

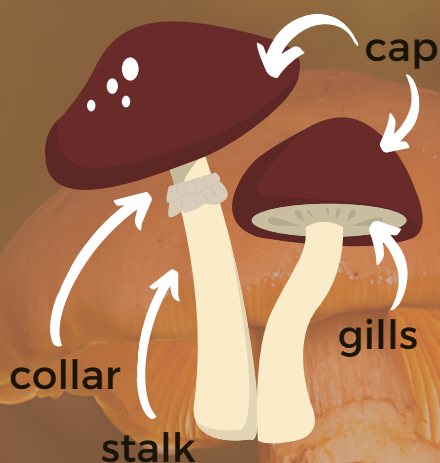


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Young Naturalists Club
www.yncns.ca

THE YOUNG NATURALISTS GUIDE TO

MUSHROOMS OF NOVA SCOTIA

Form, Habitats, and Spores



PARTS TO KNOW

Mushrooms are the reproductive parts of some fungal species. They might grow out of the ground, on tree bark, or in surprising places, but the mushroom is only the visible part of the fungus. The hidden main body or "mycelium", which is made up of fine strands called "hyphae", grows in the soil or wood below the mushroom. There are many hundreds of species of mushroom in Nova Scotia. We hope this guide will help you to ID some of the more common and important ones.

Let's Start With FORM

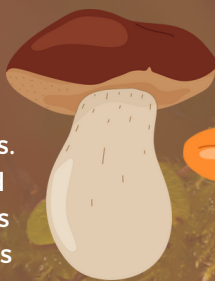
CUPS

Cup mushrooms can be big or small, lots of different colours, and tend to grow out of the ground or on bark



Classic mushroom shape but without the gills. Boletes instead have little pores under their caps

BOLETES



POLYPORES

Poly"pores" have smooth or porous undersides. They tend to grow out of the side of decaying trees



FUNNELS

Funnels might look like inverted gilled mushrooms, but those "gills" are actually just ridges running down their stalk and not true gills



JELLIES



GILLED MUSHROOMS

These are the forms most people think of when they hear "mushroom". They are incredibly varied, coming in lots of colours and growing in lots of habitats



CORALS

Corals look like, well, coral! They are long and spindly and tend to grow in branched clusters straight out of the ground



PUFFBALLS

Round, without a noticeable stalk, sometimes spikey



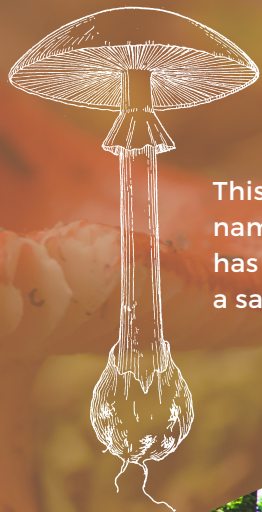
What about HABITAT?

Considering how many different kinds of mushrooms there are out there, it should be no surprise that there are also a ton of different places to find them! Many mushrooms need some degree of protection from drying out, so you might find more mushrooms in a shady forest than in your school lawn. But you can find them growing out the sides of old houses, on top of your compost pile, or even growing right out of some freshly-disturbed soil.

SPECIES ID TIPS:

Some Bolete Mushrooms like to grow in association with specific trees. If you find a Bolete on a Birch tree, it's probably a Birch Bolete! On a Spruce tree? Maybe a Spruce Bolete!

Chanterelles like mixed hardwood forests. Look for them in old stands of Maple and Beech



Puffballs can be found at the side of forest trails

This is a Death Cap Mushroom, aptly named for it's poisonous personality! It has a distinct bulb at its base, enclosed in a sac, as well as a white frill

Ink Caps will grow in open grassy areas like lawns

Jelly-like fungi tend to like rotting coniferous logs

Morels seem to pop up in forests that recently experienced fire



This Orange Peel Fungus is growing right out of the ground in the middle of a remote logging road

WHEN LOOKING FOR MUSHROOMS, ASK YOURSELF:

Am I in a disturbed, human-dominated environment or a pristine wild space?

Are the trees around me mostly deciduous or coniferous?

If a mushroom released its spores right here, where would they go?





