

Name: _____

Due Date: _____

Summative 2 – Processes in the Cell

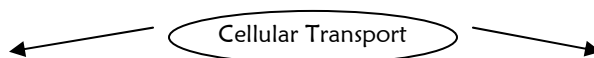
Your Goal: After investigating the processes of plant and animal cells, you will be creating a concept map to illustrate the process of osmosis and diffusion. A concept map is a diagram showing the relationships among concepts.

Overall Expectation(s): 3. Demonstrate an understanding of the basic structure and function of plant and animal cells and cell processes. 2. Investigate functions and processes of plant and animal cells; Specific Expectation(s):

8s6	follow established safety procedures for handling apparatus and materials (e.g., wash hands after preparing materials for slides) and use microscopes correctly and safely (e.g., carry the microscope with both hands, place it near the centre of the desk, ensure that the sun cannot be directly focused through the instrument when sunlight is used for illumination, keep both eyes open when viewing to avoid eye strain)
8s10	use appropriate science and technology vocabulary, including organelle, diffusion, osmosis, cell theory, selective permeability, membrane, stage, and eyepiece, in oral and written communication
8s11	use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes (e.g., using the conventions of science, make a labelled drawing of a cell; create a slide show to explain the results of investigations into the processes of osmosis and diffusion)
8s16	identify unicellular organisms (amoebae) and multicellular organisms (e.g., invertebrates [worms], vertebrates [frogs]), and compare ways in which they meet their basic needs (e.g., nutrition, movement, gas exchange)
8s15	explain the processes of diffusion and osmosis and their roles within a cell
8s9	use scientific inquiry/experimentation skills (see page 12) to investigate the processes of osmosis and diffusion. Sample guiding questions: What question will your experiments try to answer? What do you predict might happen in your experiment? What variables might you need to consider? What conclusions might you draw from the results of your experiment? How closely do your predictions compare with what you actually observed in your experiments? How might what you have learned about osmosis and diffusion be useful in daily life (e.g., how might this help you to keep your houseplants from wilting?)

Part A – Cell Processes

1. Begin my brainstorming a list off all words related to cells, cell process, osmosis and diffusion etc.
2. Begin the Concept Map by writing “Cellular Transport” in the middle of your page. Circle it.



3. Build around you understanding of the key ideas of osmosis and diffusion. You need to include a definition (in your own words), and example, and an illustration for each process.
4. Be creative! (See me for examples of concept maps).

Part B – Report Writing Piece

Your Goal: Compose a Report writing piece that explains one of the cell processes.

1. Writing the Report: Include the following information in Report writing style.
 - a. Title (i.e. Osmosis in a Cell)
 - b. Sub-headings – saying what each paragraph is about
(Example) 1. Name of the cell process- (i.e. “Osmosis”)
2. Specify the process - (i.e. “Osmosis in a Cell”)
3. Examples of the cell process - (i.e. “Examples of Osmosis”)
4. How the cell process affects the cell/organism (i.e. “Affects of a osmosis in a Cell”)
 - c. Paragraphs – relating to each sub-heading
(Example) 1. Describe the cell process - (i.e. Osmosis is...) – use science terms
2. Describe the process in the cell - (i.e. In a cell...osmosis means...)
3. Examples of the cell process - (i.e. an example of osmosis is when...)
4. How the cell process affects the cell/organism (i.e. why we need it)
 - d. Written in - third person

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Cell Processes Concept Map Rubric

1	2	3	4
Knowledge and Understanding			
Concept Map demonstrates limited understanding of osmosis and diffusion	Concept Map demonstrates some understanding of osmosis and diffusion	Concept Map demonstrates considerable understanding of osmosis and diffusion	Concept Map demonstrates a high degree of understanding of osmosis and diffusion and a clear connection between the processes
Thinking and Investigation			
Does not accurately relate osmosis and diffusion to the cell. Provides few/no detailed descriptions of the cell processes	Can somewhat relate osmosis and diffusion to the cell. Provides some detailed descriptions of the cell processes.	Relates osmosis and diffusion to the cell. Provides a detailed description of the cell processes	Relates osmosis and diffusion to the cell. Provides a detailed description of the cell processes, taking into account several points of view.
Communication			
The Concept Map is distractingly messy or very poorly designed. It is not attractive. Few illustrations.	The Concept Map is acceptable attractive though it may be a bit messy. Some illustrations.	The Concept Map is attractive in terms of design, layout and neatness. Many illustrations	The Concept Map is exceptionally attractive in terms of design, layout, and neatness. Several insightful illustrations
Student uses vocabulary and terminology of the discipline with limited effectiveness	Student uses vocabulary and terminology of the discipline with some effectiveness	Student uses vocabulary and terminology of the discipline with considerable effectiveness	Student uses vocabulary and terminology of the discipline with a high degree of effectiveness
Application			
Cannot accurately describe logical examples of the cell processes in real life..	Can accurately describe few logical examples of the cell processes in real life.	Can accurately describe many logical examples of the cell processes in real life.	Can accurately describe many logical examples of the cell processes in real life, using technical terms.

Report Writing Checklist

	Met	Not Yet Met
Content		
Title is interesting and appropriate.		
My report uses sub-headings		
The headings are underlines or used bold type		
The paragraph after each sub-heading contains information related to the subheading		
Details are logically developed and specific.		
Ending leaves the reader with a clear understanding.		
Style and Organization		
Is it all written in an impersonal third person style without using 'I'?		
Nouns are specific.		
Format is clear and easy to read.		
Conventions		
Information is easy to read, with clearly marked divisions.		
Sentences are complete.		
Punctuation is appropriate.		