

Science 8 Chapter 1

Name: _____

Blk: ___ Date: _____

The Cell is the Basic Unit of Life (P. 6-51)

1. What is a **stentor** and where does it live? _____

2. Explain the difference between an organism that is **unicellular** and one that is **multicellular**. _____

3. What is the largest living organism and how large is it? _____

4. What is the strongest living thing on earth? _____
5. What is the fast living thing on earth and how fast is it?

6. List the **5 Characteristics of Living Things**.
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
7. What is a **stimulus** and give **two examples** of a stimulus.
 - a. Stimulus: _____
 - b. Two examples:
 1. _____
 2. _____
8. List 3 wastes produced by animals.
 - a. _____
 - b. _____
 - c. _____

Microscopes (p.11)

1. Look at figure 1.6 on page 12. You must be able to name all the parts of this microscope and give their function (what each part does).
2. How many lenses does a compound microscope have? _____
3. Calculate the magnification of these lenses on a microscope.

Eyepiece	Objective lens	Total Magnification
10x	4x	_____
10x	10x	_____
10x	40x	_____

4. Explain what **resolving power** is.

5. Explain how a **transmission electron microscope** works.

Cells (p.22)

1. What is the process called that **produces energy** for the cell?

2. What is an **organelle**? _____

3. Look at the plant and animal cells on page 27. Now, list all the **organelles** that are found in both plant and animal cells. _____

4. Write out the word equation for **cellular respiration**. (See Fig. 1.16)

5. Now, list the **organelles** found in plant cells but **not** animal cells.

6. What is the function of **deoxyribonucleic acid (DNA)**? _____

7. List the 6 organelles that are used for assembly, transport and storage.

8. **You must know all the functions of all the organelles in both plant and animal cells. You should make flash cards for these to help you learn them.**

9. What are **chloroplasts** and what is their function? _____

10. Write out the word equation for **photosynthesis**.

Cell Theory (p.31)

1. What are the three parts of the **cell theory**?

a. _____

b. _____

c. _____

2. Explain the difference between **prokaryotic** cells and **eukaryotic** cells.

3. Draw, label, and colour a prokaryotic cell and a eukaryotic cell.

<p style="text-align: center;">Prokaryotic</p>	<p style="text-align: center;">Eukaryotic</p>
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4. Are bacteria prokaryotic or eukaryotic? _____
5. Name two diseases that bacteria cause. _____
6. Why is a “superbug” so difficult to treat? _____

7. Explain how some bacteria are helpful.

- _____
8. Draw, label and colour the three different shapes of bacteria. Give the **common** name and the **scientific** name of each.

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9. Name 5 different types of viruses.

10. Why are viruses **not** considered to be living? _____

11. What types of organelles are found in viruses? _____

12. Turn to page 39, **Check Your Understanding**, in your text. You should be able to answer all the questions in the **Checking Concepts** and **Understanding Key Ideas**. If you cannot, you need to read the text and find the answers!

Diffusion, Osmosis, and the Cell Membrane (p.40)

1. Explain the difference between **diffusion** and **osmosis**. _____

2. What does **selectively permeable** mean? _____

3. Give your own original example of how diffusion would occur in air.

4. Why is the cell membrane called a **selectively permeable membrane**?

5. Explain what **equilibrium** means in respect to diffusion.

6. You have to read carefully to get this question. How many plant cell membranes stacked together is the same thickness as a sheet of paper? ____

7. Give an example of diffusion that occurs in your body.

8. Explain what osmosis is. _____

9. What is the reason for carrot wilting, as on page 43, when osmosis occurs?

10. How does penicillin cause a bacteria cell to die? _____

11. What is reverse osmosis and what is it used for in real life?

CHAPTER REVIEW

1. Explain what will happen if you put a piece of wilted celery in a glass of water. As well, explain the reason that the celery does this.

2. What organelles do plant cells have that animal cells do not have?

3. What is the difference between a prokaryotic and a eukaryotic cell?

4. Compare and contrast the processes of cellular respiration and photosynthesis.

5. List the parts of the cell theory.

a. _____

b. _____

c. _____

6. Describe one difference between bacteria and viruses.

7. Explain why this is not a correct statement. "When equilibrium is reached, particles stop moving back and forth through the cell membrane".

Use with textbook page 27.

