



macarULLA

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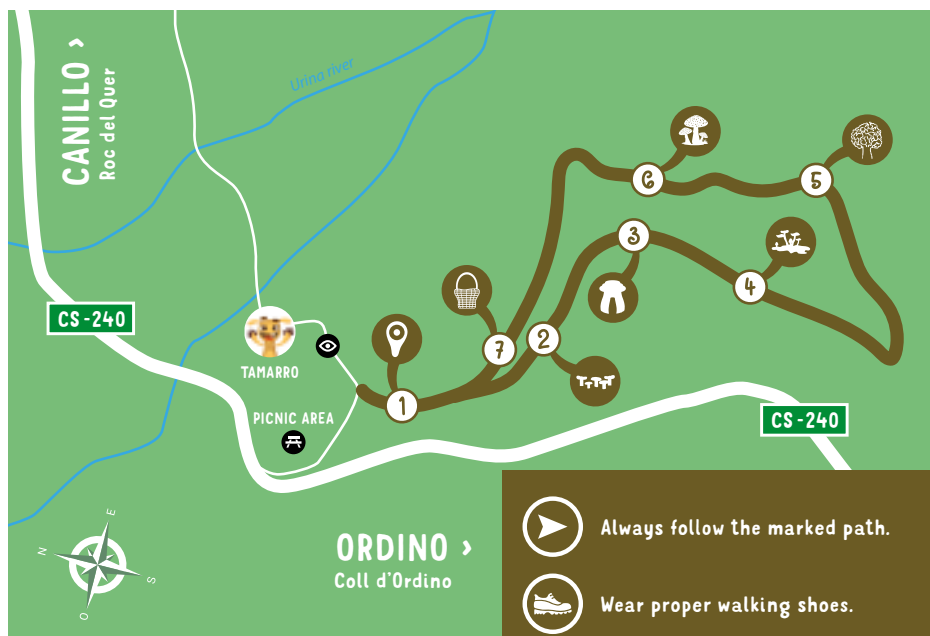
ENG



WHERE ARE THE MUSHROOMS?

▷ Andorra

WHERE ARE THE MUSHROOMS?



HOW TO GET HERE


Crta. de Montaup, CS240
 km 7.8 - Bosc del Som
 Bordes de Mereig - AD100 Canillo
 (Tamarro picnic area; go down Via Callissa
 de les Bordes de Mereig)



COORDINATES

42.562557, 1.575787

 Easy

 3.7 km

 120 m

 1 hour 30 minutes



-  Always follow the marked path.
-  Wear proper walking shoes.
-  Bring plenty of food and water.
-  Make sure you take your rubbish with you.
-  Check the weather forecast before setting off.
-  Respect everything you find on your route: don't pull or damage them.
-  Respect the plants on your route: don't pick them or damage the surroundings.
-  Don't light any fires.
-  The routes are not suitable for people with reduced mobility.
-  Keep an eye on your children at all times, especially those under 3 years old.



the kingdom of fungi

Hi!
My name's Fungus, and I'm one of the many
fungi that live in Andorra.
But do you know what fungi are?

**We're not plants
Or animals
We live in nature
And we're microorganisms
So come in and say hi...
and discover the kingdom of fungi!**



The kingdom of fungi is very different to the plant and animal kingdoms. We reproduce through spores, which are like dust that travels through nature, rather than moving like animals do. The weather and soil make us grow, and also make us different from each other. We're eaten by many animals - including you humans! - and we live on organic waste matter, which is why we also play an important role in the food chain.

**Over 75,000 species of fungi are known,
although they say there are more than a million!
Imagine that!**

Isn't that interesting? Now follow the path shown in the
guide and enter the mushroom forest.
Many surprises await you...





USE A PEN OR A PENCIL

Look closely! In this magical forest there are also 3 hidden mushrooms..
Can you see them?





T-T-T 2

WHAT TYPES OF MUSHROOM ARE THERE?

