# **BIG QUESTIONS ANSWERED**

# TEACHERS' GEORGES' RESOURCES

Full of thought-provoking questions and fascinating extra information to accompany this book!

DISCOVER THE SCIENCE BEHIND

**BIG QUESTIONS ANSWERED** 

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# INTRODUCTION

# NOTES FOR TEACHERS, HOME EDUCATORS AND PARENTS

Inspire children's natural curiosity, improve literacy, and have fun learning about different sciences with The Big Questions Answered. Each book in the series is accompanied by a selection of fantastic, **FREE** downloadable resources.

Our **Teachers' and Parents' Resources** booklets are full of ideas for discussions, extra facts, and links to hands-on activities – all great ways to help children explore each field of science and the key topics surrounding them.

Our **Young Scientists' Activity Packs** are a real bonus. They're full of soft-learning, fun activities, all subtly linked to the field of science, that will encourage independent learning. Visit the 'Kids' Zone' to find out more.

Don't forget, on the website you can also download our **'Meet the Scientist' pages** – there's one to accompany each book – and sign up to our newsletter to follow what's coming up next for The Big Questions Answered. Download all these and more at: www.thebigquestionsanswered.com



# **KEY CURRICULUM TOPICS**

The resources related to '*Can Mushrooms Save the World*?' tie in with key curriculum topics, including:

- Animals, including humans
- Creative writing and literacy
- Living things and their habitats
- Working scientifically
- Materials and their properties
- Uses of everyday materials

#### The most relevant topics are indicated throughout this guide.

#### CAN MUSHROOMS SAVE THE WORLD?

This book explores the extraordinary world of mycology by diving into the many ways in which mushrooms are saving the world. As well as covering key scientific discoveries about the ways mushrooms save our lives and help humans thrive, the book also explores the weird and wonderful adaptations that make mushrooms so interesting for children!

#### WARNING:

Make it clear to children that they should **NOT** eat any mushrooms they find in the wild, as some can be poisonous and even fatal if ingested.

#### **PRE-READING QUESTIONS**

Engage in discussion about the general topic of mycology with the suggested questions below.



- Do you think mushrooms can save the world?
- Where would you usually find mushrooms growing?
  - Have you ever seen a giant mushroom?

#### WHEN MUSHROOMS RULED THE EARTH: SCENE 1

**The material for this scene can be linked to curriculum topics, including:** creative writing and literacy; living things and their habitats.

Discover the world of ancient fungi, where large mushrooms ruled the Earth! Engage in discussion about how different a world ruled by giant mushrooms is to the world we live in today.



#### **DISCUSSION PROMPTS**

- What is a mushroom? Information overleaf
- How big do you think these giant mushrooms could grow? Information overleaf
- How would you feel about living in a world surrounded by giant mushrooms? Give examples of emotions such as excited, scared, shocked, and so on.

#### ACTIVITY

Corresponding activity on page 3 of the activity pack: 'Diary Entry' is a creative writing activity that encourages children to describe how it would be to live alongside giant mushrooms, and describe it in a diary entry.

#### WHEN MUSHROOMS RULED THE EARTH: SCENE 1

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

#### MUSHROOMS

A mushroom is a **fungus** that releases **spores**.

They are usually found above the ground on soil or attached to trees.

A mushroom is a type of fungus but is also classed as a vegetable too.

#### FUNGI

A fungus is any type of **organism** that releases spores, often called hyphae.

This includes mushrooms, mould, yeast, and mildews.

When we are talking about more than one fungus, we call them "fungi". There are many types of fungi all over the world!

# **GIANT ANCIENT MUSHROOMS**

About 400 million years ago, giant mushrooms called **Prototaxites** covered our planet.

They could grow up to 8 metres (24 feet) tall and 1 metre (3 feet) wide. That's taller than a giraffe!

The scientists who study mushrooms are called mycologists.

They believe the reason these ancient mushrooms were so tall was because it made it easier to spread their spores over wider distances.



#### STUDYING MUSHROOMS TODAY: SCENE 2

The material for this scene can be linked to curriculum topics, including: living things and their habitats; working scientifically.

