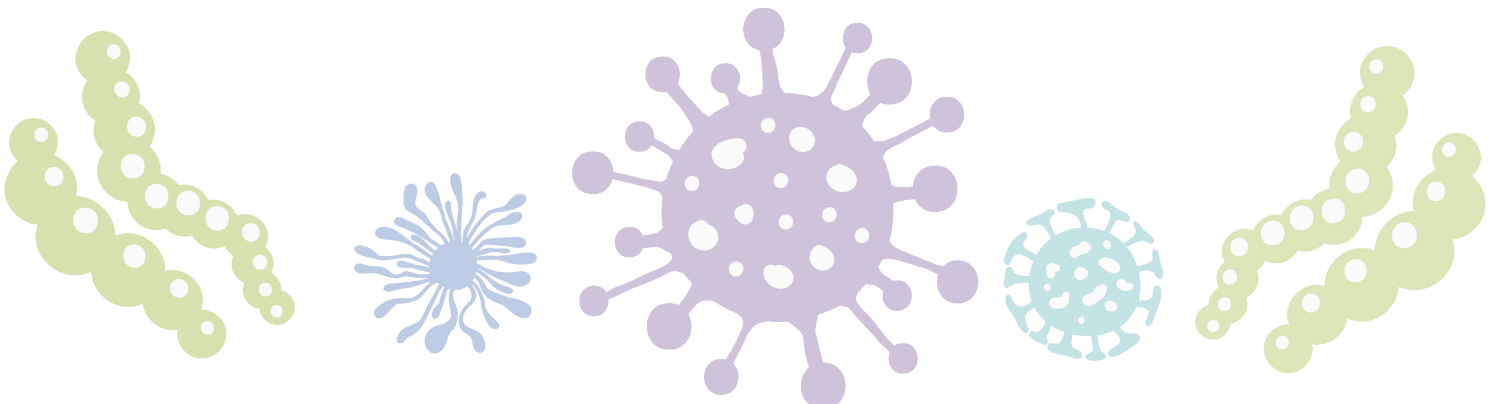


What is Life?

Scientists love the idea of searching for life on other planets, but we haven't even finished finding all the life on our own planet—not even close! There are millions of different kinds of living things on Earth, and probably millions more we have yet to discover.

Recommended Reading

- 🌿 *What's Smaller than a Pygmy Shrew?* by Robert Wells
- 🌿 *The Biosphere*, by Gregory L. Vogt, Introduction & Chapter 1
- 🌿 Genesis 1:1-2:3





ACTIVITY

Is it Alive?

How do you know if something is living? You have to examine its characteristics, of course! In class we talked about 5 characteristics of living organisms. In this activity, you'll examine several items to determine if they're living or not.

SUPPLY LIST

- Rock
- Candle flame
- Potted plant
- Yeast in warm water
- Mold growing on bread
- Apple
- Book

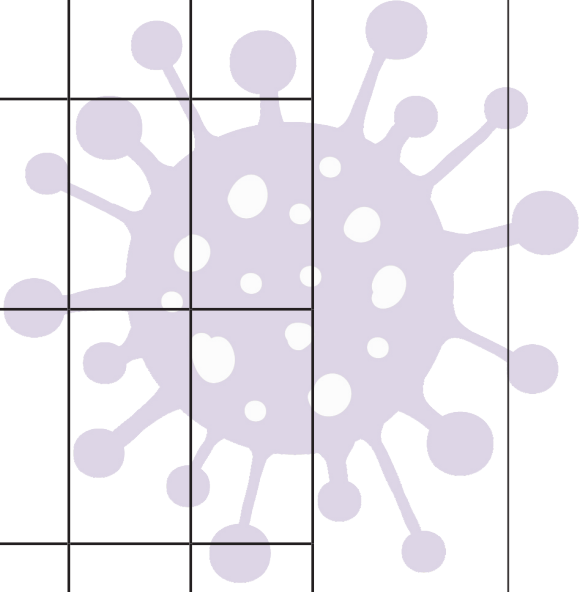
INSTRUCTIONS

1. Choose at least 5 items from the supply list above to examine. If you choose the candle, be sure to have a parent help you light the wick.
 2. Look at the chart on the next page. Spend time filling in the 5 characteristics of life you learned about from this week's lesson on the left hand side of the table.
 3. Across the top, list the items you've chosen to examine.
 4. Carefully examine each item and consider whether it has each of the characteristics. If it does, put an x in the box; if it doesn't, leave it blank. If you're unsure, ask your parents to help you look for the answer online or in a book.
 5. At the bottom of the page, list the items that you determined are living and those that are not.
-



