Household Organelle Scavenger Hunt

1. Select **3** organelles from the list for the project.
   - Cell membrane
   - Vesicle
   - Cytoplasm
   - Chloroplast
   - Golgi Bogy
   - Rough ER
   - Ribosome
   - Nucleus
   - Vacuole

2. Find an object around your home that has similar structures or functions as each organelle selected.
   - Take a picture of the item. It cannot be from online. You have to take the picture yourself. ①
   - Explain how they are alike. *ie.* _____ *is like a* _____ *because…* ③

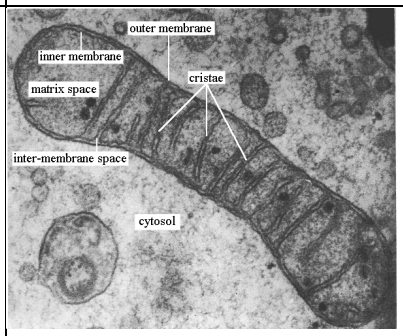
3. For **<u>each</u>** organelle, **select 2** of the following options.
   Each option must be used at least once.
   - Research & summarize the word origin (ie: root word, prefix…) ②
   - 2 additional researched facts about the organelle. Not from notes ②
   - Show a labelled microscope image of the organelle ②
   - Provide an example of a type of cell that has many of this organelle. Explain why this cell needs many of this organelle. ②
   - Give an example of a disorder or disease related to malfunction of the specific organelle. State 2 symptoms. ②
   - Explain how it works with another organelle ②

4. Provide references for all researched information. ③
   - Show which information came from each resource.
   - Minimum 3 sources.

Organelle	Image & Analogy	Option 1	Option 2
	① ② ③ ④	① ②	① ②
	① ② ③ ④	① ②	① ②
	① ② ③ ④	① ②	① ②
References ① ② ③			
			Total /27

Exemplar: Mitochondria

Note: All options have been shown.
You only need to complete 2 for each organelle.

Image & Analogy Needed for ALL organelles	 A fireplace is like the mitochondria because it breaks down wood to produce heat energy. The mitochondria breaks down glucose to produce ATP energy.
Word Origin	From 2 Greek words: - *mitos* meaning thread - *khondros* meaning granule
Researched Facts	- Mitochondria produce >90% of energy in cells https://www.chop.edu/mitochondria-facts - Mitochondria has its own DNA which has 16,569 base pairs and encodes 13 different proteins. https://en.wikipedia.org/wiki/Mitochondrial_DNA
Labelled microscope image	 https://biomyershl.wordpress.com/2014/12/05/cellular-respiration/
Type of cell with many & explain why	- 40% of each heart muscle cell are made up of mitochondria. This is because the heart can never rest and needs a constant supply of energy. https://www.chop.edu/mitochondria-facts
Disorder/disease 2 symptoms.	- Mitochondrial DNA depletion syndrome (MDS) - Symptoms include: poor growth, muscle weakness & pain https://my.clevelandclinic.org/health/diseases/15612-mitochondrial-diseases
How it works with another organelle	- Mitochondria works closely with the chloroplasts in plants. Chloroplasts produced glucose which mitochondria need as a reactant for cellular respiration.