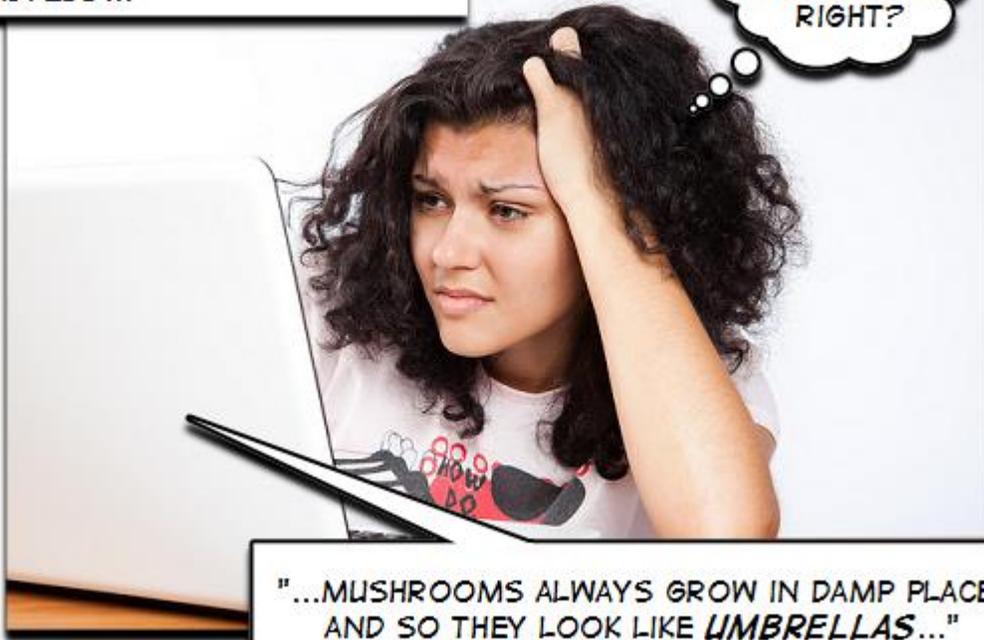


# Chapter 15

## Classifying fungi and protists

THESE MISTAKES SEEM  
ENDLESS...

YOU'RE  
KIDDING ME,  
RIGHT?



"...MUSHROOMS ALWAYS GROW IN DAMP PLACES  
AND SO THEY LOOK LIKE *UMBRELLAS*..."

# Day One:

Today, you and your child will:

1. Read the text
2. Review the text with your child
3. Complete the student worksheets
4. Collect the materials you will need for days two and three

## National Science Education Standards covered this week:

Organisms in the Kingdom Fungi are typically decomposers, which feed upon dead and decaying matter in their habitat. Mushrooms are a well-known organism in this kingdom.

Kingdom Protista contain organisms that contain traits from other kingdoms. Since this may become confusing for scientists, this kingdom has been divided into three different groups: slime molds (fungus-like protists), algae (plant-like protists) and protozoans (animal-like protists).

# Definitions

<b>Kingdom Fungi</b>	organisms, like mushrooms, that act as decomposers and absorb their food through their bodies
<b>Enzymes</b>	chemicals made by organisms that can help the organism do many different things
<b>Decomposers</b>	organisms that break down biotic material (like dead plants and animals) into more useful forms (like nutrients for living plants)
<b>Kingdom Protista</b>	organisms that share traits with plants, animals and fungi
<b>Slime molds</b>	fungus-like protists
<b>Algae</b>	"al-gee"; Plant-like protists
<b>Protozoans</b>	animal-like protists

# Sample questions to ask your child after completing the weekly reading.

## **How do fungi eat?**

Fungi are decomposers. They spread a sticky goo into the area surrounding their body that contains enzymes. These chemicals break down biotic material into smaller, softer parts. The fungi can then absorb this substance.

