NAME _____ DATE _____

Mystery Cell Model

Structure-Function Organizer

Part 1: Parts that most cells have

Which Mystery Cell model are you using? _____

Find parts 1–9 on your model. Fill in their names and describe what they do:

	Structure: *What is it called?*	**Function:** *What does it do?*
1		
2		
3		
4		
5		
6		
7		
8	*Models A, B & D only*	
9	Vesicle	Carries materials between cell compartments and out of the cell

NAME _____ DATE _____

Part 2: Specialized cell parts

Multicellular organisms have multiple types of cells. Each cell type has a specialized job within the organism. And cells have specialized parts that help them do specific jobs. Fill in the table for your Mystery Cell using the *Specialized Cell Part* list on the left-hand side of your model:

	Structure: *What is it called?*	**Function:** *How does it help the cell do its job?*
10		
11		
12	*Models C & E only*	

1. What type of cell is your Mystery Model? (Hint: It's one of the ones described on the next page!)

2. How do the **proteins** the cell makes help it do its job? (Hint: look on the left-hand side of your model)

Part 3: Essential life functions

All life on earth is cell-based. And all cells use their parts to carry out Three Essential Functions. Fill in the table to describe how your cell uses its parts to do each job:

Essential Function	**Corresponding Structure(s):** *How do they work together to get the job done?*
Stores & reads Instructions	
Gets & uses Energy	
Keeps itself within a Container	

Cell types

Leaf cell *Full name: Spongy parenchyma cell (pah-REN-keh-muh)*

These plant cells take in carbon dioxide from the air; using energy from the sun, they make it into sugar. Often they store things like nutrients and water.

Intestine cell *Full name: Intestinal absorptive cell (in-TESS-tin-uhl ahb-SORP-tiv)*

These cells take up nutrients from food. They also are part of a protective barrier that keeps partially digested food inside the intestinal tube and away from sensitive tissues.

Neuron *Full name: Motor neuron*

These cells are part of communication pathways that go from your brain to muscles all over your body. They carry electrical signals, telling muscles when to move.

Airway cell *Full name: Ciliated epithelial cell (SILL-ee-ay-ted eh-puh-THEEL-ee-uhl)*

These cells are the first line of defense against anything harmful you breathe in. They fit tightly together, making a barrier that keeps pathogens like viruses and bacteria out. They also move mucus (and any junk that's stuck in it) out of the body.

Root cell *Full name: Root hair cell*

These cells are part of the outer skin of plant roots. They have a large surface area, which they use to take in water and minerals from the soil.