Explore the science of mushrooms and fungi and find out why research carried out by mycologists is so important. Engage in discussion about what a mycologist might study from day-to-day and the different mushrooms they encounter.



#### **DISCUSSION PROMPTS**

- What is a mycologist and what do they do? Information overleaf
  - Why is a mycologist's job so important? Information overleaf
- What is the coolest mushroom you can see in the mycologist's collection? Why did you choose this mushroom? Encourage children to point out the coolest mushroom and

explain why they find it interesting.

#### ACTIVITY

Corresponding activity on page 4 of the activity pack: 'Missing Mushrooms' is a fun activity that helps children uncover and digest the new mushroomrelated words they have learnt.

#### STUDYING MUSHROOMS TODAY: SCENE 2

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

#### **MYCOLOGISTS**

A mycologist is a type of scientist who works with fungi and mushrooms.

# WHAT DOES A MYCOLOGIST DO?

A mycologist is involved in the study of how mushrooms have **adapted** over time, how mushrooms and fungi interact with the **environment** surrounding them, and the positive impact they have on our natural world.

A mycologist will take part in **field research**, studying mushrooms in the wild and exploring new **habitats** in the hope of finding new **species** of mushrooms.

# WHY IS A MYCOLOGIST'S WORK SO IMPORTANT?

Because of the positive impact that mushrooms and fungi have on planet Earth, a mycologist's job is very important in making sure our world stays happy and healthy.

Without the important work carried out by mycologists, we may have never discovered how mushrooms and fungi are protecting the world and keeping it safe for future **generations** to live in.



#### **TREES AND FUNGI IN CONVERSATION: SCENE 3**

**The material for this scene can be linked to curriculum topics, including:** animals, including humans; living things and their habitats; working scientifically.

Explore the secret underground lives of fungi and how they talk to trees. Engage in discussion about how the roots of mushrooms make a great team with trees and help keep our natural world strong and healthy.



#### **DISCUSSION PROMPTS**

- Do you know what roots are? Information overleaf
- Do you know what nutrients are? Information overleaf

#### • What messages do you think a tree and a mushroom would share?

Encourage children to give examples of the information trees and mushrooms might send to keep each other safe, such as threats above ground like bad weather, destructive animals, and where the best nutrients can be found.

#### ACTIVITY

Corresponding activity on page 5 of the activity pack: 'Fungi Roots' is a fun crossword which encourages children to link descriptions to their mushroom-related meaning.

#### TREES AND FUNGI IN CONVERSATION: SCENE 3

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

# ROOTS

The **roots** are the part of a plant that grows down towards the centre of the Earth and holds the plant in place.

The roots store food for the plant and **absorbs minerals** and **water** from the soil.

The main root of a plant is called the **primary root** and the smaller roots attached to it are called **secondary roots**.

Mycologists study the roots closely to learn more about how trees and fungi interact.

#### NUTRIENTS

Nutrients are important substances that all living things need to survive and grow.

Plants get the nutrients they need from the soil, whereas animals get them from the food they eat.

# WHAT DO TREES AND FUNGI TALK ABOUT?

Fungi and trees use their special **electrical messages** to **communicate** through the roots of trees.

Through this connection, fungi can communicate about food nearby, if there is any **threat** or danger above the ground that might cause them any harm or even if a part of them, or nearby trees, are injured.

This clever way of communicating allows fungi and mushrooms to **adapt** to their changing **habitats**.



#### THE SPORES CYCLE: SCENE 4

The material for this scene can be linked to curriculum topics, including: animals, including humans; living things and their habitats.

Discover the unbelievable way that mushrooms populate the Earth! Engage in discussion about the impressive cycle of mushrooms releasing spores, how they spread through the air, and then land somewhere to become new mushrooms.



#### **DISCUSSION PROMPTS**

- What are spores? Information overleaf
- How do you think mushrooms spread and grow? Information overleaf
- Can you think of different ways in which spores could be carried from one place to another?

Encourage children to engage in discussion about the ways spores might travel, such as by strong winds, on the wings of birds, on planes, sticking to flying insects, and so on.

#### ACTIVITY

Corresponding activity on page 6 of the activity pack: 'Spreading Spores' is a fun way for children to digest the knowledge they have learnt by deciding if a selection of sentences about mushrooms are true or false.