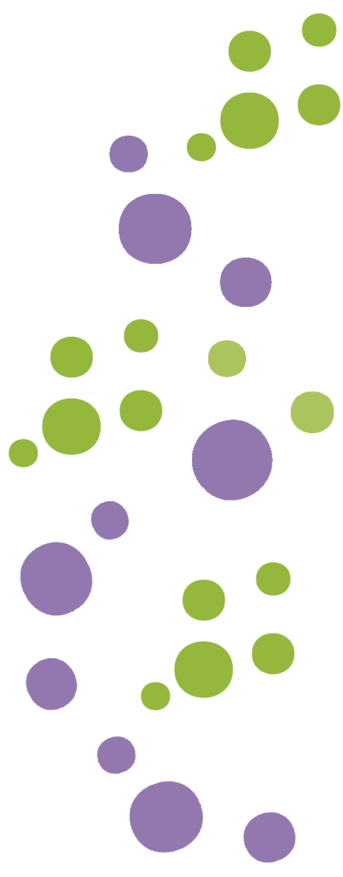
Items you're examining

Characteristics of Life							
1.							
2.							
3.							
4.							
5.							



What items are living?

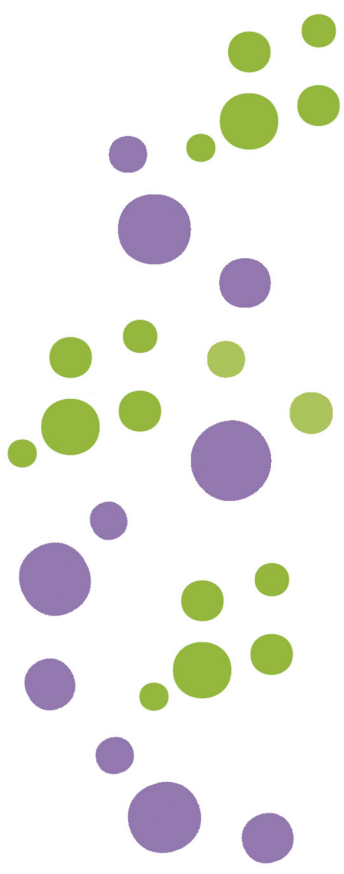
What items are not alive?



LESSON 1: GENESIS 1:1

In the beginning, God created the
heavens and the earth.

Handwriting practice lines consisting of four sets of three horizontal lines (top solid, middle dashed, bottom solid) for tracing and writing practice.



LESSON 1: GENESIS 1:1

In the beginning, God created the

heavens and the earth.

QUESTION:

What are the 5 characteristics of life?

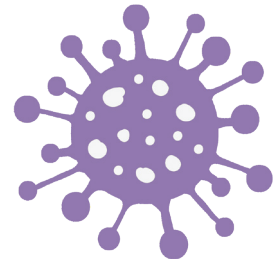
ANSWER:

(1) Growth (2) Respond to the environment (3) Reproduction
(4) Require energy (5) Organization in cells



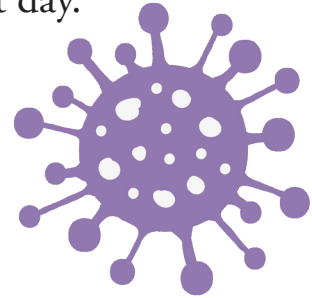
GENESIS 1:1-2

In the beginning, God created the heavens and the earth. 2 The earth was without form and void, and darkness was over the face of the deep. And the Spirit of God was hovering over the face of the waters.



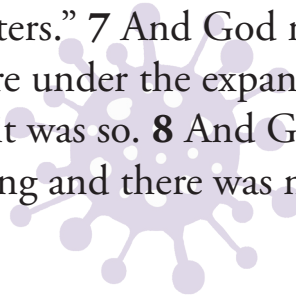
GENESIS 1:3-5

3 And God said, “Let there be light,” and there was light. **4** And God saw that the light was good. And God separated the light from the darkness. **5** God called the light Day, and the darkness he called Night. And there was evening and there was morning, the first day.



