Chapter 5 Quest Study Guide Continued…

How cells were first discovered

1. In 1590 the first \_\_\_\_microscope\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_was invented.
2. In 1663 Robert Hook observes the bark of the cork oak tree and names what he sees \_\_\_cells\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Anton Van Leeuwenhoek is the first to see \_\_animal\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_cells.
4. In 1838 Matthias Schleiden concludes that all \_\_plants\_\_\_\_\_\_\_\_are made of cells
5. In 1939, Theodore Schwann concludes that all \_\_\_\_\_animals\_\_\_\_\_\_\_\_\_\_\_\_\_\_are made of cells.
6. In 1855 Rudolf Virchow proposes that new cells are formed from cells that \_\_already exist.

All these discoveries led to the formation of Cell Theory

1. A Theory is an \_\_\_explanation\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of what we observe
2. Theories are based on many \_observations\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and are \_\_\_accepted\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by many people.
3. Three Parts of Cell Theory:
4. All \_\_\_\_living things\_\_\_\_\_\_\_\_\_\_\_\_\_\_ things are composed of cells.
5. Cells are the basic units of \_\_\_structure\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_function\_\_\_\_\_\_\_\_\_\_\_\_ in living things
6. All Cells come \_\_\_\_\_\_\_\_from\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_other\_\_\_\_\_\_\_\_\_\_\_\_ cells.

Turn to a Partner and share*! What do microscopes allow us to do?*

1. A microscope \_\_\_focuses\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_light\_\_\_\_\_\_\_\_\_\_ through lenses to produce a magnified image.
2. **Magnification is the condition of things appearing \_\_\_\_\_\_larger\_\_\_\_\_\_\_\_\_\_\_\_\_ than they are.

In a microscope there are two lenses:

1. The first lens is in the \_\_eyepiece\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. The second lens is on the \_\_nose\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ piece.
3. In a microscope total magnification is the power of lens 1 multiplied by the power of lens \_2\_\_\_\_\_.
4. Resolution describes the degree to which two \_\_\_\_\_different\_\_\_\_\_\_\_\_\_\_\_\_ \_\_objects\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that are close together can be distinguished.
5. The greater the resolution, the more \_\_\_\_\_\_detail\_\_\_\_\_\_\_\_\_\_.

Organelles

1. Mitochondria
2. Lysosomes
3. Vacuoles
4. Golgi Apparatus
5. Cytoplasm
6. Nucleus
7. Cell Wall
8. Chloroplast
9. Cell Membrane
10. Ribosomes
11. Endoplasmic Reticulum

**Organelle Function**

1. \_g\_\_\_\_Rigid layer that provides protection and support to a cell
2. **\_i\_\_\_\_ controls which substances pass into and out of a cell.**
3. \_f\_\_\_Cell’s Brain, Controls a cell’s activities
4. **\_\_\_j\_\_ produces proteins.**
5. **\_\_e\_\_\_** Clear, gel-like fluid that cell’s sit in
6. **\_\_\_a\_\_ Changes food into usable energy.**
7. **\_\_k\_\_\_** proteins and sends them throughout the cell.

**8. \_\_d\_\_\_Accepts proteins from the endoplasmic reticulum**

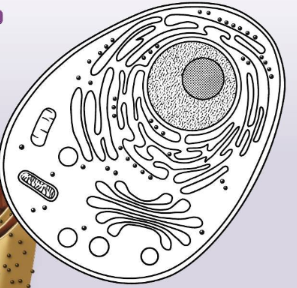
**9. \_\_c\_\_\_a pocket that stores food, water, waste, and other materials**

10. **\_\_h\_\_\_**Captures energy from the sunlight and changes it into energy

**11. \_\_b\_\_\_ Organelles that break large food particles down into smaller ones.**

**Label the Nucleus, Mitochondria, Ribosomes, Lysosomes, Rough Endoplasmic Reticulum, Golgi Apparatus, and Vacuole**

**Nucleus**

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**Ribosome Rough Endoplasmic reticulum**

**Mitochondria Golgi Apparatus**

**Lysosome Cell Membrane**