain momentum

- ✓ Launch a hashtag and invite people to join an online community of plastic warriors.
- ✓ Invite people to share photos/videos of their efforts to reduce plastic waste.
- ✓ Add a QR code to your posters that takes people to a webpage where they can sign up for updates.
- ✓ Check out successful campaigns for more ideas.
- ✓ Monitor how many people sign up for updates and how your online community is growing. As people join, set further challenges and incentives to help them sustain these changes. You could run a two-week challenge, or 21-day challenge and the winners could be featured with interviews and receive prizes. The prize could be a trendy tote bag or reusable water bottle.

# C.3 COUNTRY CRACKDOWN

Suitable for Level 3
Group discussion, followed by individual research and reporting

Completion time (approx.): 1 day

## Activity guide

This activity involves participants researching the plastic pollution situation in their countries.

**Key lessons:**

* Research and presentation skills
* Understanding of how their country is handling plastic pollution
* Global citizenship by sharing findings with relevant stakeholders

## Discussion points

Guide participants on what they will need to conduct this research.

* Point them to websites such as:
  - https://ourworldindata.org/plastic-pollution
  - https://datacatalog.worldbank.org/search/dataset/0039597
  - websites of local government and environmental agencies/NGOs

Remind participants to only use reliable primary sources for their research.

* Encourage participants to think of additional research methods:
  - Conducting interviews at the local or national level, with relevant government agencies, environmental agencies/NGOs, activists and the general public
  - Documenting litter, recycling practices, abundance of plastic packaging, etc. through photos and videos

## You will need

Internet access and a software program such as MS Excel, MS PowerPoint or MS Keynote to collate findings and create a presentation.


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# C.3 COUNTRY CRACKDOWN

## Part I

Conduct research to understand where your country stands on plastic pollution. When doing your research, consider the following questions:

- ✓ How much plastic waste is produced in your country each year?
- ✓ What are the main products creating the plastic waste?
- ✓ What happens to this waste?
- ✓ Is there widely available and prominent information on:
  - reducing single-use plastics
  - how to properly recycle plastic
  - how to dispose of plastic that cannot be recycled
- ✓ Are there adequate and easy-to-access recycling services and facilities?
- ✓ Has your government taken steps to ban or cut down on single-use plastics?
- ✓ What are people's overall attitudes towards plastic pollution and environmental protection in general? What role do attitudes play in the magnitude of the problem?
- ✓ Can you think of any policies that could be effective specifically in your country, bearing in mind people's traditions, habits and preferences?

## Part II

- ✓ Collate your findings in the form of a presentation, factsheet or infographic
- ✓ Think about how you would create a locally relevant action to address plastic pollution. Based on your findings, what factors should you consider in order to have the most impact?
- ✓ Share your findings through catchy tiles on Twitter, Facebook or TikTok.
- ✓ Tag relevant individuals and agencies
- ✓ Include a call to action with your recommendations on how to reduce plastic pollution in your country. LEVEL 3

# CHOOSE (AT LEAST) ONE ADDITIONAL ACTIVITY FROM THE LIST BELOW:

**C.4 GET CRAFTY.** Organize a "Plastic Reuse" craft fair in your school to create new products out of plastic items instead of throwing them away. See the photos below for inspiration.

LEVEL 1

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© Vecteezy/Banphote Kamolsanei

© Freeimages/Jupiterimages

**C.5 MAKE IT EASY.** LEVEL 2 1 Think about how your household uses single-use plastics. Are there ways to make it easier to use sustainable products instead? Some ideas include: placing reusable grocery bags by the door or in the car, so you and your family members remember to take them when you go grocery shopping; talking to your parents about buying reusable food containers for takeout food; and creating an action plan for the family with concrete steps for reducing plastic use.

