British Glass

Glass Guardians

KS1 Lesson Notes

in partnership with Friends of Glass

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Introduction

Glass Guardians is a fun, exciting education project for 5-11-year olds, allowing them to explore the value of glass as a material, while encouraging them to see the importance of recycling glass for maintaining the world they live in. Your pupils will learn that glass is one of the most sustainable and eco-friendly materials and become Glass Guardians!

This is a Key Stage 1 resource. The Glass Guardians Key Stage 2 resource is available to download from the website here: https://nationalschoolspartnership.com/initiatives/glass-guardians/

Activity ideas

Assembly: Introducing Glass Guardians

Launch Glass Guardians using the **Glass Guardians PowerPoint presentation**.

Slide 1: **Hold up a glass jar** and tell pupils that when you've finished with it, instead of it going into the ordinary bin, it can be put somewhere else so that it can be made into something new – ask if they know what that is called? (Answer: recycling).

Slide 2: **Ask pupils to put their hands up if:**

- they have a recycling bin at home (**Slide 3**)
- someone comes to collect their recycling (**Slide 4**)
- someone at home takes the recycling to a recycling bank. Have they ever been too? (**Slide 5**)

Which materials can be recycled?

Slide 6 – ask pupils what sort of things they put into their recycling bins and explain that these should all be recyclable materials.

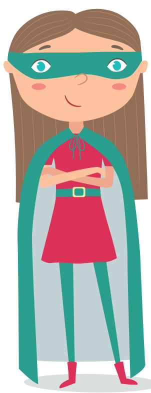
Slide 7 – explain that these materials are all recyclable and can therefore be used to make new things. Ask what these items are used for (answer: packaging).

Show **Slide 8** and discuss what would happen if these things weren't in packaging, what would happen to the milk, baked beans and eggs?!

Show **Slide 9** and discuss the reasons why we need packaging for our food and drink.

In this KS1 pack:

- Assembly: Introducing Glass Guardians
- Science activity
- PSHE/Citizenship activity
- English activity
- Maths activity
- Homework leaflet



What is packaging made from?

Using **Slide 10**, explain to pupils that packaging is made using natural resources:

- Cardboard is made from trees
- Plastic is made from oil
- Glass is made from sand, limestone and soda ash

Ask pupils which packaging causes the most harm to the environment? WHY?

How does making this packaging affect our planet?

Using **Slide 11** explain to the pupils that when we create materials from these natural resources it is damaging to our planet as:

- It produces CO2 which can cause climate change and make the earth hotter
- Natural resources can take a long time to be replaced and sometimes they can never be replaced

Slide 12 explains where rubbish that can't be recycled goes - into landfill sites which are expensive to maintain and can smell really bad! Explain that we still need packaging, but we are ruining our planet by creating new packaging. What can we do instead? (Answer: recycle!).

Slide 13 introduces the idea that people who can tackle the issues of pollution and increased global warming are like superheroes – GLASS GUARDIANS. Explain to pupils that if they complete four missions in lessons then they too can become a Glass Guardian.

Slide 14 introduces the challenge to create their own Glass Guardians Superhero.

Slide 15 asks children to recap on how we can recycle and explains the benefits of recycling:

- It uses less of our natural resources
- It's cheaper than landfill
- It's better for the environment

Become a Glass Guardian!

Slide 16 explains that glass can be repeatedly recycled. How is glass recycled? Using the video on **Slide 17**, show pupils how glass is recycled.

Create a Glass Guardian Superhero!

Slide 18 introduces the challenge. Pupils need to create their own Glass Guardian Superhero who will use their powers to save the planet by recycling even more!

First, they will take part in a series of missions then fill in their **Homework Leaflet**.

MISSION 1: The Power of People (PHSE/Citizenship)

Starter (optional): You could revisit **Slides 7-10** of the **Glass Guardians PowerPoint Presentation** and discuss the materials used for packaging. Alternatively, you could bring in and show different items of packaging and ask pupils what they are made from.

Slide 7 – discuss what the different items are made from and what they are all used for (answer: packaging).

Slide 8 – ask pupils why we need packaging for our food, drink and toiletries.

Slide 9 – explain that packaging keeps our food and drink clean, protected and easily transportable.

Slide 10 – shows the natural resources that these materials are made from.

Task 1: Using the **Glass Guardians Mission 1 Activity Sheet**. Ask pupils to draw a circle around the items that can be recycled.

Task 2: Go through **Slides 15, 16**

Slide 15 – ask children to recap on how we can recycle and explains the benefits of recycling:

- It uses less of our natural resources
- It's cheaper than landfill
- It's better for the environment.

Slide 16 – explains that glass can be repeatedly recycled.

Watch the video on **Slide 17**. Ask pupils to complete the questions on the activity sheet.

Answers:

1. Recycle means to make things from something that's already been made
2. Glass bottles and jars can be recycled
3. Mirrors, window panes, drinking glasses and oven dishes can't be recycled
4. Yes, glass can be recycled over and over again

Task 3: Ask pupils to create a name and logo for their Glass Guardian Superhero.

Stretch: Ask pupils to also create a slogan (a short and memorable phrase) to accompany their logo/ symbol from task 3.

Plenary: Ask pupils to share their ideas. Review the idea of being a good citizen, and how might mission 1 help them to become Glass Guardians that will help their community.