Now you know which kingdom we come from, let's get to know each other a little better.

Fungi are divided into two main groups: **microscopic** and **macroscopic**.



MICROSCOPIC

- They're tiny and must be viewed under a microscope.
- They help to create new foods and medicines.
- They cause disease in animals, plants and humans.
- They're found in baker's yeast, rotten food - and foot fungus!



MACROSCOPIC

- They form mushrooms that are visible to the naked eye.
- They're found in nature.
- They differ depending on the type of soil, plant and tree.
- They need specific temperature and moisture levels in order to grow.

During this excursion, you'll discover macroscopic fungi, or those that are visible to the naked eye, which is the group I belong to. So, where can you find us?



MEADOWS



PINE FORESTS



OAK FORESTS



PASTURES



WASTELANDS

the saffron milk cap

This is the family of the Saffron milk cap, one of Andorra's favourite mushrooms.

When you cut them, an orange liquid comes out that can stain your fingers!

If you look at the photo, you'll see they're very similar to the (highly toxic) woolly milk cap, which looks a lot like the saffron milk cap. It's furry, but when you cut it, the liquid that comes out is white.

Not all of the mushrooms you'll find are edible! Mushrooms can have a different effect depending on whether you're a human or an animal. Some mushrooms are so poisonous, they could kill you! Other types of mushroom can look very similar, which can be confusing. **So, if you're not sure which type we are, don't pick us!**



SAFFRON MILK CAP
Lactarius deliciosus



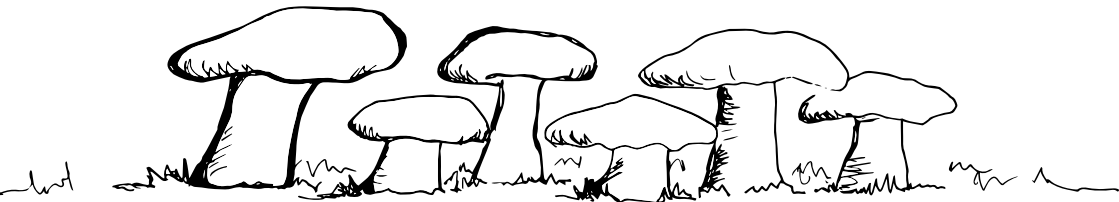
WOOLLY MILK CAP
Lactarius torminosus



LOOK AROUND YOU

Saffron milk caps love playing leapfrog. Do you know how to play? See if you can be the fastest to jump over each mushroom!

Go over to the saffron milk cap family to jump and play.





HOW DO MUSHROOMS GROW?

We mushrooms live underground and are made up of tiny threads called **hyphae**, similar to a cobweb. Together, we form a **mycelium**, which is a bit like a child's head on which every hair is a hypha, or thread.

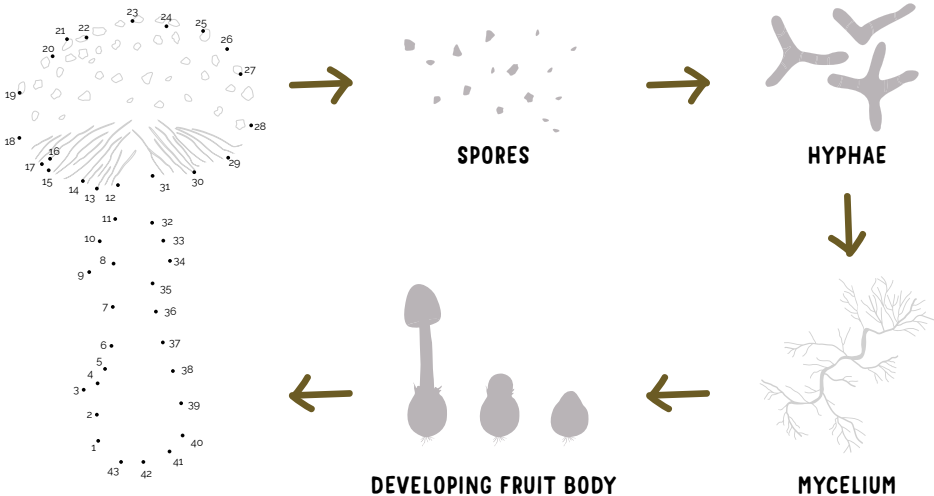
Under the right temperature and moisture conditions, these threads come together to form mushrooms, which is where the **spores** are made. With help from the wind, rain and animals, these spores travel and end up being buried somewhere else. There, in the soil, they create new hyphae and a new mycelium.