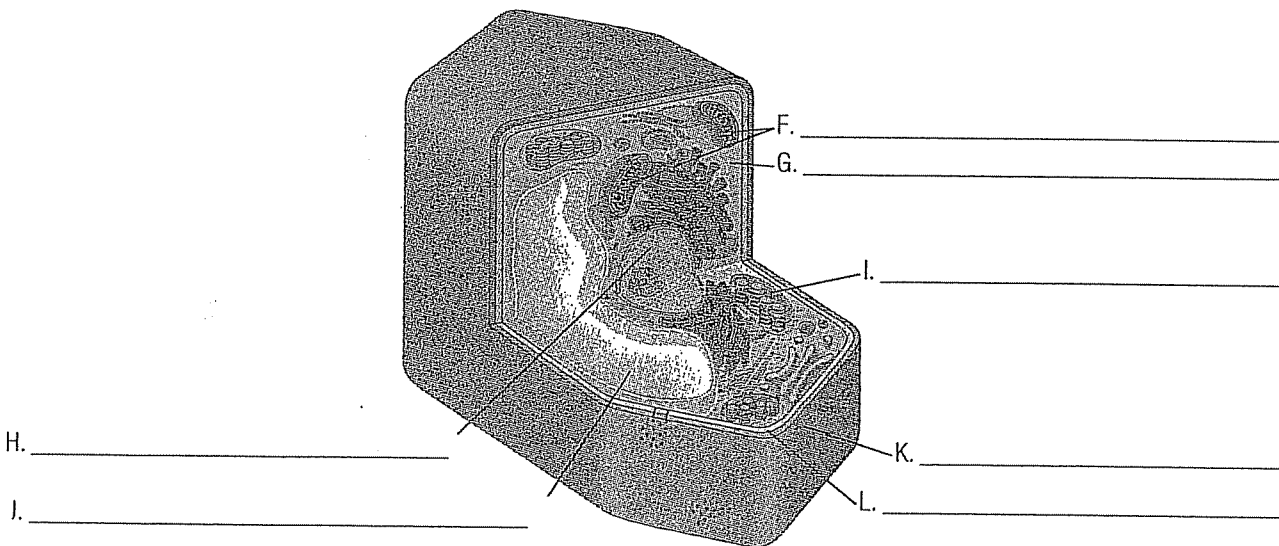
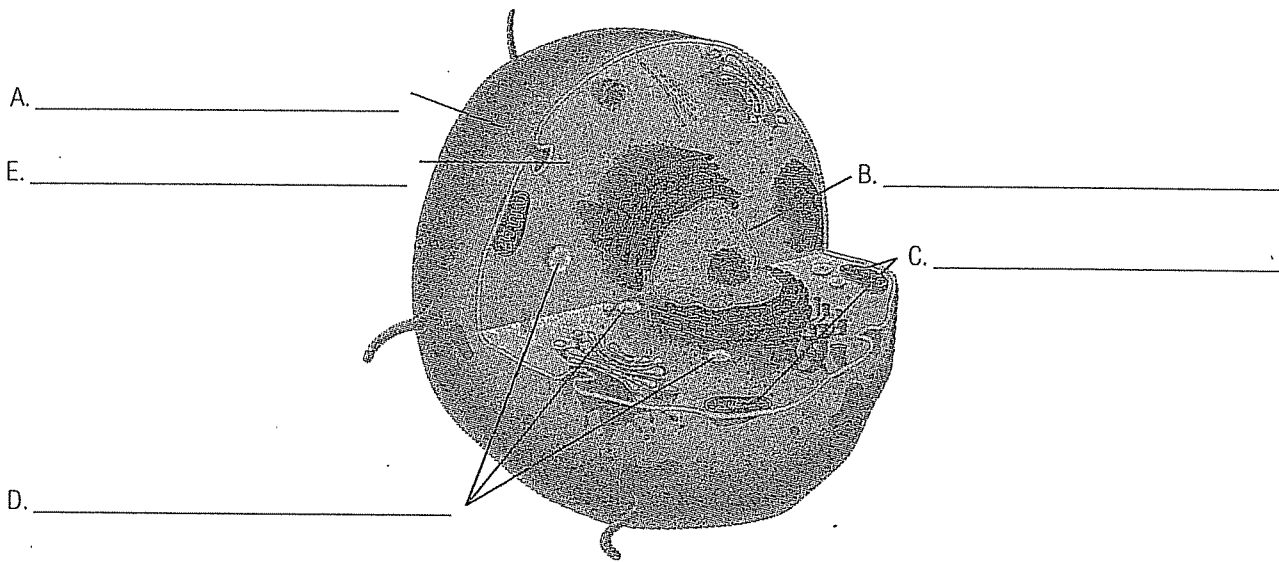
Parts of cells

Vocabulary

cell membrane
nucleus
cell wall
chloroplast

vacuole
vacuoles
cytoplasm
mitochondria

Use the terms in the box to label the parts of an animal cell and a plant cell. Terms may be used more than once.



Name _____

Date _____

Use with textbook page 12.

The compound light microscope

Identify the following parts of a compound light microscope.

