

Standards:

LS #1: Cells are the fundamental unit of life.

LS #4: Living systems at all levels of organization demonstrate the complementary nature of structure and function.

Handouts:

Cells Investigation 1 (What is Life) - Day 2.

On Board:

1. Take paper(s) out of tray(s).
2. Get your name tag and put it on your desk.
3. Get out your, "Cells Investigation 1 - Day 1 (Secret Life Of 118 Green Street).
4. Get out Science Composition book (blue) .
5. Fill in planners.
6. Do Bell Work on Smart board.
7. Pencil

Up For Grabs:

Materials:

1 Petri Dish, Camphor Crystals, Water, Living/Nonliving Posters and Category Titles, and Living/Nonliving Cards, Some form of light (emo, cell phone) for Camphor Crystals

Procedures:

1. Take attendance.
2. Do Bell Work.
3. Discuss Bell Work.
4. Go over focus for the day.
5. Go over procedure for the day.
6. Finish video, "Secret Life of 118 Green Street."
7. Go over answers to: "Cells Investigation 1 - Day 1 (Secret Life Of 118 Green Street).
8. Collect "Cells Investigation 1 - Day 1 (Secret Life Of 118 Green Street) if you want.
9. Do class discussion on cells.
10. Do class demonstration, "What is Life?" Fill in part 1 of your, Cells Investigation 1 (What is Life) - Day 2.
11. Answer questions and discuss class demonstration, "What is Life?"
12. Do evidence of life activity.
13. Make a class list of evidences of life.
14. Wrap Up and go over focus (if time).

Homework:

Weather permitting we will be going outside on day 3. Please dress for the weather.

Note: Make a packet of camphor crystals for each class ahead of time. Put 10-15 crystals in each packet. Keep them in a zip lock bag until they are ready. They need to be kept out of humidity.

Be sure to play up the crystals like they are alive - They need lights out tell students etc..

WE WILL NEED POND WATER FOR DAY 3.

WE NEED SOIL FOR DAY 3.

Make sure to zoom in on crystals.

Pictures:

- A. Euglena
- B. Red Blood Cells
- C. Liver Cells
- D. Cheek Cells
- E. Paramecium
- F. Nerve Cells
- G. Plant Cells

Cells

Investigation 1

Day 2

To Do... Bell Work - Day 2

1. Take paper(s) out of tray(s).
2. Get your name tag and put it on your desk.
3. Get out your, "Cells Investigation 1 - Day 1 (Secret Life Of 118 Green Street).
4. Get out Science Composition book (blue) .
5. Fill in planners.
6. Do Bell Work on Smart board.
7. Pencil

Bell Work:

Label This Bell Work: Cells Investigation 1

Use one box.

What makes something living?

Focus

- ☐ 1. You will learn the characteristics of living things.
- ☐ 2. You will learn about microscopic world around you.

Science State Standard

- ☐ LS #1: Cells are the fundamental unit of life.
- ☐ LS #4: Living systems at all levels of organization demonstrate the complementary nature of structure and function.

Procedure

Today We will...

1. Take attendance.
2. Do Bell Work.
3. Discuss Bell Work.
4. Go over focus for the day.
5. Go over procedure for the day.
6. Finish video, "Secret Life of 118 Green Street."
7. Go over answers to: "Cells Investigation 1 - Day 1 (Secret Life Of 118 Green Street)".
8. Collect "Cells Investigation 1 - Day 1 (Secret Life Of 118 Green Street)" if you want.
9. Do class discussion on cells.
10. Do class demonstration, "What is Life?" Fill in part 1 of your, Cells Investigation 1 (What is Life) - Day 2.
11. Answer questions and discuss class demonstration, "What is Life?"
12. Do card sort for "What is Life."
13. Answer questions and discuss card sort, "What is Life?" Fill in part 2 of your, Cells Investigation 1 (What is Life) - Day 2.
14. Clean up all cards.
15. Wrap Up and go over focus (if time).

Video

1. Look at your handout, "Cells Investigation 1 - Day 1 (Secret Life Of 118 Green Street).
2. We are going to finish the video and questions.

Click Here To Watch Video On: The Secret Life of 118 Green Street.