Oh, but, don't think we appear by magic, even though we grow very quickly and we each have a different shape. Some of us are rounder, some are wrinklier, and so on. We also have different smells and colours. Some of us smell like things you're familiar with, such as milk, flour and fruit - even wet soil and moss!



USE A PEN OR A PENCIL

*Look closely at the drawing. Some of it has disappeared!
Connect the numbered dots and follow them in order to find the hidden figure.
Now you can complete the life cycle of a mushroom.*



MATURE MUSHROOM

DEVELOPING FRUIT BODY

MYCELIUM

MUSHROOM SHAPES

Some mushrooms have the typical cap and stalk, while others may be gelatinous, shaped like a bee-hive, long and thin, and more.

Essentially, we're like all of you: unique and individual.

THE CAP CAN BE:



Flat



Conical



Truncated



Convex



Funnel-shaped



Nipple-shaped



Oval



Bell-shaped

THE STALK CAN BE:



Thin



Cylindrical



Bulbous



Wavy



Pointy



Club-shaped



Fat

THE HYMENIUM

(THE STRUCTURE BENEATH THE CAP)



Gills



Tubes



Pores



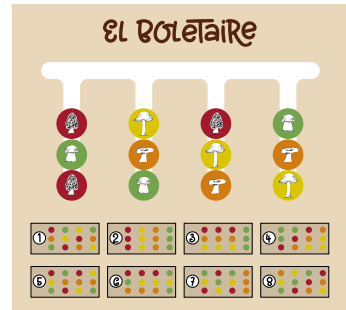
Folds



LOOK AROUND YOU

Look! This is my house; and yes, it's a porcini mushroom!

Come inside and play the Boletaire's color codes game for as long as you like!





the PORCINI mushroom

That's me, Fungus: I'm a porcini mushroom!
They say I'm delicious, although I must admit,
I've never tasted myself.

I have a big, wide stalk and an enormous, round
cap. I can be brown or white and I grow near
pine trees, often well-hidden.

Now that you know what I'm like, do you want
to know what the parts of a mushroom's body
are?



USE A PEN OR A PENCIL

*Read each description carefully
and connect each name to a part of the body!*

CUTICLE ○
This is my cap's protective cover, like a raincoat to keep me safe.

CAP ○
This is the widest part of the mushroom and sits above the stalk.

HYMENIUM ○
This is the part that's underneath the cap and has gills, folds or tubes. It's where the spores are formed.

RING ○
This is like a belt that some mushrooms have near the top of their stalk.

STALK ○
This is the part that holds up the hymenium and the cap. But not every mushroom has a stalk!

VOLVA ○
This is the part that surrounds the base of the stalk in some species.



What DO MUSHROOMS EAT?

We can get food from two sources. Some of us get food from trees, which give us the sugars we need, and in return we give them water and mineral salts.

Some of us get food from trees that are still living, while others eat matter that we find in the soil, such as fallen leaves, dead insects, and so on. But, hey! We don't eat man-made rubbish like plastic or tin cans, because they can't be broken down.


That's why you must always take your rubbish with you.



USE A PEN OR A PENCIL

Help him grow! As you can see, this is still a small mushroom and he needs your help to grow. To do this, you need to reproduce his exact shape by enlarging its size as you change the grid.