## **Why do scientists have a hard time classifying protists?**

Protists have traits that are similar to animals, plants and fungi. Some protists have a mixture of all three.

## **Are fungi autotrophic or heterotrophic?**

Fungi, like mushrooms, must absorb nutrients into their bodies in order to survive. This makes them heterotrophic.

# Answers to worksheet questions:

## Page 1:

1. protozoans
2. decomposers
3. algae
4. Kingdom Protista
5. Kingdom Fungi
6. enzymes
7. slime molds

## Page 2:

- 7 - Kingdom Fungi
- 5 - enzymes
- 3 - decomposers
- 2 - Kingdom Protista

- 6 - slime molds
- 1 - algae
- 4 - protozoans

## Page 3:

"You are given a chance to become a protist. However, you have three kinds of protists to choose from: Slime molds, Algae and Protozoans. Which one would you like to be and why?"

*Answers will vary*

# Day Two:

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

**The following text will give you the most important items to review for your activity today.**

The use of yeast is very important in many of our current food-producing industries.

Yeast is a fungus that feeds upon sugar to survive. As it feeds upon the sugar, it releases a gas that can be used in the production of breads and some beverages.

# Waiter! There's a fungus in my bread!

## Objective:

Children will explore the actions of a well-used fungus.

## Materials:

teaspoon

active dry yeast

two bottles of soda pop

water

two "helium quality" balloons (not the small water-balloon size!)

## Procedure:

Remove the contents of one of the bottles of soda...enjoy!

Fill the bottle up with an equal amount of water.

Put a teaspoon of dried yeast in each bottle.

Seal the bottles and shake them up.

Take off the caps and replace them with balloons.

Place the bottles in a warm place, but not in direct sunlight.

Ask the child what they believe will happen:

*What do they think the balloon will do?*

*What do they think will happen to the soda and the water?*

Allow the bottles to remain still for 24 hours. You can check the size of the balloons every 8 hours and see the difference.

Discuss their predictions:

*Were they correct?*

*What happened to the soda and the water?*

**Explanation:**

Yeast is a very well-known and important fungus. It is commonly used in most breads to allow the dough to "rise" as it fills with gas. The balloon on top of the soda pop will become noticeably larger since the yeast feeds on the sugar in the liquid. As it uses up the sugar, the yeast gives off carbon dioxide gas, which fills up the balloon. Without any sugar in the plain water, the yeast cannot give off any gas.

If you can show your child a piece of bread, have them look closely at all of the "holes" in the surface. These "holes" are bubbles of carbon dioxide gas that is made by the yeast while the bread is being made.

# Day Three: Lab Activity

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

**The following text will give you the most important items to review for your activity today.**

The growth of a fungus can be readily observed over a period a few days.

Most fungus is fuzzy or hairy in appearance and is not to be confused with the smooth and shiny appearance of bacterial colonies.

## Putting the "fun" in fungus...

### Objective:

Children will grow their own fungus in a controlled setting.

### Materials:

bread

potato (any other vegetable will do)

moist paper towels

sealable baggies

### Procedure:

Inform the child they are going to be growing their own fungus.

However, this organism needs something to eat. So, tell the child that the food and water they place in their baggies will be the resources the fungus needs to grow.

Place a damp paper towel in each bag. Place a slice of bread onto the paper towel and seal the baggie.

Place individual vegetables on the paper towels and seal them up in their own baggie.

Place the baggies in warm areas away from direct sunlight.

Ask them to predict which food is going to grow the most fungus.

Check the bags each day. Fungal growth should be visible in 3-5 days.

### Explanation:

The sealed baggie traps the moisture and heat inside. This is the perfect environment for a fungus to grow. With plenty of food, water and heat, the growth rate of a fungus can be very high. Once a fungus starts to grow on your food, it will be very easy to identify. Most fungi are fuzzy or hairy and can appear as any color. Do not confuse your fungal growth with a colony of bacteria.

Bacterial colonies tend to be slimy or shiny.