**C.6 NO PLASTIC WEEK.** LEVEL 3 2 1 Let's turn it up a notch. Team up with a few friends and commit to a "no plastic week." This means going a whole week without using a single single-use plastic. Check out page 71 of Section C of the Background Information section for some ideas. If possible, create a WhatsApp group to share ideas and encouragement. After the week is over, discuss. How easy/difficult was it? Could you keep it going for another week? For longer?

**C.7 ADVOCATE.** LEVEL 3 2 Observe how your community deals with plastic. For example, could waste collection be improved? Should schools be doing more to raise awareness? Do local grocery stores accept plastic bags and wraps for recycling? Identify a local politician or environmental authority that has expressed concern over environmental issues. Write them a polite letter to call their attention to plastic waste in the community. Include specific suggestions based on your observations about how to reduce plastic waste in your area and ask for their support with specific action items, like placing more recycling bins around town, launching an awareness campaign or organizing a clean-up. If they respond, spread the word on social media, tagging them, if possible, and offer to partner with them to make change happen.

## C.8 SHOW THAT NO PLASTIC CAN BE FANTASTIC.

LEVEL 3

Organize an awareness-raising event in your community and let people know via social media and by placing flyers in popular locations. Use the event to:

- Raise awareness of plastic pollution
- Provide tangible ideas for how to reduce plastic waste
- If possible, provide freebies such as reusable grocery bags and water bottles
- If possible, invite a charismatic speaker (local celebrity?) to attend and speak at the event
- Raise a strong call to action by asking attendees to sign up to a commitment, such as a three-week challenge to cut down on single-use plastics by 20 percent. Create a hashtag for the commitment and build a buzz around it online.

## C.9

Do any other activity approved by your teacher or leader.

LEVEL 1 2 3

# CHECKLIST

*Keep track of the activities you are undertaking with this checklist. When you show that you have completed the activities, you will have earned the Plastics Challenge Badge!*

NAME OF PARTICIPANT: .....

AGE OF PARTICIPANT: 1 (5–10 years) 2 (11–15 years) 3 (16+ years)

| | Activity No. | Activity name | Date completed | Approved by (signature) |
|---|---|---|---|---|
| **A** Plastic: the world's greatest frenemy | | | | |
| **B** Plastic and the planet | | | | |
| **C** Take action | | | | |

# RESOURCES
## AND ADDITIONAL INFORMATION

### STAY **UPDATED**

This Challenge Badge is one of several complementary resources and activities developed by YUNGA and its partners. Please visit **Home | Yunga-UN | Food and Agriculture Organization of the United Nations** *(fao.org)* for additional resources or subscribe to the free newsletter to receive updates of new materials by sending an email to **yunga@fao.org**

### SEND US **YOUR NEWS**

We would love to hear about your experience of undertaking the Challenge Badge! Which aspects did you particularly enjoy? Did you come up with any new ideas for activities? Please send us your materials so we can make them available to others and gather ideas about how to improve our curricula.
Contact us at **yunga@fao.org**

### CERTIFICATES AND **BADGES**

Email **yunga@fao.org** for certificates and badges to reward course completion! Certificates are FREE and Challenge Badges can be purchased. Alternatively, groups can print their own badges; YUNGA is happy to provide the template and graphics files on request.

# WEBSITES

**Beat Plastic Pollution** is a partnership between UN Environment and others with an interactive website offering interesting info and facts on plastic pollution.
*www.unep.org/interactive/beat-plastic-pollution*

**Earth Day** has a toolkit of information and resources on plastic pollution.
*www.earthday.org/wp-content/uploads/Plastic-Pollution-Primer-and-Action-Toolkit.pdf*

**Ellen Macarthur Foundation** explores how we can change the way we design, use and reuse plastics.
*ellenmacarthurfoundation.org/topics/plastics/overview*

**Greenpeace** provides a wealth of resources on ending plastic pollution.
*www.greenpeace.org/usa/campaign-updates/a-million-acts-of-blue-toolkit*