# THE SPORES CYCLE: SCENE 4

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

#### **SPORES**

All mushrooms produce **spores**! Spores are tiny, dust-like **seeds** that are released from a mushroom into the air.

Spores shoot out from the **gills** of a mushroom and spread to become new mushrooms.

The more spores that are released, the more mushrooms that grow!

# THE JOURNEY OF A MUSHROOM

#### STEP ONE:

A mushroom begins its journey as spores are released from the gills of a mushroom into the air.

They may be hard to spot, but soon they will grow to become a new mushroom.

#### STEP TWO:

Spores begin their journey to become a new mushroom.

Either by travelling in the wind, or sticking to the bodies of birds, insects, and other animals, these spores can travel long distances, far away from the mushroom that they came from.

#### STEP THREE:

Eventually, spores will land on the ground somewhere new and begin to grow into new mushrooms.

Spores released from one mushroom could end up in completely different places!

#### LIVING IN THE DARK: SCENE 5

The material for this scene can be linked to curriculum topics, including: animals, including humans; living things and their habitats.

Delve into the mysterious world of mushrooms that glow in the dark! Engage in discussion about what these mushrooms might look like and where in the world they can be found.



#### **DISCUSSION PROMPTS**

• Have you ever seen a mushroom glow in the dark? Encourage children to engage in a fun discussion about if they have ever seen any unique glowing mushrooms.

• What colour do you think mushrooms would glow? Encourage children to engage in a fun discussion about how a glowing mushroom might look.

• Where might you find mushrooms that glow in the dark? Information overleaf

#### ACTIVITY

Corresponding activity on page 7 of the activity pack: 'Glowing Mushrooms' is a fun maze activity that encourages children to help a stranded person make their way home using the light of glowing mushrooms!

#### LIVING IN THE DARK: SCENE 5

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

# **GLOWING MUSHROOMS**

Most of the world's mushrooms that glow in the dark belong to a group of mushrooms called **Mycena**.

They are able to glow in the dark due to a **chemical reaction** that happens when a mushroom **reacts** with **oxygen**.

This is how fireflies glow too! Mushrooms will often use their glow to attract insects to them, which help them spread their **spores**. Mushrooms are very clever!

# WHERE CAN YOU FIND MUSHROOMS THAT GLOW IN THE DARK?

They can be found all over the world in dark, damp places, such as forests and woodlands, and come in different shapes and sizes.

Another word for mushrooms that can glow in the dark is **bioluminescent** mushrooms.

Mushrooms aren't the only living things that can do this. Examples of animals with bioluminescence include fireflies, glowworms, lanternfish, and certain species of jellyfish.

# WHAT COLOUR ARE MUSHROOMS THAT GLOW IN THE DARK?

Mushrooms that glow in the dark are typically green, creating a creepy glow across the woodland floor.

Because of this, bioluminescent mushrooms are often nicknamed ghost mushrooms.

The darker the **habitat** is, the brighter the mushrooms will glow!



#### **ZOMBIE ANTS: SCENE 6**

The material for this scene can be linked to curriculum topics, including: animals, including humans; living things and their habitats; plants.

Discover the creepy way that mushrooms interact with insects. Engage in discussion about how mushrooms and fungi can turn insects such as ants into zombies!



#### **DISCUSSION PROMPTS**

- What is a rainforest? Can you name any animals that live there? Information overleaf
  - Why might a mushroom transform an ant into a zombie? Information overleaf

• How would you feel if you saw a zombie ant? Give examples of emotions such as excited, scared, shocked, and so on.

#### ACTIVITY

Corresponding activity on page 8 of the activity pack: 'Cool Fungi Features' is a drawing activity that encourages children to get creative and draw their own mushroom-infested creatures!

# **ZOMBIE ANTS: SCENE 6**

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

# RAINFORESTS

A **rainforest** is a **rich**, towering forest that has heavy rainfall throughout the year and reaches high **temperatures**.

Many animals and plants live in rainforests and thrive in this **dense environment.** Some examples of animals that live in the rainforest include monkeys, elephants, frogs, jaguars, and tigers.

