PLASTIC PLANET

AGES 7-11

Curriculum resource pack for plastic pollution

WWT is one of the UK's leading providers of outdoor learning. We welcome over 50,000 learners per year to our Wetland Centres where we provide unique opportunities for learners of all ages and abilities to interact with wetland wildlife from the UK and across the world.

We are open all year round with sessions for every season. Whether you're looking for curriculum-linked learning or simply a fun day out, there really is something for everyone. To find out more about our school visits programme please visit **learningzone.wwt.org.uk.**

Why wetlands?

WWT works across the UK to save, restore and build wetlands for wildlife and people. Wetlands are one of the most important habitats on earth – storing huge amounts of CO_2, providing a natural way of stopping flooding and serving as a home for huge numbers of different creatures. Spending time in wetlands is also proven to improve mental health and wellbeing!

Using this resource pack

This resource pack contains activities designed to cover key curriculum content as well as outdoor activities designed to promote nature connection and a love of the natural world. This is accompanied by supporting resources that can be printed or used on screen with your pupils. At the end of the pack you will find a short quiz that can be used to reinforce and assess pupils' learning.

CURRICULUM LINKS

England

KS2: Science

- Recognise that environments can change and that this can sometimes pose dangers to living things

Northern Ireland

KS2: The world around us

- The effect of people on the natural and built environment over time
- The effects of positive and negative changes globally and how we contribute to some of these changes

Scotland

Second: Sciences

- I can analyse how lifestyles can impact on the environment and Earth's resources and can make suggestions about how to live in a more sustainable way
- I can report and comment on current scientific news items to develop my knowledge and understanding of topical science

Curriculum continued... 2

Wales

KS2: Science and Technology

- I can recognise that what I do, and the things I use, can have an impact on my environment and on living things

KS2: Humanities

- I can describe how people and the natural world may impact on each other
- I am beginning to appreciate and care for living things and my own environment
- I can take care of resources and not waste them, and I am conscious of the importance of creating a sustainable future
- I can describe and give simple explanations about the impact of human actions on the natural world in the past and present
- I can understand that there are a range of factors that influence people's behaviour, actions and decisions
- I can understand the consequences of my actions and the actions of others, and how these affect local, national and global issues

INDOOR ACTIVITIES

YOU WILL NEED:

Plastic Pollution Visual (one set per group)

Plastic Audit Sheet (optional homework activity: one per pupil)

Timeline Cards (one set per group)

(For all accompanying resources see the end of this pack)

Other relevant resources

Activities:

- Make a t-shirt shopping bag
- Make a plastic bottle bird feeder

School visits:

- We have a range of sessions focusing on plastic pollution. Visit our Learning Zone to find out more **learningzone.wwt.org.uk.**

NOTE: **Where you see a Q this indicates a question to ask your pupils.**

Activity 1: The causes of plastic pollution

- Hand out a 'Plastic Pollution Visual' to each group or display on your board.
- Look at picture one on the Plastic Pollution Visual.

Q **What do you notice that is worrying or unusual about this swan's nest?**

- The nest contains lots of plastic. Plastic is increasingly making its way into our wetlands and oceans.

Q **How do you think it gets there?**

- Some of the plastic in our wetlands is dropped on the floor as litter and blows into wetlands nearby.
- Other bits are flushed down the toilet and make their way to sewage works where the water is cleaned. When we have particularly heavy rainfall, some of the water at the sewage works is put back into a river or the sea without being fully cleaned. This water contains things like cotton buds and wet wipes.

Q **Which plastic items do you have in your house?**

- Split the class into small groups.
- Ask each group to make a list of plastic items commonly found in the home.
- Get each group to feed back and use their responses to make a class list.
- Categorise the items on you class list into singe and multiple use items.

Q **Which of these do you think will cause most harm to the environment; those that are single use or those that are used lots of times before being thrown away? Why?**

- Single use plastics provide the biggest problem. Because they are only used once before being thrown away, lots more of them are produced. It also takes a lot of energy to make them and this is a waste of energy for something that is only going to be used once.
- You could set the Plastic Audit Sheet as homework and get pupils to report back which plastic items they had in their homes.

Activity 2: The effects of plastic pollution

- Look together at pictures 2 - 5 on the Plastic Pollution Visual.

Q **What problems do you think all of this plastic might cause for wildlife?**

- Plastic pollution causes two main problems for wildlife:

1. Creatures getting tangled up and stuck in plastic items.
2. Animals eating the plastic. Larger pieces of plastic may get stuck in their throats. Plastics also break down into small pieces called microplastics. These can be swallowed by animals and build up in their bodies.

- Greenpeace carried out a survey of 13 UK rivers in 2019. They found microplastics in every one.

Activity 3: A long-lasting problem

- Another problem with plastic is that it takes a long time to break down (or degrade).
- Give each group a set of Timeline Cards.
- Challenge each group to match each object card with the length of time they think it takes for that object to break down.
- Go over the correct answer (see below) together as a class.