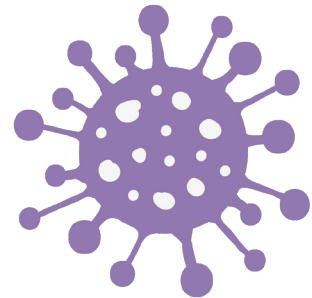
GENESIS 1:6-8

6 And God said, “Let there be an expanse in the midst of the waters, and let it separate the waters from the waters.” **7** And God made the expanse and separated the waters that were under the expanse from the waters that were above the expanse. And it was so. **8** And God called the expanse Heaven. And there was evening and there was morning, the second day.



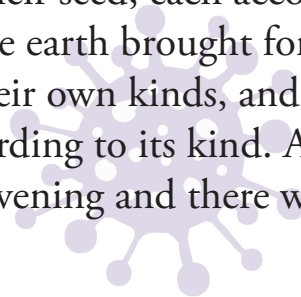
GENESIS 1:9-10

9 And God said, “Let the waters under the heavens be gathered together into one place, and let the dry land appear.” And it was so. **10** God called the dry land Earth, and the waters that were gathered together he called Seas. And God saw that it was good.



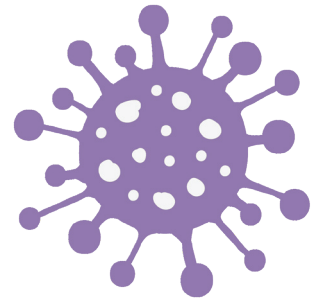
GENESIS 1:11-13

11 And God said, “Let the earth sprout vegetation, plants yielding seed, and fruit trees bearing fruit in which is their seed, each according to its kind, on the earth.” And it was so. **12** The earth brought forth vegetation, plants yielding seed according to their own kinds, and trees bearing fruit in which is their seed, each according to its kind. And God saw that it was good. **13** And there was evening and there was morning, the third day.



GENESIS 1:9-10

9 And God said, “Let the waters under the heavens be gathered together into one place, and let the dry land appear.” And it was so. **10** God called the dry land Earth, and the waters that were gathered together he called Seas. And God saw that it was good.

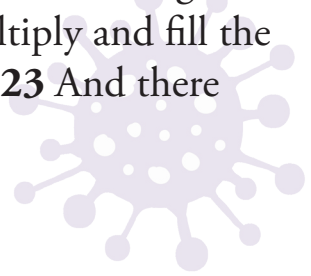


GENESIS 1:14-19

14 And God said, “Let there be lights in the expanse of the heavens to separate the day from the night. And let them be for signs and for seasons, and for days and years, **15** and let them be lights in the expanse of the heavens to give light upon the earth.” And it was so. **16** And God made the two great lights—the greater light to rule the day and the lesser light to rule the night—and the stars. **17** And God set them in the expanse of the heavens to give light on the earth, **18** to rule over the day and over the night, and to separate the light from the darkness. And God saw that it was good. **19** And there was evening and there was morning, the fourth day.

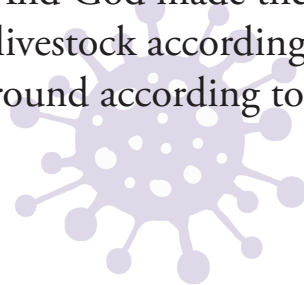
GENESIS 1:20-23

20 And God said, “Let the waters swarm with swarms of living creatures, and let birds fly above the earth across the expanse of the heavens.” **21** So God created the great sea creatures and every living creature that moves, with which the waters swarm, according to their kinds, and every winged bird according to its kind. And God saw that it was good. **22** And God blessed them, saying, “Be fruitful and multiply and fill the waters in the seas, and let birds multiply on the earth.” **23** And there was evening and there was morning, the fifth day.



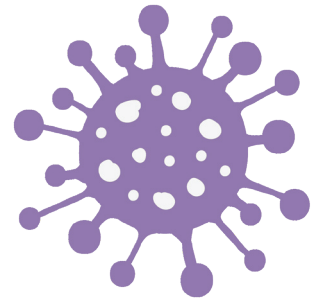
GENESIS 1:24-25

24 And God said, “Let the earth bring forth living creatures according to their kinds—livestock and creeping things and beasts of the earth according to their kinds.” And it was so. **25** And God made the beasts of the earth according to their kinds and the livestock according to their kinds, and everything that creeps on the ground according to its kind. And God saw that it was good.



GENESIS 1:26

26 Then God said, “Let us make man in our image, after our likeness. And let them have dominion over the fish of the sea and over the birds of the heavens and over the livestock and over all the earth and over every creeping thing that creeps on the earth.”