The Amazon Rainforest is the largest rainforest in the world. This amazing **habitat** holds 10% of all of Earth's **species** and produces a large amount of the world's **oxygen**.

# WHY DO MUSHROOMS TRANSFORM ANTS INTO ZOMBIES?

The specific type of fungus that turns ants into zombies is called **cordyceps**.

These fungi transform insects so that they can **effectively** spread as many **spores** as possible.

When cordyceps release their spores, they often attach themselves to ants as they wander along the forest floor.

These spores then take over the ant by growing mushroom **cells** inside its body.

This creepy **process** is what allows mushrooms and fungi to spread and thrive across nature.

It's not just ants that can become zombies - this type of fungus can transform spiders and caterpillars into zombies too!



#### MORE LIKE US THAN PLANTS: SCENE 7

The material for this scene can be linked to curriculum topics, including: animals, including humans; living things and their habitats.

Discover the ways in which mushrooms are more like us than they are like plants. Engage in discussion about the similarities and differences between mushrooms and humans.



#### **DISCUSSION PROMPTS**

- Do you know what cells are? Information overleaf
- Do you know what oxygen is? Information overleaf

#### What similarities can you think of between you and a mushroom?

Encourage children to engage in a fun discussion about how they might be similar to mushrooms. There is also relevant information overleaf.

• What differences can you think of between you and a mushroom? Encourage children to engage in a fun discussion about the ways they are different to mushrooms.

#### ACTIVITY

Corresponding activity on page 10 of the activity pack: 'Menacing Mushrooms' is an activity that helps children digest the information by deciding if mushroom-related sentences are true or false.

# **MORE LIKE US THAN PLANTS: SCENE 7**

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

# CELLS

**Cells** are the basic blocks of all living things.

We are all made up of cells too - the human body contains trillions of them!

Cells create energy, hold together structures (like human bodies!), and fight off germs.

The cells of a mushroom are mostly long and thread-like, and are similar to the shape of **nerve cells** found in animals, including us!

# OXYGEN

Oxygen is in the air that we breathe!

Most life forms on our planet need oxygen to survive.

Mushrooms need oxygen to survive just as much as humans do!

#### WHAT DO MUSHROOMS AND HUMANS HAVE IN COMMON?

As well as needing to breathe in oxygen and having the same cell structures, what else do mushrooms and humans have in common?

**IMPACT ON THE ENVIRONMENT** - both mushrooms and humans have a big **effect** on the environment. We can both do lots to look after the natural world around us!

**FOOD** - both mushrooms and humans need to eat. Although we may eat differently to mushrooms, the energy and **nutrients** found in food is important for both of us!

**REPRODUCTION** - both mushrooms and humans **reproduce**. Humans have babies and mushrooms produce **spores** so new mushrooms can grow.

**GROWING UP** - both mushrooms and humans grow and **develop** over time. We start off as babies and grow into adults, and mushrooms are the adults that grow from tiny spores over time.



#### LIFE-SAVING MUSHROOMS: SCENE 8

**The material for this scene can be linked to curriculum topics, including:** animals, including humans; working scientifically; materials and their properties.

Learn about the amazing discovery made by scientists that mushrooms can save lives! Engage in discussion around how this discovery happened and how mushrooms are now in most of the medicine we take to stay strong and healthy.



#### **DISCUSSION PROMPTS**

- Do you know what an infection is? Information overleaf
  - Do you know what penicillin is? Information overleaf
- Do you know who discovered penicillin? Information overleaf

#### • How else do you think mushrooms could help us stay healthy?

Engage in a fun and creative discussion about the ways in which mushrooms could help us stay healthy, such as they are good for our stomachs, are one of your 'five a day', give us energy, are tasty, and so on.

#### ACTIVITY

Corresponding activity on page II of the activity pack: 'Super-Mould' is a drawing activity that encourages children to get creative and draw the next superhero... Super-Mould!

#### LIFE-SAVING MUSHROOMS: SCENE 8

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

#### INFECTIONS

An **infection** is when **germs** invade and grow in the body and make us unwell.

An infection can start anywhere in the body and will often spread to make the whole body feel poorly.

Infections come in all different forms and can cause different **symptoms** for each person.