	A	B	C
1			
2			
3			

	A	B	C
1			
2			
3			

	A	B	C
1			
2			
3			



the fairy ring mushroom

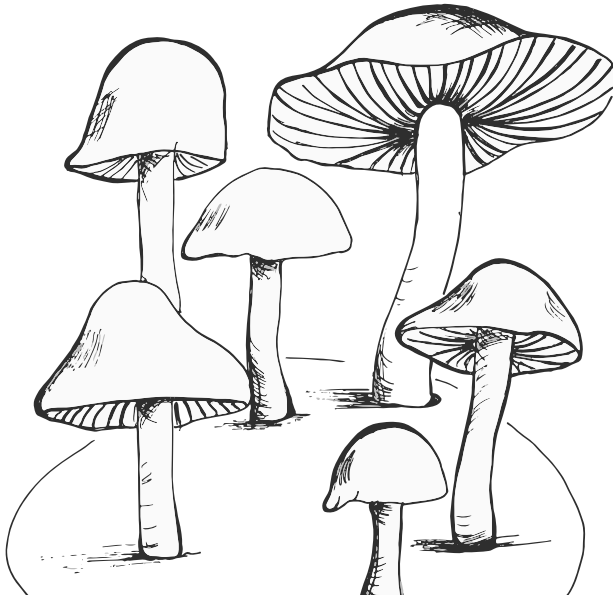
Fairy ring mushrooms have a long stalk and a cone-shaped cap. They often smell like wet grass and tend to grow in meadows and clearings.

Have you ever tried an omelette made from fairy ring mushrooms? Mmmm, it's delicious!



LOOK AROUND YOU

Go over to one of the giant fairy ring mushrooms and pretend to be wearing its cap.



**I'm sure it fits you perfectly!
Can you imagine what it would be like
if we had a mushroom cap instead of a head?
Wouldn't we look strange?**



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MUSHROOM NAMES

Like all other living things, we fungi have a scientific name, to define which group we belong to and the characteristics we have. It's like having a name and a surname to identify whether we're cousins, siblings or just friends.

Of course, we fungi call each other by more familiar names, and those names can change depending on where we're picked. For example, in English I'm known as Fungus, but here in Andorra they call me Bolet!



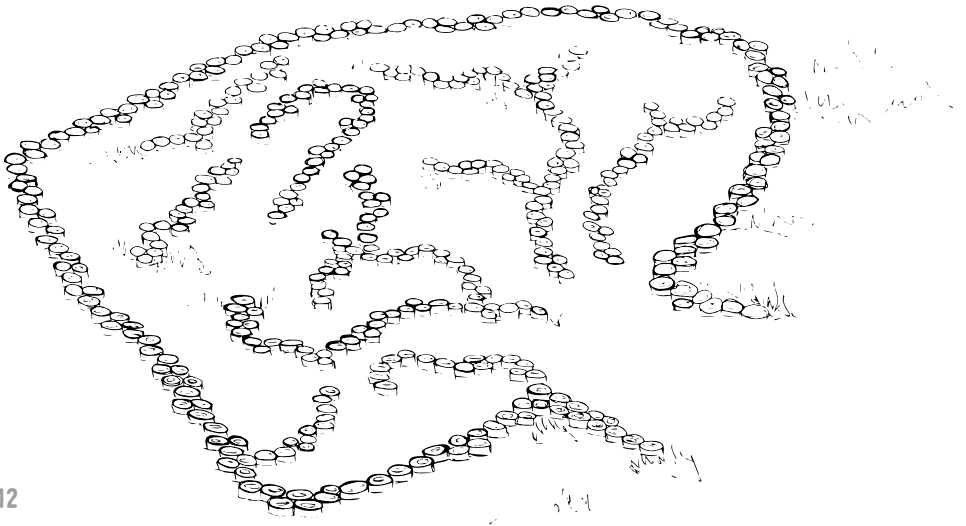
LOOK AROUND YOU

THE MOREL

Allow me to introduce you to the morel, a solitary and very special mushroom that has a very strange shape. Morels will give you tummy trouble if they're not cooked properly, but they're highly sought-after by top chefs!