Activity 3: Answers

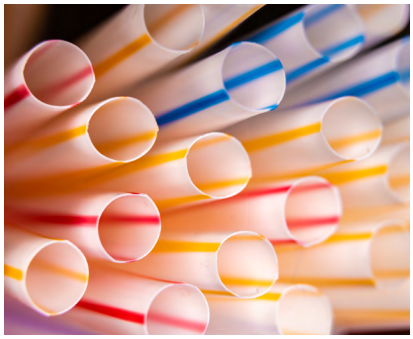
1 month

6 weeks

2 months

20 years

200 years



450 years

- This is why there is more and more plastic in the environment; we are adding it into the environment much more quickly than it can be broken down.

Activity 4: What we can do to help

- Look back at the list of plastic items you made earlier.
- Use these to get the class to start thinking about the following question:

Q **What could you and your family do to help?**

- Get each group to produce a list of things they could do to help.
- Get each group to report back and create a class list.
- This might include:
  - Using a refillable bottle instead of single use bottles
  - Using reusable bags in place of plastic bags
  - Using paper or metal straws in place of plastic ones
  - Using cotton buds with bamboo or cardboard stems
  - Using a re-usable coffee cup
  - Using plastic free wrapping paper
  - Using a bamboo toothbrush
  - Using reusable beeswax wraps in place of cling film
  - Use a bar of soap instead of liquid soap
  - Buying wooden toys instead of plastic ones
  - Buying loose fruit and veg and use a string bag
  - Buying milk in glass bottles
  - Buying bread in a paper bag
  - Buy toilet paper wrapped in paper
- You could set a homework task where pupils take home the class list and discuss with their families which they might realistically be able to do. They could then create a poster reminding them of the things they will do.

OUTDOOR ACTIVITIES

Activity 5: Litter pick

- Carry out a class litter pick. Use litter pickers if you have them. If not, make sure that you use gloves (preferably reusable) to avoid touching any potentially hazardous materials. Make sure children are supervised at all times.
- If your school is near a beach, you might want to carry out a nurdle hunt. Nurdles are small plastic pellets used to make nearly all plastic goods. They are often spilt into our rivers and oceans. See https://www.nurdlehunt.org.uk/ to find out how you can get involved. The same guidance as above applies to this activity.

Q **How did you feel doing your litter pick or nurdle hunt?**
Did it feel good knowing that you were helping nature? Imagine you're one of the animals that might have been harmed by some of the items you picked up. How would you feel knowing that people are doing something to help?

- Pupils could make sculptures for your outdoor areas from used plastic items.
- Why not put old plastic bottles to good use and make plastic bottle bird feeders. See our plastic bottle bird feeder 'make it' activity.

WWT
For wetlands. For life.

@WWTWorldwide
Have fun and do share your score to our social media accounts
We'd love to find out how you got on!

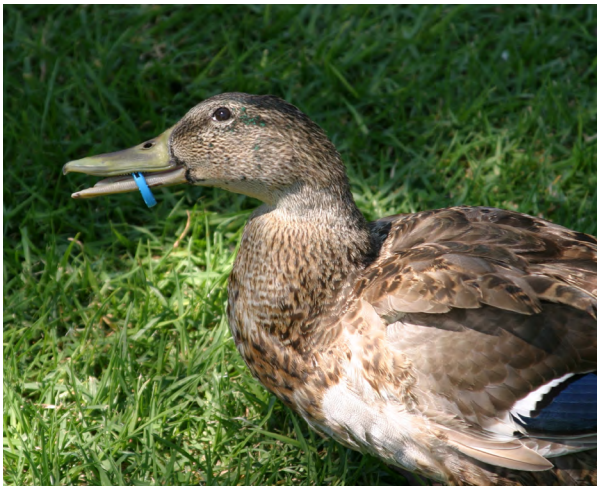
PLASTIC POLLUTION VISUAL

Picture 1

Picture 2

Picture 3

Picture 4



Picture 5

PLASTIC AUDIT

Q How many plastic items can you find in your house?

Plastic items in our house

Q Which are single use and which are used more than once before being thrown away?

