

Life Science 7

(Copy the following lab activity set up in your science notebook.)

Title: Activity 12A Lab: The Cells of Producers

Challenge Question: How are the cells of producers such as plants different from the cells of consumers such as animals? How do plant cell structures relate to their function as producers?

Background:

- Producers produce food for their own energy needs. Through the process of photosynthesis, producers such as plants convert light energy into chemical energy stored in food.
- Plant cells contain specific organelles, such as chloroplasts, that play a vital role in the production of food via photosynthesis.
- Both plant and animal cells have a nucleus, cytoplasm, and cell membrane. Unlike animal cells, plant cells have a cell wall and a large vacuole.

Vocabulary:

| Term | Definition | Picture or Example |
|----------------|------------|--------------------|
| cell wall | | |
| chloroplast | | |
| photosynthesis | | |

Materials:

The Cells of Producers lab packet

Elodea, celery stalk, slice of onion

water

microscope, microscope slide, coverslips

Cells of Producers Lab Data Sheet

Procedures:

1. Read and follow directions in lab packet to complete the lab.
2. Record your observations of each slide in the **Cells of Producers Lab Data Sheet**.
3. Answer Analysis Questions #1 - 6 from the lab packet. Write answers in Data/Results section of this activity set up.

Data/Results:

(Write answers to Analysis Questions #1 - 6 here.)

Conclusion: How are the cells of producers different from the cells of consumers?