Go over and have a closer look. The morel's cap contains a maze! Can you find the way out? Who'll be the fastest?





USE A PEN OR A PENCIL

Can you identify the shape of each mushroom? Connect them to their photo to find out what they're called in Latin and what we call them in Andorra.

SAFFRON MILK CAP

Lactarius deliciosus

in Andorra

ROVELLÓ



PORCINI MUSHROOM

Boletus edulis

in Andorra

CEP



MOREL

Morchella conica

in Andorra

**MURGA DE CAMPANA
O MÚRGOLA**



FAIRY RING MUSHROOM

Marasmius oreades

in Andorra

**CARREROLA
O CARRERETA**



DEATH CAP

Amanita phalloides

in Andorra

FARINERA BORDA



FLY AGARIC

Amanita muscaria

in Andorra

REIG VERMELL





Discover the mushrooms most commonly found in Andorra and find out when and where they grow, what they're like and if they can be eaten... Have you ever picked one?

IDENTIFYING MUSHROOMS

Each mushroom grows in a specific place and at the right temperature and moisture level. That's why we don't always find the same mushrooms in spring and autumn, or in summer and winter.



ST GEORGE'S MUSHROOM
Calocybe gambosa



MOREL
Morchella conica



FAIRY RING MUSHROOM
Marasmius oreades



CHANTERELLE
Cantharellus cibarius



YELLOW FOOT
Cantharellus lutescens



PORCINI MUSHROOM
Boletus edulis



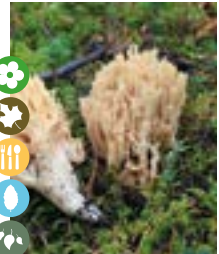
SAFFRON MILK CAP
Lactarius deliciosus



GREY KNIGHT
Tricholoma terreum



COPPER SPIKE
Chroogomphus rutilus



CORAL FUNGUS
Ramaria flavesces



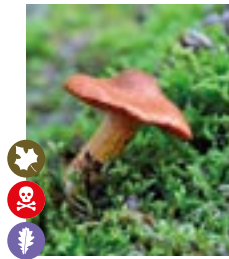
- SPRING**
- SUMMER**
- AUTUMN**
- WINTER**