Answers To: "Cells Investigation I - Day I (Secret Life Of 118 Green Street)"

1. This video took, us through many of the **wonders** that are part of our everyday life, but are often beyond the reach of our **eyes/vision**.
2. The time of day that the Herbert Day began was **7:00 a.m.**
3. Droplets of **animal fat** give cream its flavor.
4. A complicated protein network gives a(n) **egg shell** its tremendous strength.
5. The house mouse did not originate in our country. Originally it came from **Central Asia**, and has been around for at least **5,000** years.

Answers To: "Cells Investigation I - Day I (Secret Life Of 118 Green Street)"

6. Four of the "surprise," non-human, residents, of 118 Green Street were **mouse, spiders, crickets, dust mites**.
7. **Fungi, yeast, bacteria** are just three of the types of creatures living on our skin.
8. There are probably more **bacteria** living on our body than there are people living on Earth. Most are harmless, and some are even helpful.
9. The slime mold is a primitive, science fiction-type, creature that we might find in our **lawn**.
10. When threatened, carpenter ants may carry **eggs** deep into the nest for protection.

Answers To: "Cells Investigation I - Day I (Secret Life Of 118 Green Street)"

11. The black carpenter ants won the “war” with the red harvester ants because of **large numbers**.
12. The video showed crystallization giving “birth” to a(n) **ice cube**.
13. We saw a potato chip as a rough landscape of **starch** and **fat**, with “rock piles” made of **salt**.
14. **Termites** are blind, hard working creatures, with protozoan helpers in their intestines, that are an older species than the dinosaurs.
15. The **fly** was 2 weeks old, weighed 1/10 of an ounce, was 1/4 inch tall and had 4,000 lenses in it’s eyes.

Answers To: "Cells Investigation I - Day I (Secret Life Of 118 Green Street)"

16. The video told of wood-eating **fungi** that could consume the entire kitchen table in several hundred years.
17. The **fly** was described as being one of the most dangerous creatures we encounter in our house because **of filth and disease**.
18. Every 28 days we have grown an entire new **skin**.
19. **Skin, ash, fly eyes**, are three of the things that are in the microscopic “dust blizzard” that regularly surrounds us.
20. The first “invisible” creatures we saw in the video were **dust mites**, which eat our **dead skin**.

Answers To: "Cells Investigation I - Day I (Secret Life Of 118 Green Street)

21. If we could slow **time** down, an ordinary drip could become a delicate water ballet.

22. Bacteria were eating the **grease/dirt** on the scouring pad to stay alive.

23. **Water** was extremely disturbing and violent to the garden at 118 Greet Street, but it did bring new **life** .

24. A grain of sand magnified 25 million times, showed us actual photos of **atoms**.

Answers To: "Cells Investigation I - Day I (Secret Life Of 118 Green Street)

25. Common soap bubbles are made of a “sandwich” layer with water on the inside and **fat** on the outside.

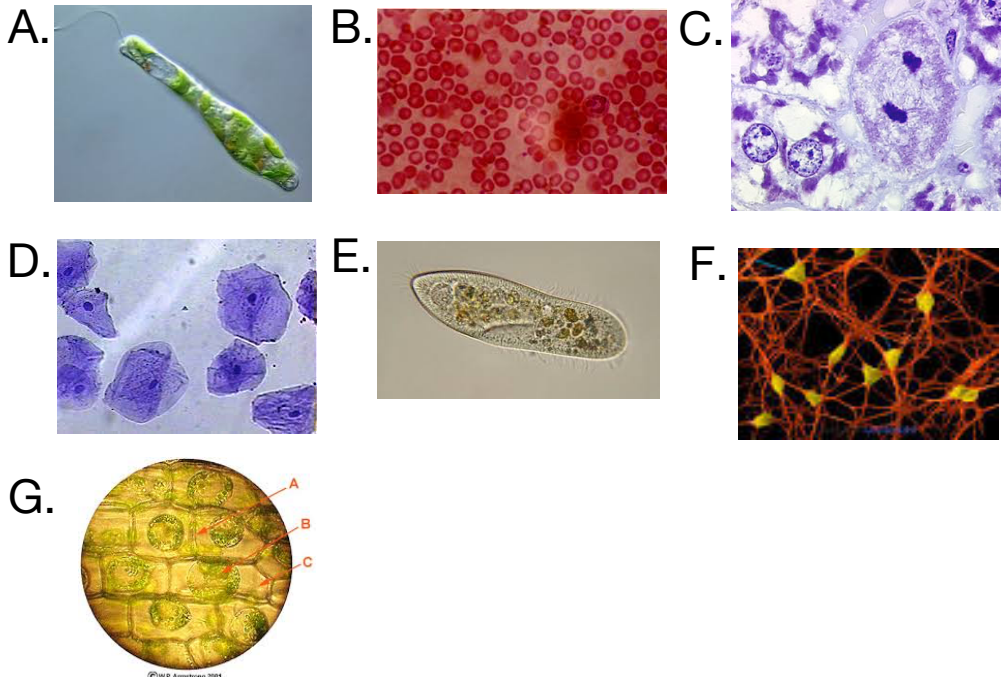
26. Two kinds of “traps” were shown toward the end of the video they were a **mouse trap** and a **spider web**.