UPRIGHT CORAL

There are at least 15 coral species in Nova Scotia. Many belong to the Ramaria group and are yellow-ish or red-ish in colour. We think they live in a symbiotic relationship with the roots of surrounding trees



WHITE CORAL

There are two different but identical species both called white coral mushroom in Nova Scotia! The Ramaria white coral has more spikey tendrils at the ends of its "fingers", compared to the Clavulina white coral



GOLDEN SPINDLES

This bright yellow coral has many doppelgangers in Nova Scotia! Golden Spindles are probably our most common coral mushroom, found in the forest understory



YELLOWFOOT

Yellowfoot is a kind of Chanterelle mushroom, a funnel-type. It grows through a complex symbiotic relationship with forest plants, making it difficult to cultivate in a farm setting



BLACK TRUMPET

Another funnel-shaped mushroom, this one prefers old forests of Hemlock or Oak trees



DEPRESSED HEDGEHOG

Hedgehog mushrooms are related to the trumpets but, where the trumpets have ridges, hedgehog have distinctive "teeth" hanging from the bottom of their caps. This hedgehog is associated with pine trees



BEARS HEAD

Bears Head is another "toothy" fungus, but this one doesn't have a cap like the hedgehog. It grows out of decaying tree limbs and seems to like deciduous forests



COMMON PUFFBALL

There are at least 13 species of puffball in Nova Scotia, Puffballs don't have spore-dispersing gills. Instead, their spores are puffed out of the top when the outer coat of the puffball breaks down. Be careful if you squeeze a puffball because you don't want to breathe in all those spores!

FUN FACT!

Lots of mushrooms look alike but aren't closely related! The capped mushrooms are the ones you're probably most familiar with, the Basidiomycetes, but there are also Ascomycota or "cup" mushrooms. Together, they make up the subkingdom Dikarya, which itself contains tons and tons of different mushroom-like organisms.



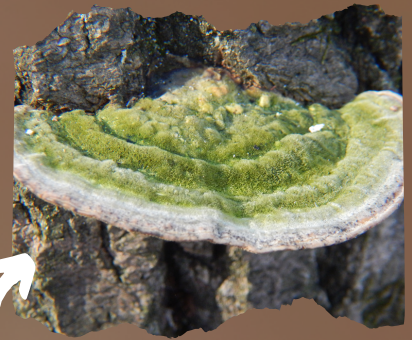
TURKEY TAIL

Polypores are also known as "shelf" fungi, because they tend to grow as flat outward projections of tree trunks. Turkey Tail is a colourful polypore that grows on decaying deciduous trees



BIRCH POLYPORE

Birch polypore is a bracket fungus that prefers decaying birch trees! It's very common in Nova Scotia, growing anywhere birch trees are found. Because it's so firm it has been used to polish blades, mount insect collections, and more!



MOSSY MAZE POLYPORE

Another common shelf fungus, this one has a complex "maze" of holes and tunnels on its underside. Mossy Maze Polypore likes to grow on birch, maple, and other deciduous trees



ORANGE PEEL FUNGUS

This cup fungus likes disturbed environments and grows straight out of the ground, especially on bare clay soils



EARTH TONGUE

Earth tongue might look like a coral mushroom, but it's in the Ascomycetes group of fungi, like the cups. Earth tongues in the Neolecta group are "living fossils" related to yeasts and grow out of the ground in forests across Nova Scotia



GREEN WOOD CUP

Green Wood Cup likes to grow on the exposed inner wood of decomposing trees, including conifers and deciduous trees. It's characteristic blue-green colour can be seen in the wood even when the reproductive cups haven't yet formed



JELLY BABIES

Jelly Babies are another strange fungus in the Ascomycetes group that look like they should be grouped with capped mushrooms. But on closer inspection, you'll see these tiny mushrooms are more like slime balls on tube-necks



MORELS

Morels produce their spores inside a sac-like structure, placing them in the sac mushroom group and connecting them with the cup fungi. True morels are a delicacy but tough to cultivate

FUN FACT!

Mushroom hunters often carry their harvests in wooden baskets or netted bags, in order to spread the spores of their favourite species and, hopefully, start a new patch of them for the next year's harvest

**YOU CAN GET ID HELP AND
REPORT YOUR MUSHROOM
SIGHTINGS WITH THE
INATURALIST APP**



FLY AGARIC

There are TONS of Agaric mushrooms in Nova Scotia, including many Amanita mushrooms like this one. They have caps, gills, and frills, and many of them are very poisonous!



YELLOW PATCHES

Another Amanita Agaric mushroom. Yellow Patches is an orangey-yellow and has yellow warts on top of its cap. It likes to grow near Hemlock trees



DESTROYING ANGEL

This Amanita gets its name from its deadly habit of poisoning people who eat it. Like Death Caps and many other Amanitas, it has a bulbous base inside a sac, as well as a thin cap, gills and a frilly collar



TAWNY GRISETTE

This Amanita doesn't have the frilly collar of its cousins, but it does have the cap and gills. This one is a light brown colour and likes to grow near deciduous trees



VERMILLION WAXCAP

Another Agaric, but this one is a beautiful red-ish-orange. Vermillion Waxcaps grow in lawns, open areas, in forests, and can be found all over the world!

