

Name

Period

7.3.2 Cell Analogy Assessment B

Standard 7.3.2: Develop and use a model to describe the function of a cell in living systems and the way parts of the cells contribute to cell function.

Instructions: You will be assigned a large-scale operation such as a castle, house, school, car, train, ranch, airport, amusement park or shopping mall to represent the cell.

Large Scale Operation:

For **each** of the **first 5 organelles** of the cell on this paper (A through E), compare it with an object in the large-scale operation that has a similar function. You will also choose **2 additional organelles** from the list below (F through K). Write an analogy to show the similarity between the cell organelle and the object in the large-scale operation.

TEMPLATE: The **CELL ORGANELLE** is like a(n) object you will compare it to

because state similarity in shape, function, etc, like the definition of the cell organelle.

EXAMPLE: "The **NUCLEUS** is like a brain because the brain controls and coordinates the activities of the whole body, like the nucleus coordinates all of the functions of the cell"

Write your analogies in the space below.

A. The **NUCLEUS** is like a

because

like the nucleus

B. The **CELL WALL** is like a

because

like the cell wall

C. The **CELL MEMBRANE** is like a/an

because

like the cell membrane

D. The **CHLOROPLAST** is like a

because

like the chloroplast

E. The **MITOCHONDRIA** is like a

because

like the mitochondria

Choose 2 of the following organelles to include in your analogy.

F. The **CYTOPLASM** is like a

because

like the cytoplasm

G. The **VACUOLE** is like a

because

like the vacuole

H. The **RIBOSOME** is like a

because

like the ribosome

I. The **ENDOPLASMIC RETICULUM** is like a

because

like the endoplasmic reticulum

J. The **LYSOSOME** is like a

because

like the lysosome

K. The **GOLGI BODY** is like a

because

like the Golgi body

Present your model!

1. Create a model of the large scale operation that includes your analogies. This can be done as a poster, presentation, video, etc.
2. Include each of the parts of the large-scale operation that represent the organelles. Label each part as both what it is in the operation, and which organelle it represents.
3. Write/type up each analogy to show the similarity between the cell organelle and the object represents the organelle.
4. Your presentation should include a title, your name, and class period.

Analysis Questions:

1. If your large scale operation were missing any one of the parts (structures) you included above, could it function properly? Why or why not?
2. Could the cell function properly if it did NOT have all of its parts (structures)? Why or why not? Give evidence.
3. Your large scale operation is part of a larger community. How would that community be different without your large scale operation?
4. Was your cell a plant cell or animal cell? How do you know?

7.3.2 Cell Analogy Assessment B Grading Rubric

	Excellent (4)	Well Done (3)	Needs Improvement (2)	Unacceptable (0)
Cell Organelles (x2) Cell Membrane Cell Wall Nucleus Chloroplast Mitochondria + Any 2 of the following Cytoplasm Vacuole Ribosome Endoplasmic reticulum Lysosome Golgi body	Each cell organelle is represented with an image.	The majority (7+) of the cell organelles are represented with an image.	Less than half of the cell organelles are represented with an image.	Cell organelles are not represented with an image.
Pictures (x2) Cell Membrane Cell Wall Nucleus Chloroplast Mitochondria + Any 2 of the following Cytoplasm Vacuole Ribosome Endoplasmic reticulum Lysosome Golgi body	Includes a picture to represent each analogy that accurately represents the function	Includes a picture for the majority (7+) of the analogies that accurately represents the function	Includes a picture for less than half of the analogies that accurately represents the function	Pictures are not included for the analogies or do not accurately represent the function
Information (x4) Cell Membrane Cell Wall Nucleus Chloroplast Mitochondria + Any 2 of the following Cytoplasm Vacuole Ribosome Endoplasmic reticulum Lysosome Golgi body	Accurately compares all cell organelles using the correct analogy format.	Accurately compares the majority (7+) of the cell organelles using the correct analogy format	Accurately compares less than half of the cell organelles using the correct analogy format	Analogies are missing or incorrect or not written using the correct analogy format
Communication	All analogies are written with correct spelling and grammar	Analogies are written with 1 – 3 errors in spelling and/or grammar	Analogies are written with 4 – 5 errors in spelling and/or grammar	Analogies contain more than 5 errors in spelling and/or grammar
Presentation	Presentation includes an appropriate title Presentation includes your names and period		Presentation is missing one of the following: name or period	Presentation does not include an appropriate title Presentation is missing both: names and period