MISSION 2: The Power of the Natural world (Science)

Starter: Using the **Glass Guardians Mission 2 Activity Sheet**, ask pupils to look at the objects around the outside of the grid and decide which material they are made of (metal, glass, plastic or cardboard/paper). They then draw a line from each object to the correct material category in the grid.

Task 1: Ask pupils to describe the physical properties of each of the materials using the vocabulary provided, as well as adding some of their own.

Task 2: Explain to pupils that their Glass Guardians Superhero will have the power to recycle glass into whatever they want.

Ask them to draw a picture or write down what they will create from recycled glass. Will it be big or small? What will it be used for? Before starting, you could discuss the properties of glass and what it can and can't be used for successfully.

Stretch: Pupils write or draw an advert for glass, explaining why it is such an amazing material and the many different uses it can have.

Plenary: Ask pupils to share their Glass Guardian's super power and how they will use it.

MISSION 3: The Power of Numbers (Maths)

Starter: Ask pupils which units of measurement we use for weight (grams, kilograms and tonnes). Ask which of these we would use for weighing:

a) an elephant

b) sugar when making a cake

c) a human

Pupils can write their answers (or the initial letter of their answer) on their whiteboards and show them to you.

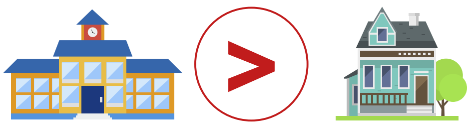
Task 1: Using the **Glass Guardians Mission 3 Activity Sheet**, ask pupils to interpret the pictogram which shows the amount of each material that was recycled in the UK in 2017[1] and to answer the questions.

Answers: Most recycled: paper and cardboard. Least recycled: plastic. (Please note: the figures have been rounded to the nearest per cent).

Task 2: Using the image ask students to use the more than and less than symbols to show how many glass jars have been collected from different locations.

Answers:

1.



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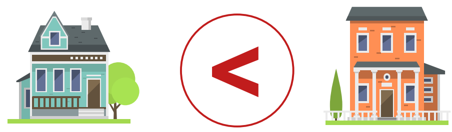

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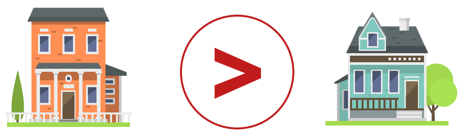

4.

Now complete the sentences correctly

The most glass jars were collected at the friend's house

The least glass jars were collected at home

Stretch: Ask pupils to discuss what values they think the pictogram in Task 1 represents. Do they think that each picture represents 10g, 100kg, 10, 0000 kg, 1 million tonnes of recyclable material? The answer is not important, it is the process of their discussions and the reasoning for their choices which are to be encouraged. This challenge task is to promote problem solving and communication as well as to provide some perspective on the amount of materials that are recycled.

Plenary: Ask pupils to think, pair and share ideas for why they think being confident with numbers and maths is an important skill for a Glass Guardian.

1. Defea 2017 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/784263/UK_Statistics_on_Waste_statistical_notice_March_2019_rev_FINAL.pdf

MISSION 4: Power of Words (English)

Starter: Ask pupils to list as many adjectives (describing words) as they can you that could be associated with GLASS.

Task 1: Ask pupils to imagine their Glass Guardian Superhero and complete the sentence starters to create a character description.

Task 2: Ask pupils to write a superhero story about their role as a Glass Guardian, using as many adjectives as they can. They can use their logo/ symbols from Mission 1 and their Glass Guardian's super power from Mission 2 in their stories.

Stretch: Encourage pupils to read out their stories. If time available pupils may wish to create plays or posters about their stories.

Plenary: Pupils swap stories with the person next to them. Using a highlighter or coloured pen, they underline amazing adjectives they have used within their written work.

Glass Guardians Homework Activity

Slide 14 of the **Glass Guardians PowerPoint Presentation.**

We're challenging pupils aged 5 to 11, across the UK, to create their own Glass Guardian Superhero who will use their powers to save the planet by recycling even more.

Just print off the **Glass Guardians Homework Leaflet** for more details on how they can enter.

Curriculum Links

ENGLAND

PSHE

L3. about things they can do to help look after their environment

English

Sequencing sentences to form short narratives

Writing down ideas and/or key words, including new vocabulary

Maths

Compare and order numbers from 0 up to 100; use <, > and = signs

Science

identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock describe the simple physical properties of a variety of everyday materials

identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses

SCOTLAND

Sciences

Through exploring properties and sources of materials, I can choose appropriate materials to solve practical challenges. SCN 1-15a

English/Literacy

I can convey information, describe events or processes, share my opinions or persuade my reader in different ways. LIT 1-28a / LIT 1-29a

Maths

I have explored numbers, understanding that they represent quantities, and I can use them to count, create sequences and describe order. MNU 0-02a

NORTHERN IRELAND

PDMU

Developing themselves as members of a community.

Language and Literacy

Express thoughts, feelings and opinions in imaginative and factual writing.

Mathematics and numeracy

Count, read, write and order whole numbers, initially to 10, progressing to at least 1,000.

The World Around Us

Positive change and how we have a responsibility to make an active contribution.

WALES

Knowledge and Understanding of the World

Experiment with different everyday materials and use their senses to sort them into groups according to simple properties.

Understand how some everyday materials change in shape when stretched, squashed, bent and twisted, and when heated or cooled.

Language, Literacy and Communication Skills

Write text which makes sense to another reader, which may include details and pictures.

Mathematical development

Compare and order numbers.