**International Union for the Conservation of Nature (IUCN)** explores the issue of marine pollution with facts, figures and other useful information.
*www.iucn.org/resources/issues-briefs/marine-plastic-pollution*

Find useful information, games, videos and other resources on plastic pollution at National Geographic Kids **National Geographic Kids**.
*kids.nationalgeographic.com/nature/kids-vs-plastic/article/pollution-1*

The website of **Plastic Pollution Coalition** provides news, facts, resources to take action and other great tools.
*www.plasticpollutioncoalition.org*

The **Plastic Soup Foundation** website provides a comprehensive overview of the plastic problem and what we can do to help.
*www.plasticsoupfoundation.org/en*

The **Story of Stuff** inspires and encourages civic engagement towards living more sustainable lifestyles and reducing waste.
*www.storyofstuff.org*

The **UN Environment Programme** has produced a detailed publication called **Single-use plastics: A roadmap for sustainability**.
*www.unep.org/resources/report/single-use-plastics-roadmap-sustainability*

Find out what the **World Wild Fund for Nature** is doing to tackle the plastic pollution problem.
*www.worldwildlife.org/initiatives/plastics*

# Link and Reference to other Badges

Key partners in WOSM and WAGGGS in collaboration with YUNGA and UNEP have also developed specific versions of the Tide Turners Plastics Challenge Badge for both Scouts and Girl Guides and Girl Scouts.

If you are interested in finding out more about these specific versions, please use the links below:


**WAGGS**

*ChallengeBagdeTkt.pdf*
(**unep.org**)

**WOSM**

*Tide Turners Plastic Challenge Action Kit_EN.pdf*
(**scout.org**)

# GLOSSARY

**BIODEGRADABLE**: Objects or material that can be broken down in nature by bacteria or other living organisms and therefore avoid pollution.

**BIODIVERSITY**: The variety of all the different kinds of plant and animal life on Earth, and the relationship between them.

**BIOMASS**: Plant or animal material that can be used as fuel for electricity or heat.

**CIRCULAR ECONOMY**: A circular economy aims to reduce waste by changing the way we produce and consume products, so that we reuse things, repair and recycle them as much as possible.

**CLIMATE**: It refers to the long-term average, or overall picture, of the everyday weather experienced in a location. It is the big picture of temperatures, rainfall, wind and other conditions over a long period of time (30 years or more).

**CLIMATE CHANGE**: A change in the overall state of the Earth's **climate** (such as temperature and rainfall). It is caused by natural causes (e.g., **volcanic** eruptions, changes in ocean currents and changes in the activity of the sun) and by human causes (e.g., burning of **fossil fuels**).

**COMPOST**: Decayed organic material that is used as a natural plant **fertilizer**.

**ECOSYSTEM**: A community of living things (plants and animals) and non-living things (water, air, soil, rocks, etc.) interacting in a certain area. Ecosystems don't have a defined size: an ecosystem can be as small as a puddle or as big as an entire desert.

**FOSSIL FUELS**: Fuels such as petroleum and coal that are made from old plant and animal remains and take millions of years to form.

**FLOOD**: An overflowing of a large amount of water over what is normally dry land.

**MOLECULE**: The smallest unit of a substance that has all the properties of that substance. A molecule is made up of a single atom or a group of atoms that are held together by chemical bonds.

**MICROBEADS**: Manufactured solid plastic particles that are less than one millimetre in dimension and are typically used in personal care products, cosmetics and detergents.

**MICROPLASTICS**: Tiny plastic particles that are created when larger plastics break down.

**NON-BIODEGRADABLE**: Material or objects that cannot be broken down in nature by bacteria or other living organisms.

**PLASTIC**: A **synthetic** material made from a wide range of **polymers**.

**POLYMER**: A substance made up of two or more **molecules** joined together to form a chain.

**SINGLE-USE PLASTIC**: Plastic products that are used once, or for a short period, before getting thrown away.

**SUSTAINABLE/SUSTAINABILITY**: Using the natural environment to meet our (human) needs without damaging it so that it can no longer be productive (no longer supports plant, animal or human life). Making sure that our actions are sustainable means that future generations will be able to live well, too.

