Worksheet 1: "Organelle Comparison Chart"

Objective: Compare cellular organelles to different steps in the process of baking Pan de Polvo.

Instructions:

1. Watch the video on cellular organelles and the Pan de Polvo analogy.
2. Fill in the table below by matching each cellular organelle with its corresponding step in the Pan de Polvo baking process.

| **Cellular Organelle** | **Pan De Polvo Step** |
| --- | --- |
| Nucleus |  |
| Mitochondria |  |
| Rough Endoplasmic Reticulum |  |
| Peroxisomes & Lysosomes |  |
| Smooth Endoplasmic Reticulum |  |
| Golgi Apparatus |  |

Worksheet 2: "Organelle Functions in Pan de Polvo"

Objective: Understand the functions of cellular organelles by relating them to specific actions in the Pan de Polvo baking process.

Instructions:

1. Review the Pan de Polvo baking process and the corresponding cellular organelles.
2. Fill in the blanks with the specific functions of each organelle during the Pan de Polvo analogy.

a. Nucleus: The nucleus acts like the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in baking Pan de Polvo because...

b. Mitochondria: The mitochondria can be compared to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because...

c. Rough Endoplasmic Reticulum: The Rough ER is similar to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in baking Pan de Polvo as it...

d. Golgi Apparatus: Like the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the Golgi apparatus is responsible for...

f. Lysosomes and Peroxisomes: Lysosomes and Peroxisoms function similarly to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because…

g. Smooth Endoplasmic Reticulum: The Smooth ER is similar to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the Pan de Polvo baking process because…

Bonus:

What other cellular organelles can you think of? What are their functions?

Worksheet 3: "Cellular Organelle Storyboard"

Objective: Create a visual representation of the cellular organelles' functions in the form of a storyboard using the Pan de Polvo analogy.

Instructions:

1. Choose three key cellular organelles from the previous worksheets.
2. Create a storyboard with at least three frames illustrating the functions of each selected organelle during the Pan de Polvo analogy.
3. Include captions or brief descriptions for each frame, explaining the role of the organelle in the cellular context and its corresponding step in the Pan de Polvo baking process.

**Storyboard Frames Example:**

* Frame 1: Nucleus - Show the nucleus as the "recipe book" guiding the entire Pan de Polvo process.
* Frame 2: Mitochondria - Depict the mitochondria as the "oven" providing energy for the baking process.
* Frame 3: Endoplasmic Reticulum (ER) - Illustrate the ER as the "mixing bowl" where ingredients are prepared and organized.

*For Teachers: Encourage students to be creative in their visual representations and to clearly articulate the connections between cellular organelles and the Pan de Polvo analogy.*