- POISONOUS / DEADLY**
- EDIBLE**
- MEADOW / PASTURES**
- FOREST WITH FALLEN LEAVES**

- PINE FOREST**
- OAK FOREST**
- HOLM OAK FOREST**
- ALL TYPES OF FOREST**



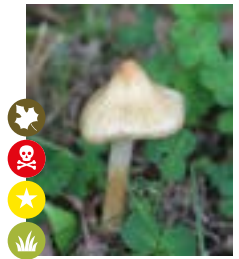
PARASOL MUSHROOM
Macrolepiota procera



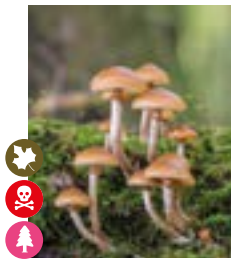
FOOL'S WEBCAP
Cortinarius orellanus



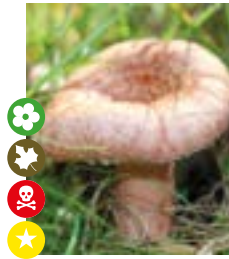
CINNAMON WEBCAP
Cortinarius cinnamomeus



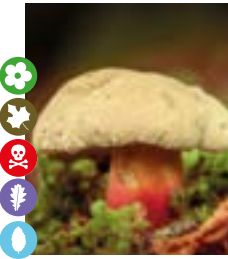
SPLIT FIBRECAP
Inocybe rimosa



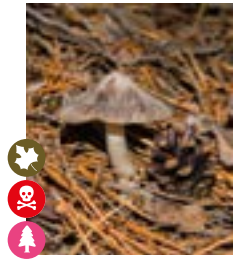
FUNERAL BELL
Galerina marginata



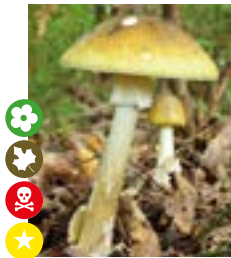
WOOLLY MILK CAP
Lactarius torminosus



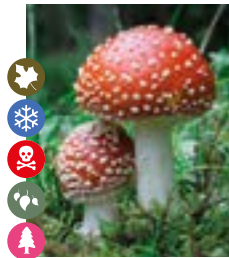
DEVIL'S BOLETE
Boletus satanas



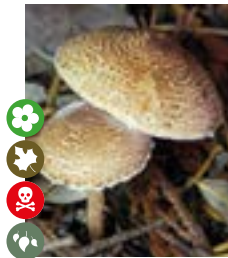
ASHEN KNIGHT
Tricholoma virgatum



DEATH CAP
Amanita phalloides



FLY AGARIC
Amanita muscaria



CHESTNUT DAPPERLING
Lepiota castanea



CAULIFLOWER FUNGUS
Sparassis crispa



THE AMANITA

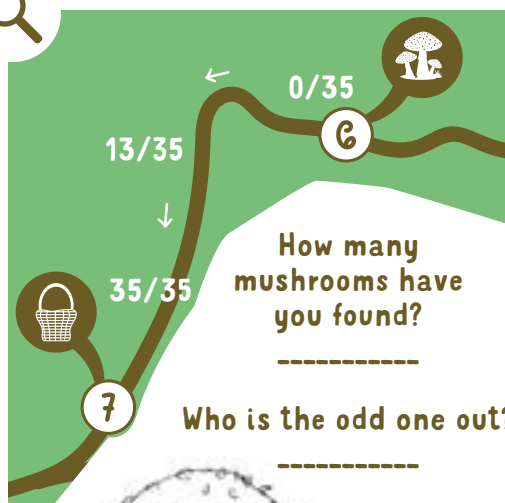
Between point 6 and point 7, you'll find various rocks painted with red and white mushrooms, known as *Amanita muscaria*, and green mushrooms known as *Amanita phalloides*. They're so pretty, they look like something out of a fairy tale! You could almost picture an Andorran *menairó* or a fairy sitting on them. There are 35 of these hidden rocks, and all I can tell you is that you'll find 23 of one species, and only 11 of the other... or is it 12? Are they all amanitas, or is there an odd one out?



Amanita muscaria



Amanita phalloides



Aren't they pretty?
In fact, the mushrooms in the paintings are the most poisonous and deadly for you humans, although for certain animals, they're harmless. Amanitas are mushrooms **you must NEVER pick!** Follow the trail and find them all...



Have you found them all? How many *muscarias* and how many *phalloides*? And can you tell me which mushroom is the odd one out, and can be eaten because it's not poisonous?



DO YOU KNOW WHO EATS THEM?

Although many species of mushrooms are edible, we've seen that many others you CANNOT eat.

Do you know who does eat them, though? Many animals that live in the forest, such as foxes, wild boar, roe deer, lizards, moles, field mice and others.

So when you're in the forest, even if you identify a mushroom as a species that's poisonous for humans, don't damage it. Remember that it provides food for the animals that live in the forest and for many plants and trees!



USE A PEN OR A PENCIL

Help the squirrel eat a mushroom! Connect the numbers from 1 to 12 and help our friend the squirrel enjoy a delicious dinner.



		1	2	4	8	9
			1	6	0	7
2	3	4	2	3	5	1
8	9	11	6	4	2	3
7	5	7	6	5	10	5
0	9	8	4	2	1	0
5	7	9	10	1	11	2
4	3	8	11	9		
2	6	7	12			





Now that you know more about which mushrooms are edible and which are to be avoided, can you say which statements are true and which are false?