It's not just humans that get infections - all sorts of animals can get them too!

#### PENICILLIN

Penicillin is an important type of **medicine** that fights off infections and keeps people healthy.

# WHO DISCOVERED PENICILLIN?

Penicillin was discovered in 1928 by a doctor called Alexander Fleming.

He discovered that a type of fungi called **mould** was the key to creating a medicine that could fight off germs.

Penicillin is still used today all around the world to keep us safe.

Since then, fungi has been added to many of the medicines we use every day to stay healthy.

**Antibiotics** are a type of medicine that are most commonly used around the world – they are mostly made up of fungi!



#### **OIL-EATING MUSHROOMS: SCENE 9**

The material for this scene can be linked to curriculum topics, including: living things and their habitats; materials and their properties.

Explore the mushrooms that are able to eat oil! Engage in discussion around how some mushrooms can be trained to help humans keep the planet clean and healthy.



#### **DISCUSSION PROMPTS**

• What is oil? Information overleaf

• What is an oil spill and why is it harmful to the environment? Information overleaf

• If you can train mushrooms to eat oil, what else do you think we could train them to do to help our planet stay healthy?

Engage in a fun and creative discussion around the other ways in which mushrooms could help us look after our planet, such as could mushrooms eat our rubbish, or maybe help with recycling?

#### ACTIVITY

Corresponding activity on page 13 of the activity pack: 'Oily Changes' is a fun and engaging activity that allows children to spot the differences in the two versions of the scene above.

# OIL-EATING MUSHROOMS: SCENE 9

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

# WHAT IS OIL?

Oil is a chemical substance that that does not mix with water.

Oils are usually **flammable** and most become **liquid** at room temperature.

There are lots of different types of oil that are used for different types of things, such as flavouring food and fuelling vehicles.

Some types of oil are natural and **eco-friendly**, but others are very harmful to our **environment!** 

# WHAT IS AN OIL SPILL?

An **oil spill** is the release of harmful oil, called **petroleum hydrocarbon**, into the environment, which usually happens at sea and sometimes on land.

Oil spills happen due to human activity, often by ships sinking or pipes in the water breaking.

# WHY IS IT HARMFUL TO THE ENVIRONMENT?

When an oil spill occurs, it has a damaging impact on the surrounding environment.

When oil spills happen at sea, marine creatures are harmed, and the surrounding waters are **polluted** and unsafe for life to thrive.

The discovery of oyster mushrooms that can be trained to eat oil was a massive discovery mycologists have made and a really important one for helping look after the future of our planet.

By eating oil, these little mushrooms are keeping our planet healthy.

Mycologists are always on the lookout for new mushroom and fungi discoveries that could help look after our planet.

#### **MUSHROOM POWER: SCENE 10**

**The material for this scene can be linked to curriculum topics, including:** animals, including humans; materials and their properties; uses of everyday materials.

Learn about how mushrooms can be used to power our vehicles, and help us get around without harming the environment with fuel. Discuss what it means to be eco-friendly.



#### **DISCUSSION PROMPTS**

- What do you think it means to be eco-friendly? Information overleaf
- Why do you think fuel is bad for the environment? Information overleaf
- How would you feel if your car or school bus ran on mushroom power?

• What other vehicles do you think we could run on mushroom power? Engage in creative discussion about other types of vehicles that could run on mushrooms, such as planes, tractors, motorbikes, and so on.

#### ACTIVITY

Corresponding activity on page 14 of the activity pack: 'Running on Mushroom Power' is a fill in the blanks activity where children are given sentences about mushrooms, and they have to select the correct missing word!

#### **MUSHROOM POWER: SCENE 10**

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

# WHAT DOES IT MEAN TO BE ECO-FRIENDLY?

Being **eco-friendly** is when somebody is **environmentally friendly** and does things that don't harm the **environment**. So what ways can we be eco-friendly in our everyday lives?

**SAVE WATER** - turning off the taps while you brush your teeth and having shorter showers are good ways to save water every day.

**PICK UP LITTER** - by picking up litter that you find in nature and putting it in bins, you are helping to keep the planet clean and healthy.