27. The saliva of a mosquito has chemicals that prevent **blood clotting**, and **all pain**.

Class Work - Cell Discussion

1. Get out your science composition notebooks.
2. Label them, "Cells Investigation 1 - Day 2 - Cell Discussion (Date)."
3. Look at the images of cells on the following slides and describe the ways the cells are similar.

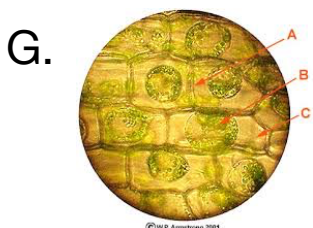
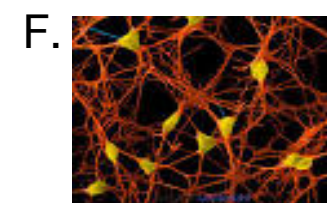
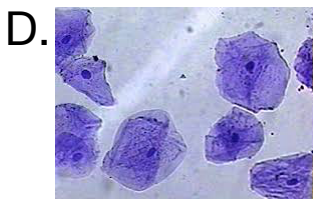
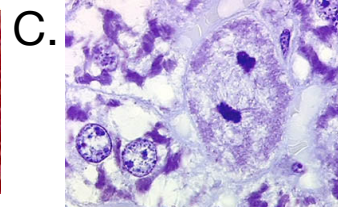
Class Work - Cell Discussion



Class Work - Cell Discussion

2. How would the cells shape be related to its job?

Class Work - Cell Discussion



What do you think each picture is?

Class Work - Cell Discussion

Pictures:

- A. Euglena
- B. Red Blood Cells
- C. Liver Cells
- D. Cheek Cells
- E. Paramecium
- F. Nerve Cells
- G. Plant Cells

Class Demonstration - What Is Life?

Over the next several weeks we will be studying life. We will try to figure out how living things are similar to each other and how they are different from each other. We will study the characteristics of living things that separate them from things that are not alive.

Class Demonstration - What Is Life?

1. Watch the class demonstration in the petri dish.
2. Go back to your seat and write down everything you and your partner observed happening in the petri dish on your paper (What Is Life?) under part 1.
3. After everyone has gone we are going to have each group of two come up and write one of your observations on the board that you wrote on your paper for part one.
4. As we discuss your observations add any new observations to your paper in part 1 that you did not have on your original list.

Composition Books - What Is Life?

1. Get out your science composition notebooks (Blue).
2. Label them, "Cells Investigation 1 - Day 2 - What is Life Discussion (Date).
3. Write out and answer the following questions in your composition books:
 - A. How can you explain what you observed? Why do you think the little objects are doing what they are doing?
 - B. Do you think the things in the petri dish are living or nonliving.
 - C. Give an explanation to support your answer for letter B.

Class Discussion - What Is Life?

1. How many of you think you can tell if something is living?
2. What evidence can you look for to tell if something is living?

Composition Books - What Is Life?

On the next slide we are going to write down as many things as we can think of that supports that something is living.

2. In the center of your page in your composition books write the title, "Evidence Of Life" and underline it.
3. As we write ideas on the next slide record our list in your Science composition notebooks.

Evidence Of Life

Focus

- ☐ 1. We will take lab safety test.
- ☐ 2. You will learn about microscopic world around you.

Science State Standard

- ☐ LS #1: Cells are the fundamental unit of life.
- ☐ LS #4: Living systems at all levels of organization demonstrate the complementary nature of structure and function.

Homework

Weather permitting we will be going outside on day 3. Please dress for the weather.