How Well Do You Know Your Cells?

Complete each sentence below with words from the box. One word will not be used.

<table>
<thead>
<tr>
<th>cells</th>
<th>cytoplasm</th>
<th>nucleus</th>
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<tbody>
<tr>
<td>cell membrane</td>
<td>Hooke</td>
<td>organelles</td>
</tr>
<tr>
<td>cell walls</td>
<td>Leeuwenhoek</td>
<td>ribosomes</td>
</tr>
<tr>
<td>chloroplasts</td>
<td>mitochondria</td>
<td>vacuoles</td>
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1. All living things are made up of one or more _________________.

2. In the 1660's, Robert ________________ viewed cork through one of the first compound microscopes and gave the name "cells".

3. Around the same time, Anton van ________________ used his own simple microscopes to view blood and microorganisms.

4. The structures that make up a cell are called _________________.

5. The large, rounded "brain" near the center of the cell is the _________________.

6. The jellyish substance inside the cell but outside the nucleus is the _________________.

7. The cell's powerhouses which release energy from food are the _________________.

8. ________________ make most of the protein for the cell.

9. ________________ act like storage areas within the cell.

10. Only plant cells have ________________ and ________________.
How Well Do You Know Your Cells?   KEY

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1. All living things are made up of one or more **cells**.

2. In the 1660's, Robert **Hooke** viewed cork through one of the first compound microscopes and gave the name "cells".

3. Around the same time, Anton van **Leeuwenhoek** used his own simple microscopes to view blood and microorganisms.

4. The structures that make up a cell are called **organelles**.

5. The large, rounded "brain" near the center of the cell is the **nucleus**.

6. The jellyish substance inside the cell but outside the nucleus is the **cytoplasm**.

7. The cell's powerhouses which release energy from food are the **mitochondria**.

8. **Ribosomes** make most of the protein for the cell.

9. **Vacuoles** act like storage areas within the cell.

10. Only plant cells have **cell walls** and **chloroplasts**.

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Cell Structure and Processes

Down
1. what ribosomes make
2. 3rd stage; chromosomes separate
3. osmosis is a form of passive ________
4. organelle found only in plant cells
5. dense center portion of nucleus
6. jellylike matrix for organelles
7. material of which chromosomes are made; condenses during prophase
8. forms vesicles: the ________ complex
9. ________ complex

Across
1. the nuclear membrane is ________, allowing materials to pass through
4. storage/transport sacks in a cell
9. organelle which produces protein
11. sack filled with enzymes; breaks down foreign substances
12. process of cell division
13. type of cell with a long "arm" - the axon

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Cell Structure and Division

1. organelle releasing energy from food
2. 4th stage of mitosis; two cells form
4. the cell _______ surrounds the cell
5. during prophase, a group of fibers called the _______ forms in the cell
6. barrel-shaped organelles usually found in pairs and perpendicular to each other
7. mitochondria are the _______ of the cell
8. 2nd stage; chromosomes line up

Down

1. strands of protein which provide structural support for the cell
3. passive transport of water across a semipermeable membrane
9. during telophase, two _______ cells are formed
10. the rounded "brain" of the cell
11. the longest stage of mitosis, where the cell grows larger

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How Many Cells?

How many cells are hidden in this puzzle?

First find all 20 words in the box below and circle them. Then see how many times you can find the word "CELL" in the letters surrounding those words! Look forwards, backwards, upside down, and even diagonal.

ANAPHASE  MICROTUBULE
CENTRIOLE  MITOCHONDRIA
CHLOROPLAST  MITOSIS
CHROMATIN  NUCLEOLUS
CYTOPLASM  NUCLEUS
GOLGI  ORGANELLES
INTERPHASE  OSMOSIS
LYSOSOME  PROPHASE
MEMBRANE  RIBOSOME
METAPHASE  TELOPHASE
How Many Cells?  KEY

How many cells are hidden in this puzzle?  - 12 -

First find all 20 words in the box below and circle them.

Then see how many times you can find the word "CELL" in the letters surrounding those words!

Look forwards, backwards, upside down, and even diagonal.

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METAPHASE  TELEOPHASE

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### Matching Cells

**Match.**

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<td>cell</td>
<td>Robert Hooke</td>
<td>Anton van Leeuwenhoek</td>
<td>cell theory</td>
<td>organelles</td>
<td>cytoplasm</td>
<td>mitochondria</td>
<td>ribosomes</td>
<td>endoplasmic reticulum</td>
<td>vacuoles</td>
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<tr>
<td>A.</td>
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<td>C.</td>
<td>D.</td>
<td>E.</td>
<td>F.</td>
<td>G.</td>
<td>H.</td>
<td>I.</td>
<td>J.</td>
<td>K.</td>
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<td>built simple microscopes in Holland</td>
<td>organelles that make proteins</td>
<td>jelly-like substance outside nucleus</td>
<td>outside of cell membrane</td>
<td>tubes to move materials through cell</td>
<td>named little boxes &quot;cells&quot;</td>
<td>storage areas of the cell</td>
<td>all living things come from cells; new cells only come from other cells</td>
<td>powerhouse of cell; releases energy</td>
<td>food-making structure in plant cell</td>
<td>basic unit of life</td>
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![Matching Cells Diagram]

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**Matching Cells Diagram**

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<td>bone cells</td>
<td>columnar cell</td>
<td>red blood cells</td>
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Matching Cells

Match.

K  cell
F  Robert Hooke
A  Anton van Leeuwenhoek
H  cell theory
L  organelles
C  cytoplasm
I  mitochondria
B  ribosomes
E  endoplasmic reticulum
G  vacuoles
D  cell wall
J  chloroplast

A. built simple microscopes in Holland
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H. all living things come from cells; new cells only come from other cells
I. powerhouse of cell; releases energy
J. food-making structure in plant cell
K. basic unit of life
L. various structures within cells

C  skin cell
G  fat cells
F  gland cells
A  muscle cells
D  cartilage cells
E  bone cells
B  columnar cell
H  red blood cells
Organelles & Mitosis
Circle the letter of the best answer for each question.

1. Which of these makes the most protein for the cell?
   A. golgi complex       C. mitochondria
   B. cell membrane      D. ribosomes

2. What stage includes chromosomes lining up in the center of the cell?
   A. interphase       C. telophase
   B. metaphase        D. prophase

3. What organelle makes food for plants?
   A. chloroplast       C. cell wall
   B. chlorophyll      D. cell membrane

4. What organelle is like the cell's highway?
   A. vacuoles          C. nucleolus
   B. endoplasmic reticulum D. cell membrane

5. During which stage of mitosis do two daughter cells appear?
   A. prophase          C. telophase
   B. anaphase         D. metaphase

6. Who provided the name "cell"?
   A. Anton van Leeuwenhoek       C. Matthew Schleiden
   B. Robert Hooke               D. Rudolf Virchow

7. What structures in the cell release energy stored in food?
   A. ribosomes          C. vacuoles
   B. nucleus            D. mitochondria

8. Which organelle is a fluid-filled sack that acts like a storage area?
   A. vacuole              C. nucleus
   B. ribosome           D. nucleolus
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