OYSTER MUSHROOM

Oyster mushrooms are a highly prized group of edible species that grow wild and in cultivation. Did you know they are one of few carnivorous mushrooms!? They release a toxin that kills nematodes, which they then absorb for their nutrients



COMMON INKCAP

This Agaric is named for its delicate and very dark cap. Inkcaps aren't quite as poisonous as some of their cousins, UNLESS they are consumed with alcohol, which seems to make them extra dangerous!



VIOLET CORT

This Agaric has a deep purple cap and seems to like a variety of habitats, with some populations preferring pine trees and some preferring deciduous trees

FUN FACT!

Early scientists used to think that mushrooms were a type of plant that didn't have chlorophyll, but modern research has shown that mushrooms are more closely related to animals, like us, than they are to plants!

NEVER EAT A MUSHROOM WITHOUT THE "OK" FROM AN EXPERT!



SHAGGY INK CAP

Shaggy Inkcaps are another lawn and road-side resident, but these ones have frilly edges to their caps! Like the Oyster mushroom, this species has been known to kill and consume nematodes



RED RUSSULA

Russulas are also known as "brittle gills" because of how easily their gills crumble. There are lots of red-capped Russula mushrooms and they all like coniferous trees, so we're just calling them "Red Russulas"



SHORT-STEMMED RUSSULA

Also known as the "Stubby Brittlepill", for its short stature. This mushroom is sometimes parasitized by an orange mold, which turns it into a delicious rarity known as Lobster Mushroom



RUFOUS MILKCAP

Milkcaps are related to the Russulas but they have an extra feature: they bleed a milky goo! The Rufous Milkcap is dull orange and grows near birch and pine



PAINTED SUILLUS

Suillus mushrooms are members of the Boletus group, having pores on their undersides instead of gills. The Painted Suillus is red-ish orange when young and yellow with brown scales when mature



BROWN BIRCH BOLETE

The Brown Birch Boletus has a light brown cap with porous underside, and dark brown scales along the stalk. It likes birch trees and is found throughout the Northern hemisphere!



BIRDS NEST FUNGUS

These interesting fungi, when mature, look like tiny egg-filled bird nests! The cups catch a rain drop and use its motion to propel the "eggs," which contain the spores, up to a metre away!



KING BOLETE

King Boletus is a tall, thick mushroom found in mixed woods across North America and Europe, where it is a prized wild edible. Try cutting one in half to see the spore tubes under the cap!

FUN FACT!