TRUE

FALSE



- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

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The mushroom you can see is also known as a macroscopic fungus, or a fruiting body.

The Saffron milk cap is a mushroom that grows in meadows during the winter.

Fungi reproduce through thousands of spores.

The body of a fungus is made up of thousands of small threads known as a mycelium.

We can find fungi in every environment on the planet.

Some fungi are edible, but others are poisonous.

The poisonous species are very easy to tell apart from the edible species.

Amanita Phalloides is not a toxic mushroom, so you can eat it.

The only purpose of mushrooms is as food.

If we step on or pull up a poisonous mushroom, we're stopping animals from being poisoned.



Answers:

- 10. F
- 9. F
- 8. F
- 7. F
- 6. V
- 5. V
- 4. V
- 3. V
- 2. F
- 1. V



BE A GOOD MUSHROOM HUNTER

We're so happy that you've come to visit us! But to be a good mushroom hunter, it's very important that you look after your surroundings, avoid getting poisoned and have a lot of fun when you eat the mushrooms. So when you go to pick mushrooms, whether today or in the future, make sure you follow these instructions:

- ✔ Only pick the species you know and the amount you're actually going to eat. Don't damage the mushrooms that you must NOT pick!
- ✔ Don't disturb the soil or use tools that might affect the surface of the soil.
- ✔ Only pick whole mushrooms, as they're easier to identify. It's important that you use a knife to cut them at the stalk, and fill in any holes you make. This prevents damage to the mycelium and helps more mushrooms to grow, year after year.
- ✔ If you're not sure about a mushroom you've picked, it's better not to eat it (or even better, don't pick it). Ask someone who knows a lot about us.
- ✔ Don't leave us in the fridge for a long time, as we go bad quickly. Make sure you eat us soon after we're picked.
- ✔ Keep learning about mushrooms from the experts. Buy books that will help you get to know us better.



Do you know why the basket is so important?
It allows the spores to keep spreading as you walk, and gives us plenty of space among the other mushrooms you've picked. In a bag, mushrooms get squashed and go bad.



USE A PEN OR A PENCIL

Now that you know how to be good mushroom hunters, mark the items you really need to pick a good crop of mushrooms!



BASKET



RADIO



HIKING BOOTS



SOFT TOY



HAT



MUSHROOM GUIDE



SUNSCREEN



SPADE



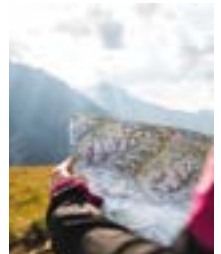
WATER



SCOOTER



KNIFE



MAP OF THE AREA



OUR ADVENTURE'S COMING TO AN END

Once you've left your basket, all you need to do is follow the final section of the route, which takes you back to the start. And now that you know a bit more about the mushrooms that are found in Andorra...

 USE A PEN OR A PENCIL

WHAT DO YOU THINK HAPPENS TO THE RUBBISH AND PLASTIC THAT'S LEFT BEHIND IN THE FOREST AFTER AN EXCURSION?

Circle the answer you think is most likely

- a. The mushrooms surround the rubbish, break it down and absorb it as food. This makes them change colour frequently and become rectangular in shape.
- b. The mushroom is unable to absorb the decomposed rubbish, which harms the soil around it.
- c. The animals that live in the forest are like nature's bin lorries: they collect what we throw away and keep the forest clean.

WHAT WOULD YOU DO?