**WALK OR CYCLE** - if you can, walk or use a bike instead of driving in a car. Not only is it good for the environment, it is good for keeping your body healthy too!

**SAVE ENERGY** - turning off lights and electronic devices, like the TV or a tablet, when you are not using them is a good way to save energy. Using too much energy can produce harmful **gases** that **pollute** the Earth.

**REDUCE**, **REUSE**, **RECYCLE** - using a reusable water bottle and helping to sort your recyclable materials, such as cans, plastic, and paper, into the right bins are good ways to be environmentally friendly every day.

# WHY IS FUEL BAD FOR THE ENVIRONMENT?

Fuel is bad for the environment as it releases harmful gases into the atmosphere.

This causes the planet to heat up, leading to **climate change**.

Fuel can also destroy **habitats** when it's spilled on land or in the sea, which can harm animals and plants all around the world.



#### **NO MORE PLASTIC: SCENE 11**

The material for this scene can be linked to curriculum topics, including: materials and their properties; uses of everyday materials.

Learn about how mushrooms can be used to make items we use every day! Engage in discussion about how mushrooms could be used instead of plastic, as plastic is bad for the environment but mushrooms keep it nice and clean.



#### **DISCUSSION PROMPTS**

#### • What everyday items can you spot in this image?

Encourage children to pick out and name the items they can see in the image above.

#### • What plastic items do you have at home?

Engage in a discussion about what items can be found around the house, such as in the kitchen, in the bathroom, in the garden, and so on.

#### • How would you feel about having all your things made of mushrooms?

Engage children in a creative and fun discussion about how they would feel having their household items made out of mushrooms.

• What else do you think we could make out of mushrooms? Information overleaf

# ACTIVITY

Corresponding activity on page 15 of the activity pack: 'Mushroom Wardrobe and World' is a fun drawing activity that encourages children to get creative and draw what their world would look like if everything was made from mushrooms!

# NO MORE PLASTIC: SCENE 11 RELEVANT INFORMATION

Keywords that you may want to pull out and explain have been put into bold.

# OUR WORLD MADE OUT OF MUSHROOMS

Using mushrooms to replace **materials** such as **plastics** and **synthetics** is one surprising way mycologists have discovered mushrooms can have a positive **impact** on our planet's future.

The part of the mushroom used for creating **eco-friendly**, everyday items is called the **mycelium**.

# MYCELIUM

The mycelium are the **roots** of a mushroom found in the soil.

They are made up of thin threads called **hyphae**.

The mycelium pass **nutrients** from the soil up to the mushroom to help it grow.

Mycelium is a great alternative to plastic. When we make items from plastic, it never goes away! This creates a lot of waste on our planet.

However, when mycelium breaks down, it turns into useful nutrients for soil, which helps us to grow fruit, vegetables, and many other useful **resources**.

# WHAT ITEMS COULD WE MAKE OUT OF MUSHROOMS?

**SHOES** – shoes made from mycelium would be able to mould to the shape of our feet!

**CLOTHES** – mycelium clothes would be soft and comfy, and could even change colour!

**SCHOOL SUPPLIES** – pencils and notebooks made from mycelium could become food for the soil once we're finished with them!

**DLATES** – if you mistakenly left a mycelium plate out in nature, don't worry! Over time, it would break down and turn into food for flowers and plants!

**TOYS** – mycelium toys would be safe to play with and unlike plastic toys, and would be kind to the environment when they could no longer be used.



#### **MUSHROOM BURGER: SCENE 12**

The material for this scene can be linked to curriculum topics, including: animals, including humans; materials and their properties; uses of everyday materials.

Learn about how the experts turn mushrooms into delicious food! Engage in discussion around how using mushrooms to replace typically meat-based foods would allow us to keep our planet healthy and happy.



# **DISCUSSION PROMPTS**

- How does eating less meat help the planet? Information overleaf
- What sort of meals can you imagine being made purely from mushrooms? Encourage children to engage in a fun discussion about the types of meals that could be made from mushrooms.
- If mushrooms can taste, feel, and look like meat, do you think you would like to try a mushroom burger?

Encourage children to engage in a fun discussion about how a mushroom-based burger might taste, list the different senses, and so on.