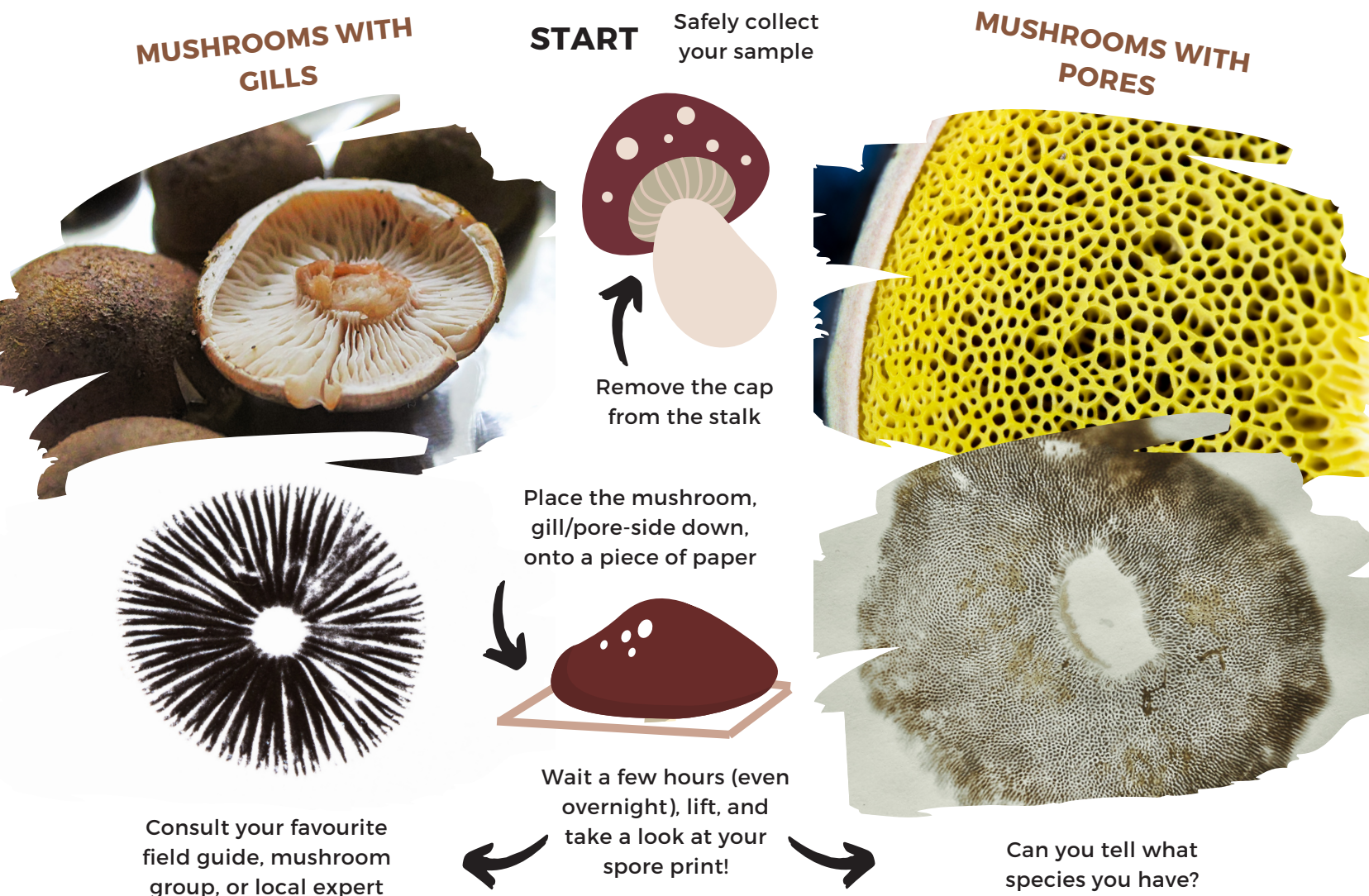
Scientists think there are over 3.8 million different species of fungi in the world, including mushrooms, molds, yeasts, and fungi that form lichens in partnership with algae or photosynthetic bacterial partners. There are thousands of species of fungi across Nova Scotia and hundred of these fungi form mushrooms. All mushrooms are fungi, but not all fungi are mushrooms.



Next-level identification: the SPORE PRINT!

Spores are kind of like mushroom seeds. They can be helpful for identifying mystery specimens! They're super tiny though, with thousands of individual spores produced on a single gill or small segment of the mushroom body, So we use spore prints to see their colours and patterns.

The first step to making a spore print is to take a specimen sample. That means you need to be sure you aren't causing any harm to the environment. Make sure there are lots of mushrooms of the same type around if you plan on taking one for further study!



SPECIES ID TIPS:

You might not need a spore print for many mushrooms, even those tricky to ID by sight

Try cutting or pinching a part of the stalk or gills. Do you see staining/bleeding?

Corts and Boletes typically have brown or dark spores. Inkcaps are black, but they usually turn into a gooey mess before you get a print - hence the name "Ink"cap!

Brittle gills, Milk caps, Wax caps, and Amanitas tend to have white or pale coloured spores

SHOW US YOUR FUNGI!

Draw the mushrooms you find around your local "naturehood"!

They could be hiding in the forest, under the leaves, or right in the lawn! Check the side of your house, the playground, and by big trees.

Location: _____ Mushroom ID: _____

Mushroom Word Search

S	P	R	U	C	E	L	A	R	O	C	E	U	B
L	F	U	N	G	U	S	L	E	A	V	E	S	G
B	R	I	T	T	L	E	G	I	L	L	M	O	L
W	A	R	H	C	R	I	B	O	I	L	A	I	P
U	L	M	T	T	R	U	M	P	E	T	P	L	D
P	U	U	F	U	N	G	I	S	N	L	L	O	F
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C	M	M	C	O	N	I	F	E	R	L	E	M	U
M	C	T	P	A	C	K	L	I	M	S	S	A	P
O	P	P	L	E	R	O	M	A	U	P	T	L	P

GILLS
RUSSULA
CONIFER
BIRDSNEST
MOREL
LEAVES
SPRUCE
MUSHROOM
MAPLE
WOODCUP
BRITTLE GILL
MILKCAP
SPORES
PINE
SOIL
BIRCH
CORAL
TRUMPET
FUNGUS
FOREST
BOLETE
FUNGI
AMANITA
WAXCAP

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