**SUSTAINABLE DEVELOPMENT GOALS (SDGS)**: A set of 17 goals that the international community has agreed upon to end poverty, protect the planet and ensure prosperity for all, to be achieved by 2030.

**SYNTHETIC**: Synthetic products are made from chemical or humanmade substances as opposed to natural materials.

# YOUR NOTES

**This badge was developed in collaboration with and is endorsed by:**

Food and Agriculture Organization of the United Nations

### Food and Agriculture Organization of the United Nations (FAO)

FAO leads international efforts to enhance global agricultural performance while promoting the sustainability of water use for food production. Serving both developed and developing countries, FAO acts as a neutral forum where all nations meet as equals to negotiate agreements and debate policy. FAO is also a source of knowledge and information, helping countries to modernize and improve agricultural policies in relation to land and water management.

**www.fao.org**

WORLD ASSOCIATION OF GIRL GUIDES AND GIRL SCOUTS

### The World Association of Girl Guides and Girl Scouts (WAGGGS)

The World Association of Girl Scouts and Girl Guides (WAGGGS) represents 10 million girls from 150 countries, making the world's largest voluntary movement dedicated to girls and young women. For more than 100 years, WAGGGS has provided safe spaces for girls to learn by doing, at their own pace and in places local to them.

**www.wagggs.org**

SCOUTS

### The World Organization of the Scout Movement (WOSM)

The World Organization of the Scout Movement (WOSM) is an independent, worldwide, non-profit and non-partisan organization that serves the Scout Movement. Its purpose is to promote unity and the understanding of Scouting's purpose and principles while facilitating its expansion and development.

**www.scout.org**


WE ARE MANY. WE ARE YUNGA!

THE YOUTH AND UNITED NATIONS GLOBAL ALLIANCE (YUNGA) IS A PARTNERSHIP BETWEEN UNITED NATIONS AGENCIES, CIVIL SOCIETY ORGANIZATIONS AND OTHER ENTITIES TO DEVELOP INITIATIVES, RESOURCES AND OPPORTUNITIES FOR CHILDREN AND YOUNG PEOPLE TO LEARN, GET INVOLVED AND MAKE A DIFFERENCE.

YUNGA ACTS AS A GATEWAY TO ALLOW CHILDREN AND YOUTH TO BE AWARE AND INVOLVED IN THE ACTIVITIES AND INITIATIVES OF THE UNITED NATIONS. UNITED NATIONS CHALLENGE BADGES ARE BEING DEVELOPED BY UN AGENCIES AND OTHER ORGANIZATIONS INVOLVED IN YUNGA.

YUNGA ALWAYS PRINTS ON ECOLOGICAL PAPER FSC (FOREST STEWARDSHIP COUNCIL) CERTIFIED PAPER

The purpose of the badges is to raise awareness, educate and motivate young people to change their behaviour and be active agents of change in their local communities. Additional badges are available or are being developed on a number of other topics including: Agriculture, Biodiversity, Climate Change, Disaster Risk Reduction, Energy, Forests, Gender, Hunger, Nutrition, the Ocean, Pollinators, Soils and Water.

The **PLASTICS CHALLENGE BADGE** is designed to help educate children and young people about the dangers of plastic pollution for people and the planet and how to address the problem. This material is appropriate for use in school classes, Guide or Scout groups or youth meetings generally. It includes a wide range of activities and ideas to stimulate learning about reducing plastic pollution.

## FOR MORE INFORMATION ON THIS AND OTHER MATERIALS CONTACT:


**YOUTH AND UNITED NATIONS GLOBAL ALLIANCE (YUNGA)**

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