# ACTIVITY

Corresponding activity on page 17 of the activity pack: 'Tasty Mushroom Burger' is a fun maze activity for children to help the hungry dog get through the maze to reach the tasty mushroom burger!

# **MUSHROOM BURGER: SCENE 12**

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

#### **REMINDER WARNING:**

Make it clear to children that they should **NOT** eat any mushrooms they find in the wild, as some can be poisonous and even fatal if ingested.

#### HOW DOES EATING LESS MEAT HELP THE PLANET?

#### **USES LESS RESOURCES**

Animals that are used to produce meat require a lot of **resources** like food, water, and land.

If people eat less meat, it means we can use less resources.

This would help us save water, make space for land to grow fruit and vegetables, and protect our natural world.

#### **PROTECTS WILDLIFE**

When making space for farms, this often means cutting down forests and woodlands where animals live.

By eating less meat, we can protect the homes of many animals and ensure they have enough space to live.

#### **KEEPS US HEALTHY**

Eating fruit, vegetables (and mushrooms!), help our bodies to grow strong and healthy.

Although eating meat is okay for our bodies sometimes, too much meat is not good for our health.

#### LOOKS AFTER EARTH'S ATMOSPHERE

Animals that live on farms, such as cows, produce harmful gases into Earth's atmosphere.

By eating less meat, farmers would keep fewer animals.

This would then help lower the harmful gases being released into the air, **polluting** our planet.



#### ALL SORTS OF MUSHROOMS: SCENE 13

The material for this scene can be linked to curriculum topics, including: living things and their habitats.

Explore some of the weird and wacky mushrooms out there! Engage in discussion about the different forms mushrooms and fungi take, and how they might differ from how you expect mushrooms to look.



# **DISCUSSION PROMPTS**

- Which of the mushrooms in this scene do you think looks the coolest, and why?
- Now that you know how important mushrooms are, can you imagine a world without them?

Engage children in a fun discussion about what a future without mushrooms would look like, and how they would feel to live in a world without mushrooms.

• Even though all these mushrooms look different, what do you think they all have in common?

Information overleaf

# ACTIVITY

Corresponding activity on page 19 of the activity pack: 'Funky Fungi' is a mixture of research and creativity. Children choose a mushroom, research it, fill in the fact file and draw it. This activity can be printed multiple times to generate a fact booklet!

# ALL SORTS OF MUSHROOMS: SCENE 13

#### **RELEVANT INFORMATION**

Keywords that you may want to pull out and explain have been put into bold.

#### WHAT DO ALL MUSHROOMS HAVE IN COMMON?

There are over 10,000 types of mushrooms that mycologists have discovered. There may still be many more to discover too! So, what do all these weird and wacky mushrooms all have in common?

#### STEM

The **stem** is the part of the mushroom that supports the **cap** and allows the mushroom to stand up tall.

The stem also helps with spreading **spores**.

The taller the mushroom, the easier it is for spores to spread!

All mushrooms have a stem of some kind, whether that's a tall, thin stalk or a short, stumpy base.

#### CAP

The cap, also known as the pileus, is the top part of the mushroom - when you think of a mushroom, this is the part you think of.

It is called the cap because it looks like the mushroom is wearing a little hat!

#### GILLS

The **gills** are found underneath the cap of a mushroom.

They are thin and paper-like and are where **spores** are released from.

Some gills look like teeth, some like needles, and some look like sponges!

#### **SPORES**

All mushrooms produce spores!

Spores are tiny, dust-like seeds that are released from a mushroom into the air.

Spores shoot out from the gills of a mushroom and spread to become new mushrooms.

The more spores, the more mushrooms!



# **POST-READING QUESTIONS**

Engage in discussion about the journey taken throughout the book and the facts that were uncovered.

- Now that you've read the book, do you think mushrooms can save the world?
  - Did anything in the book surprise you?
  - What's the coolest thing you've learnt about mushrooms and fungi?
  - Do you have a favourite type of mushroom?

#### ACTIVITY

Corresponding activity on page 19 of the activity pack: 'Write Your Own Mycology Story' is a creative writing activity which encourages children to write a story about mycology, using three key prompt words.

#### THE BIG QUESTIONS ANSWERED

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