**Assignment**:  Construct an edible model of either a plant or an animal cell, plan the ingredients for your creation, and present your model to the class.  Include necessary written components.

You may work individually, or in groups up to 3.

**Part A - The Incredible Cell**

1. Choose either to make a model of a plant or animal cell.  Decide on the items you will use to create the model.  All models must be made out of materials that are edible.
2. Your project must be labelled.  You may label each organelle or put the names in a legend.
3. Your model should include the following organelles that are in bold.  Try to include as many of the others as you can.

Animal Cell                                           Plant Cell

1. **Cytoplasm**                                              1. **Cell wall**

**2. Cell membrane                             2. Cell membrane**

**3. Nucleus                                  3. Cytoplasm**

4. Endoplasmic reticulum                            4. **Nucleus**

5. Ribosome                                              **5. Chloroplasts**

6. Golgi body                                             6. Endoplasmic reticulum

7. lysosomes                                              7. Golgi body

**8. mitochondria                                8. mitochondria**

**9. vacuole                                   9. vacuole**

10. centrioles                                            10. Ribosome

11. vesicles                                                11. Nucleolus

12. nuclear membrane                                12. nuclear membrane

4. Your project must include a legend that explains the basic function of each part of the cell.  The chart could look like this:

|  |  |  |
| --- | --- | --- |
| **Cell Structure** | **Representative Model Chosen** | **Cell Function** |
| Nucleus | Orange | The nucleus holds all the information needed to make every cell in the body. |

5. Use the following questions to help you develop a good project.

* Is your name on the project?
* Is the cell type identified (animal or plant)?
* Is the model a 2D/3D representation of a plant or animal cell?
* Are all the organelles included?
* Are the organelles correctly labeled?  Each organelle must be labelled with its name
* Have you included a legend with each organelles name and function?
* Are the relationships between the parts shown correctly (scale and location)?
* Are the materials acceptable?  The materials must be food products.

**EDIBLE CELL - Grading Rubric**

**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Type of Cell:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **4–Exemplary** | **3–Good** | **2–Satisfactory** | **1-Needs Improvement** |
| Cell StructuresAndFunctions on **Cake**(x3) | All cell structures and functions are included and are accurately represented. | One or two cell structures and functions are not included or are inaccurately represented.   | Includes and accurately represents some of the structures and functions in the cell, but not all.  | Fails to identify and/or represent structures and functions of the cell correctly. |
| **Chart** listing cell structures and functions(x2) | All cell structures and functions are included and are accurately and written. | One or two cell structures and functions are not included or are inaccurately represented .   | Includes and accurately represents some of the structures and functions in the cell, but not all.  | Fails to identify and/or represent structures and functions of the cell correctly. |
| Creativity(x1) | Model is creatively constructed using a wide variety of food items. | Model is constructed using several different food items.  | Model is constructed using a limited variety of food items. | Model is constructed using the same material for each part.  |
| Following Guidelines(x1) | Model is extremely neat and is appropriately constructed according to size, materials, and display. | Model is neat but is missing one component (size, materials, display). | Model is lacking neatness and is missing more than one component (size, materials, display). | Model is sloppy and messy and is missing multiple components (size, materials, display). |