Make a suggestion to prevent the soil harm around the mushroom

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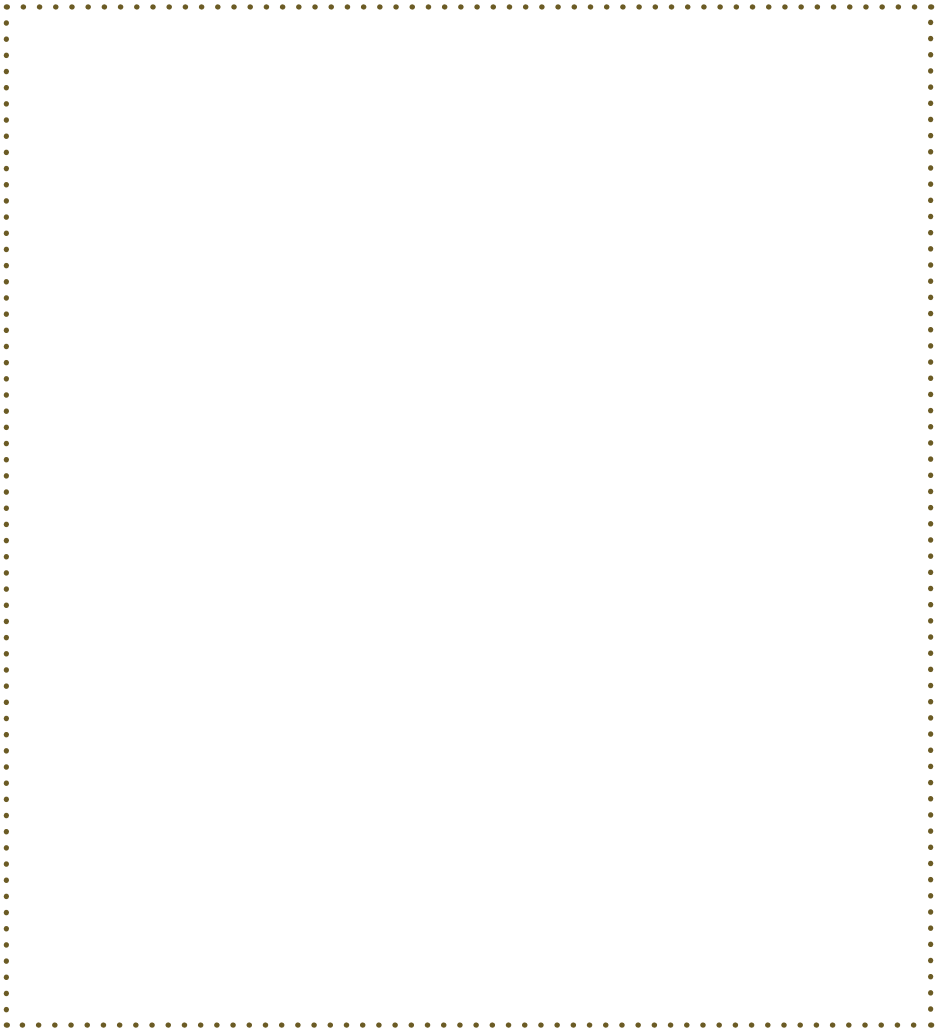
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Drawing Emotions

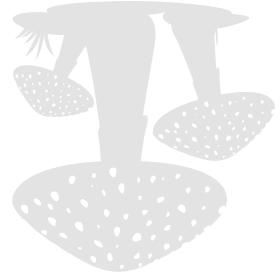
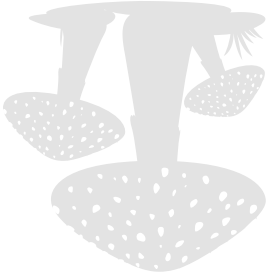
Work together to make a **group drawing** of what this experience has meant to you. Tip for explorers: it's better to combine everyone's ideas than to pick just one person's. You can share it on social media using the hashtags **#macarullandorra** and **@andorraworld**. That way, Fungus can see everything you've learned about the mushrooms of Andorra!





to DO at home as a family

Carry on the adventure! Register through the Macarulla form and get your official diploma, more information on magical trails and a mushroom activity guide to do at home.



You can also find the form here:
<https://visitandorra.com/en/macarulla/>



Find more Macarulla Little Magical Trails at visitandorra.com
 or at tourist information offices in Andorra.



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