Single use	Multiple use

TIMELINE CARDS

Cut Cut

450 YEARS

Cut Cut

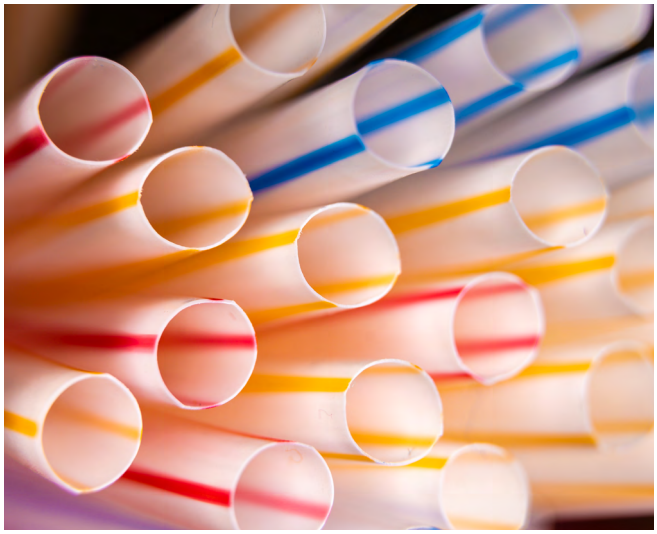
200 YEARS

Cut Cut

2 MONTHS

Cut

20 YEARS



6 WEEKS

1 MONTH

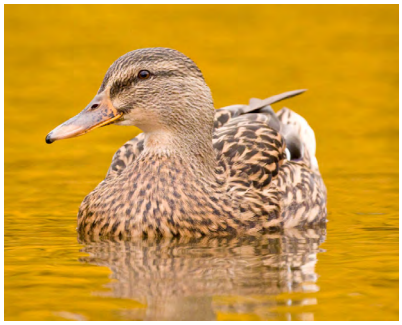
QUIZ: PLASTIC PLANET

Round 1: Picture round

Q These animals are all affected by plastic pollution. Can you name them?

1 .....

2 .....



3 .....

4 .....

5 .....

CLUE: In one of these pictures the female is shown and you more often see a picture of the male.

Round 2: The causes and effects of plastic pollution

6 What is the name often given to small pieces of plastic?

.....

7 Which is usually worse for the environment, single use plastic items or those that are used more than once?

.....

8 What is it called when pollutants build up in a food chain?

.....

9 What are the two main ways that plastic can harm wildlife?

.....

.....

Round 3: How long to degrade?

Q Can you match each **Item** with **How long** it takes to break down or degrade?

Draw lines to match them up. (All timings are approximate).

10	**Plastic bag**	**1 month**
11	**Newspaper**	**200 years**
12	**Plastic bottle**	**20 years**
13	**Apple core**	**6 weeks**
14	**Plastic straw**	**450 years**

Round 4: Reducing plastic pollution

Q **What could you do differently when carrying out each of the tasks below to help reduce plastic pollution?**

Allow one point for either answer in each case.

15 Buying fruit and veg

16 Buying toys

17 Buying milk

18 Wrapping up your sandwiches

19 Carrying your shopping

WWT
For wetlands. For life.

@WWTWorldwide

Have fun and do share your score to our social media accounts

We'd love to find out how you got on!

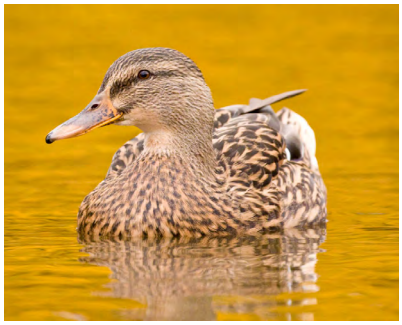
ANSWERS: PLASTIC PLANET

Round 1: Picture round

Q These animals are all affected by plastic pollution. Can you name them?

1 Caddisfly larvae

2 Mute swan



3 Mallard (female)

4 Eel

5 Kingfisher

CLUE: In one of these pictures the female is shown and you more often see a picture of the male.

Round 2: The causes and effects of plastic pollution

6 What is the name often given to small pieces of plastic?

Microplastics

7 Which is usually worse for the environment, single use plastic items or those that are used more than once?

Single use

8 What is it called when pollutants build up in a food chain?

Bioaccumulation

9 What are the two main ways that plastic can harm wildlife?

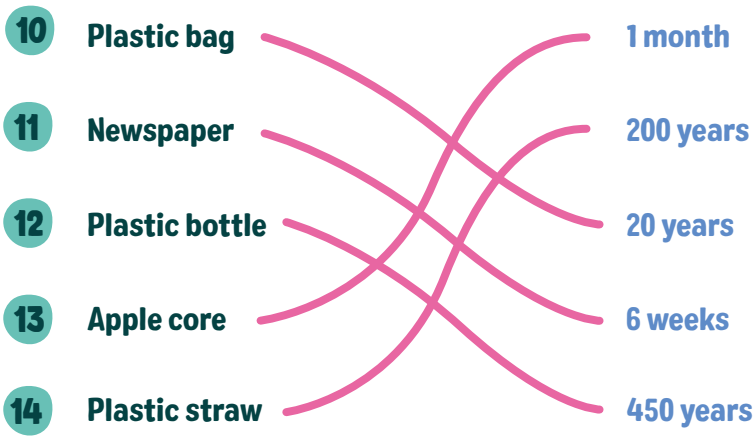
Getting tangled up

Being eaten

Round 3: How long to degrade?

Q Can you match each **Item** with **How long** it takes to break down or degrade?

Draw lines to match them up. (All timings are approximate).



Round 4: Reducing plastic pollution

Q What could you do differently when carrying out each of the tasks below to help reduce plastic pollution?

Allow one point for either answer in each case.

15 Buying fruit and veg

Choose loose items; use a reusable bag

16 Buying toys

Choose wooden (or other non-plastic) toys; buy second hand

17 Buying milk

Buy milk in glass bottles; return bottles for reuse

18 Wrapping up your sandwiches

Put them in a lunchbox; use a beeswax (or other non-plastic) wrap

19 Carrying your shopping

Use reusable bags; use non-plastic bags

WWT
For wetlands. For life.

@WWTWorldwide

Have fun and do share your score to our social media accounts

We'd love to find out how you got on!