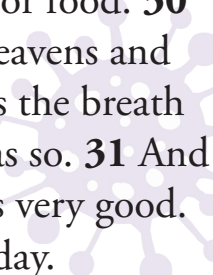
GENESIS 1:27

27 So God created man in his own image, in the image of God he created him; male and female he created them.



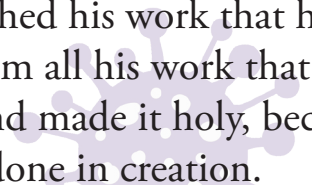
GENESIS 1:28-31

28 And God blessed them. And God said to them, “Be fruitful and multiply and fill the earth and subdue it, and have dominion over the fish of the sea and over the birds of the heavens and over every living thing that moves on the earth.” **29** And God said, “Behold, I have given you every plant yielding seed that is on the face of all the earth, and every tree with seed in its fruit. You shall have them for food. **30** And to every beast of the earth and to every bird of the heavens and to everything that creeps on the earth, everything that has the breath of life, I have given every green plant for food.” And it was so. **31** And God saw everything that he had made, and behold, it was very good. And there was evening and there was morning, the sixth day.



GENESIS 2:1-3

1 Thus the heavens and the earth were finished, and all the host of them. **2** And on the seventh day God finished his work that he had done, and he rested on the seventh day from all his work that he had done. **3** So God blessed the seventh day and made it holy, because on it God rested from all his work that he had done in creation.



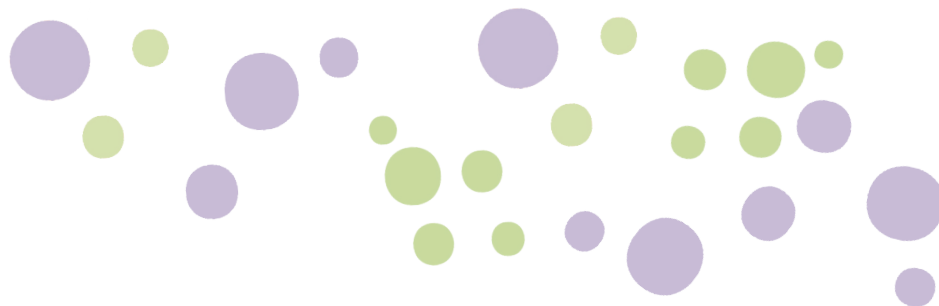


What is Life?

Lesson 1 Quiz



1. **Biology is the study of:**
A) Water B) Sun C) Life
2. In Genesis 1, it says God created the earth in:
A) 7 days B) 6 days C) 1 year
3. **Living things grow by:**
A) Getting bigger B) Worn out cells being replaced with new cells C) Both
4. **Responding to the environment is not a characteristic of life.**
True False
5. **Living things creating new living things is called:**
A) Reproduction B) Growth C) Reorganization
6. **All living things need energy to grow and reproduce.**
True False
7. **Living things contain cells that are:**
A) Organized B) Unorganized C) Divided into rooms
8. **The smallest unit of living things is:**
A) Energy B) Cell C) Blood





The Fungus Among Us!


This lesson is all about some creatures with a very important job —ridding the world of dead and decaying organisms. Fungi are found all over the world in every single biome. Without them, the world would be covered in disgusting, dead organisms.

