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

**Eukaryotic Cell 4 C’s Project – 100 Points**

**This project outlines cells as living organisms. Be sure to note this project leaves space for expansion as we move into next unit. Pick your partner carefully! There is a component of artistic ability as well as following directions. Additionally, you will work with this partner as we expand the project into the next unit.**

PLANT CELL

BLANK

(for now…)

ANIMAL CELL

**Part 1**

**PLANT CELL You will first do a rough draft of each cell. Then copy it over onto a sheet of computer paper to put onto a larger piece of poster board.**

* **Detailed illustration of the cell and organelles**
  + One copy of each organelle (large vacuole, nucleus, cell wall, cell membrane, ribosome, cytoplasm, chloroplast, mitochondria)
  + Detailed description of the function of each organelle listed above
  + Accurate illustration of design
* **Chloroplast**
  + In the blank space between the two cells on your poster board, draw a detailed larger zoomed view of a chloroplast with labels
  + Leave some space around organelle for expansion
* **Mitochondria**
  + In the blank space between the two cells under the chloroplast on the poster board, draw a detailed larger zoomed view of a mitochondria with labels
  + Leave some space around organelle for expansion

**ANIMAL CELL**

* **Detailed illustration of the cell and organelles**
  + One copy of each organelle ( vacuole, nucleus, cell membrane, ribosome, cytoplasm, mitochondria, centrioles)
  + Detailed description of the function of each organelle listed above
  + Accurate illustration of design
* **Cell Membrane**
  + Illustrate a section of membrane zoomed in
  + Width of section should be minimum of 10 phospholipids
  + Illustrate and label a protein channel with function
  + Using arrows show the movement of Oxygen, Water and Glucose across the membrane
  + Name process involved for each substance

**Part 2 (Next Unit) Cell Energy**

* **Interdependence of Chloroplasts and Mitochondria (How the reactions are related)**
  + Write the reactants of photosynthesis above the chloroplasts with an arrow going INTO the chloroplast
  + On the other side of the chloroplast (above the mitochondria) write the product of photosynthesis with an arrow
  + Draw a large bracket around all of the above and label it Photosynthesis
  + Draw an arrow from the products of photosynthesis into the mitochondria
  + On the other side of the mitochondria, write the products of respiration with and arrow
  + Draw a large bracket around all of the above and label it Respiration
  + Finally, draw a large arrow from the products of Respiration all the way back to the top and to the reactants of Photosynthesis