

Learning Target 10 – I can identify the structures and functions of cell parts. (Beginning)

Learning Target 11 – I can explain that cell structures and organelles interact as a system to maintain homeostasis. (Developing)

Ribosomes

1. What is the function of ribosomes? _____
2. Draw a picture of what ribosomes look like:

3. Where are ribosomes located? _____
4. What types of cells can ribosomes be found in? _____
5. How do ribosomes make proteins?
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
6. What all functions are proteins used for in the cell? _____

7. What would occur if ribosomes were not functioning properly? _____

Golgi Apparatus

1. Why is the golgi apparatus like a post office? _____

2. Draw a picture of what the golgi apparatus looks like:

3. Where is the golgi apparatus located? _____
4. The side closest to the ER is called the _____ and the outside is called the _____
5. 1st the ER _____ into vesicles and then sends them to the _____
6. What does the Golgi apparatus do to these materials received from the ER? _____

7. Where do these vesicles travel? _____
8. Why do they travel to these places? _____
9. Vesicles are like _____

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Rough & Smooth Endoplasmic Reticulums

1. The ER is found in both _____, but not in _____ cells
2. Where is the ER located? _____
3. What is the function of the ER? _____

4. Draw a picture of the Rough ER below: _____ Draw a picture of the Smooth ER below: _____
5. Where is the RER located and why does it look the way it does? _____

6. What does the RER produce and where do these items go? _____

7. What is the function of vesicles? _____
8. What is the function of the Smooth ER? _____

9. Where do some of these enzymes go? _____
10. What else does the Smooth ER produce? _____
11. What is the overall purpose and function of the ER in the cell? _____

Vacuoles

1. What is the function of vacuoles? _____

2. Vacuoles are not found in _____
3. What is the difference between the vacuole in a plant and animal cell? _____

4. What does the vacuole do in a plant cell and what happens when they are filled up with water? _____

5. What is the purpose and function of a contractile vacuole? _____

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6. Summarize the overall purpose and function of a vacuole. _____

7. How does this organelle help plant cells to maintain homeostasis? _____

8. How does this organelle help animal cells to maintain homeostasis? _____

Lysosomes

1. What types of cells are lysosomes found in? _____ What cells are they not found in? _____

2. What is the function and purpose of lysosomes? _____

3. What else are lysosomes used for? _____

4. Where are lysosomes created? _____

5. Draw a picture of a lysosome below:

6. The _____ of the golgi apparatus are created at the _____

7. What does the golgi apparatus use these proteins for? _____

8. Where are lysosomes found and what can they do when materials enter a cell? _____

9. Why would the cell digest mitochondria? _____

10. What else do lysosomes digest? _____

11. What would occur if lysosomes were not functioning properly? _____

12. How does this organelle help the cell to maintain homeostasis? _____

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Cell Membrane

1. Why is the cell membrane considered semi-permeable? _____

2. Draw a picture of the cell membrane/phospholipid bilayer below and label it:

3. The head of bilayer is _____ and is _____ (It loves water). The tail of the bilayer is _____ and is _____ (it hates water).

4. The tails point _____ and the heads point _____

5. What types of things are able to pass through the cell without energy? _____
What do we call this? _____ Because It requires _____ It
occurs when object move from a _____ concentration to a _____ concentration.

6. Give an example of diffusion. _____

7. When water moves in and out of the cell it is called _____

8. What is facilitated diffusion? _____
_____ Does it require energy? _____

9. What is endocytosis? _____

What types of objects are brought into the cell by endocytosis? _____

10. What is exocytosis? _____

11. What happens during Sodium Potassium pump use? _____

12. What do endocytosis, exocytosis, and sodium potassium pumps all have in common? _____

13. How does this organelle help animal cells to maintain homeostasis? _____

Cytoplasm

1. Describe how cytoplasm looks _____

2. What analogy does the video make about cytoplasm? _____

3. What is inside of the cytoplasm that gives the cell it's shape? _____

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4. What does the cytoplasm contain and what are its functions? _____

5. What is cytoplasmic streaming? _____

6. Summarize the cytoplasm and its function. _____

The Mighty Mitochondria

1. What is the purpose and function of the mitochondria? _____

2. Mitochondria is found in _____, but not in _____

3. Mitochondria are also found in the _____ of the cell

4. What process does mitochondria produce energy in for the cell? _____

5. How does this process work? _____

6. Muscle cells will contain _____

7. What type of microscope do you need to see mitochondria? _____

8. Draw a picture of the mitochondria below: _____

9. The mitochondria can reproduce by _____

10. What can increase your number of mitochondria? _____

What will be the result? _____

11. What else do mitochondria contain? _____

Plant cell vs. Animal Cell

1. What are the similarities between plant and animal cells? _____

2. What is the purpose and function of the cell wall? _____

3. What is the purpose and function of chloroplast? _____

4. What is different about the vacuole of plant cells compared to animal cells? _____

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5. Plant cells do not have _____, _____ cells do. What is the purpose and function of lysosomes in animal cells? _____

6. What structures/organelles in plant cells are similar to lysosomes in animal cells? _____
_____ What does each one of these structures do for the plant cell? _____

7. What are plastids and what are their functions? _____

8. Centrosomes are only found in _____ cells. What is their purpose and function? _____

Draw a picture of centrosomes below:

9. List the similarities and differences between animal and plant cells below.

Animal	Similar	Plant