

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period: \_\_\_\_\_

## Plant Cells

Crash Course Biology #6

1. The earliest plants were \_\_\_\_\_, which reproduce by shedding spores.
2. Some lycophytes evolved into scale trees, which covered the earth and are sometimes called “\_\_\_\_\_forests” because they fossilized into giant coal seams.
3. This productive epoch of geological history was called the \_\_\_\_\_ period.
4. Angiosperms, or plants that use \_\_\_\_\_ to reproduce didn't develop until the end of the cretaceous period.
5. Plant and animal cells are both \_\_\_\_\_ cells, meaning they have a nucleus.
  - a. The nucleus contains the DNA and is enclosed by a separate \_\_\_\_\_.
  - b. Eukaryotic cells have \_\_\_\_\_ suspended in cytoplasm.
6. Plants have a rigid \_\_\_\_\_ surrounding the plasma membrane. It is made of \_\_\_\_\_ and lignin. The cell wall gives \_\_\_\_\_ to the parts of a plant.
7. Humans cannot digest cellulose. How do animals like goats digest cellulose?
8. Plant cells also have \_\_\_\_\_, organelles that plants use to make and store compounds that they need.
9. How did plastids and mitochondria evolve? How do we know?
10. Chloroplasts convert light energy from the sun into \_\_\_\_\_ and into \_\_\_\_\_.
11. Plant cells have a large central \_\_\_\_\_, which they can push water into to provide turgor pressure from inside the cell.

### A Recap: The Basics

1. They have a cell wall that's made of \_\_\_\_\_.
2. They have a \_\_\_\_\_ – the headquarters of any eukaryotic cell – that stores genetic information.
3. They have plastids, including \_\_\_\_\_.
4. They have a central vacuole that stores \_\_\_\_\_ and other stuff that helps give the cell structural support.

# ANSWERS

## Plant Cells

Crash Course Biology #6

1. The earliest plants were **lycophytes**, which reproduce by shedding spores.
2. Some lycophytes evolved into scale trees, which covered the earth and are sometimes called "**coal** forests" because they fossilized into giant coal seams.
3. This productive epoch of geological history was called the **carboniferous** period.
4. Angiosperms, or plants that use **flowers** to reproduce didn't develop until the end of the cretaceous period.
5. Plant and animal cells are both **eukaryotic** cells, meaning they have a nucleus.
  - a. The nucleus contains the DNA and is enclosed by a separate **membrane**.
  - b. Eukaryotic cells have **organelles** suspended in cytoplasm.
6. Plants have a rigid **cell wall** surrounding the plasma membrane. It is made of **cellulose** and lignin. The cell wall gives **structure** to the parts of a plant.
7. Humans cannot digest cellulose. How do animals like goats digest cellulose? **They have a bacteria in their stomachs that actually does the digestion.**
8. Plant cells also have **plastids**, organelles that plants use to make and store compounds that they need.
9. How did plastids and mitochondria evolve? How do we know? **They were bacteria that were absorbed into plant cells. They have a double membrane.**
10. Chloroplasts convert light energy from the sun into **sugar** and into **oxygen**.
11. Plant cells have a large central **vacuole**, which they can push water into to provide turgor pressure from inside the cell.

A Recap: The Basics

1. They have a cell wall that's made of **cellulose**.
2. They have a **nucleus** – the headquarters of any eukaryotic cell – that stores genetic information.
3. They have plastids, including **chloroplasts**.
4. They have a central vacuole that stores **water** and other stuff that helps give the cell structural support.