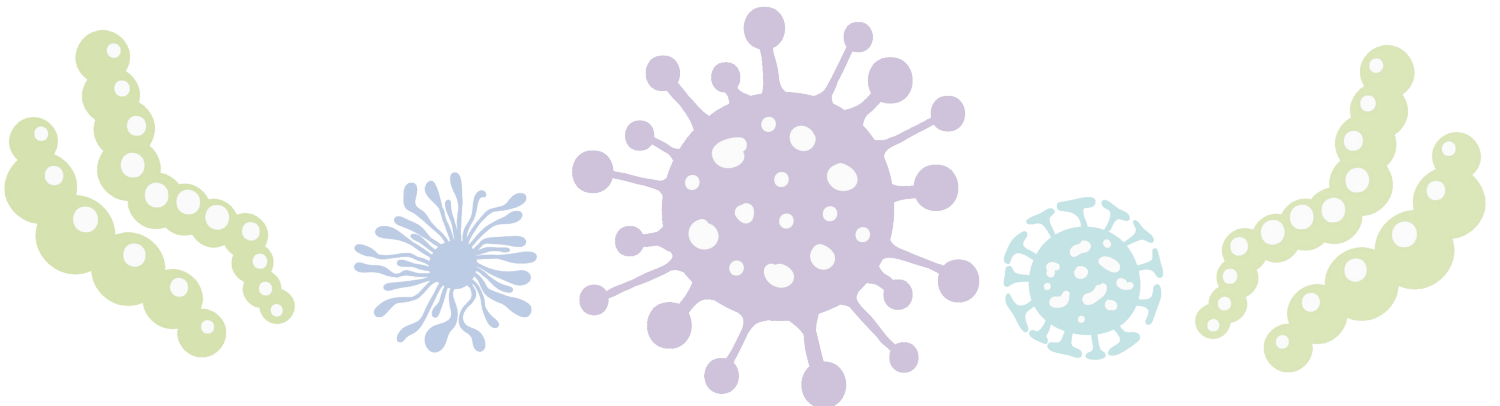
Recommended Reading

 *The Bacteria Book: The Big World of Really Tiny Microbes*, by Steve Mould, p. 44-53

 *Fungus is Among Us!*, by Joy Keller

 *The Mushroom Fan Club*, by Elise Gravel

 *Fungi: Mushrooms, Toadstools, Molds, Yeasts, and Other Fungi*, by Judy Waring





ACTIVITY

Watching Fungi Eat

You might be familiar with yeast as something you can bake with in the kitchen: yeast is what helps bread to rise. Yeast is actually a type of fungi. You'll probably remember from class that fungi are a type of decomposer. In this activity we'll have a chance to watch yeast in action!

SUPPLY LIST

- Very ripe banana
- 2 zip lock bags
- 1 teaspoon yeast

INSTRUCTIONS

1. Cut the banana in half lengthwise.
2. Sprinkle 1 teaspoon of yeast on one half of the banana.
3. Put both halves each in their own ziplock bag, seal the bag, and place them in a warm dark place.
4. Compare what happens to the banana treated with yeast and the one left untreated. Check your bags each day for a week and record your observations on the table below.

DAY	Banana without Yeast	Banana with Yeast
1		
2		
3		
4		
5		
6		
7		

Which banana showed more changes after 7 days? Why do you think this is?



LESSON 9: DEREK JENSEN

I thought a forest was made up
entirely of trees, but now I know that
the foundation lies below ground, in
and everything that creeps on the
fungi.

LESSON 9: DEREK JENSEN

Handwriting practice lines consisting of ten sets of three horizontal lines (top solid, middle dashed, bottom solid).





LESSON 9: DEREK JENSEN

I thought a forest was made up
entirely of trees, but now I know
the foundation lies below ground
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LESSON 9: DEREK JENSEN

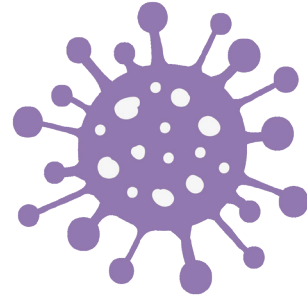
Handwriting practice lines consisting of solid top and bottom lines with a dashed midline for letter height guidance. There are five sets of these lines.

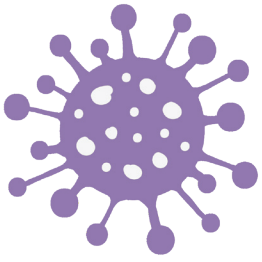
QUESTION:

Are fungi producers, consumers or decomposers?

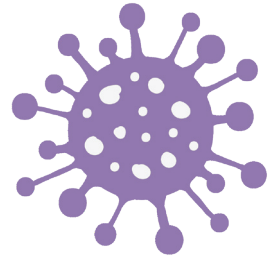
ANSWER:

Decomposers





The Fungus Among Us!



Lesson 9 Quiz

1. Fungi are made up of what types of cells?

- A) Prokaryotic B) Eukaryotic

2. How do fungi obtain their food?

- A) They're autotrophic: they make their own food B) They're heterotrophic: they consume their food
C) They don't need food

3. Fungi are...

- A) Producers B) Consumers C) Decomposers

4. What do fungi cells contain that help give them shape and structure?

- A) Skeleton B) Cell walls C) Cell skeleton

5. Are fungi mobile?

- A) Yes B) No C) Only during part of their life

6. How are fungi useful to the rest of the world?

- A) They break down dead organisms in the environment
B) They can serve as an important type of medication called antibiotics
C) They are a good source of food
D) All of the above

7. What are the thread-like filaments multicellular fungi are made up of?

- A) Strings B) Hyphae C) Fungi threads

