

## Grade Replacement/Credit Recovery:

### Cell Process Dodecahedron Project

#### Use 12 Paper Plates

**Objective:** Create analogies between the cell process. You will construct a dodecahedron (12-sided 3D shape) using your analogies.

#### **Tasks:**

1. Obtain 12 paper plates as the dodecahedron faces. You will need these to staple your project together. Use a paper clip to hold all your faces together until you are ready to construct your dodecahedron.
2. ***On each face*** of your dodecahedron, write the **name of the process**. Below that **draw or use a picture of your analogy and describe how this process works**.

**Osmosis, Diffusion, Active Transport, Passive Transport, Endocytosis, Exocytosis, Photosynthesis, Cellular Respiration, Equilibrium, Metabolism – Title and A Name Circle – Total of 12 Circles**

3. Construct your dodecahedron:
  - a. Keep the flaps on the outside to make it easier to assemble.
  - b. Start by folding down all the flaps (flaps and picture should be facing you).
  - c. Align 2 flaps together on any side faces #1 & 2 and staple, tape, or glue the flaps together. Align one flap of face #3 along the next side of face #1 and adhere those flaps together. Do this for faces #4, 5, & 6 to create a **flower** shape.
  - d. Now take the 2 nearby flaps from #2 and #3 and staple them together. Do the same for #3 and #4. Continue doing this until you have a **bowl** shape.
  - e. Repeat the previous steps with the remaining 6 faces. You should end up with 2 bowl shapes.

f. Place 1 bowl shape on top of the other (make sure the edges and flaps are aligned) and staple together. Your final product should look like a ball.

6. Be creative, colorful and have fun!

This example shows only an explanation of the organelle. Yours will be an analogy.



### Grading (40 points):

#### ➤ Dodecahedron Rubric

##### ☐ Dodecahedron properly constructed (10)

- Edges and flaps are neatly aligned
- Dodecahedron has a spherical form

##### ☐ Picture of analogies (10)

- Diagrams or illustrations are recognizable and match the appropriate cell process

**☐ Written description of how analogies relate to cell processes (10)**

- Clear and neatly hand-written or typed up
- States how the analogies correspond with each cell process

**☐ Colorful and creative (10)**

- Aesthetically appealing (looks like you put time and effort into making it look nice)
- Appropriate use of color or artistic illustrations