1st Semester Biology Review Activity



**A**

**B**

**C**

**D**

**E**

**F**

**G**

**H**

**I**

**J**

**K**

**I. II.**

**I.**

1. What type of cell is number **I**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What type of cell is number **II**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Write down the name of the cell structure and the function from the corresponding label above.**

3. (A) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.(B) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.(C) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6.(D) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7.(E, just the hole) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8.(F) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9.(G) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. (H, whole thing) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.(I. the whole thing) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12.(J) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13.(K) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Microscopes****-** Write down the name of the microscope part and the function

 (A)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(B) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(C) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(D) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(E) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(F) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(G) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (H) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(I) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(J) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(K) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(L) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Ecology**

* Put the food web into an ecological pyramid that begins with 34,510 kg.
* Label the pyramid with terms such as heterotroph, autotroph, primary consumer, herbivore, etc….
* Circle a food chain that has 4 feeding levels



* Identify 5 predator-prey relationships in the food.
* Rabbits are an important part of the food web. A disease kills the majority of the rabbit population. Name two consequences to predator-prey relationships in the food web.

List the 8 characteristics of life:

 **Populations**

For each graph, label where the births are increasing and decreasing and where the deaths are increasing and rising.

What kind of graph is this?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 What kind of graph is shown below?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Explain why this graph is an example Explain why this graph is an example of a negative feedback loop

of positive feedback

Study these drawings, which show the presence and loss of turgor pressure. Then answer the questions based on your understanding of the results.



1. How would you describe the stiffness and texture of the sliced vegetables (not placed in liquids) after an hour?
2. How would you describe the stiffness and texture of the vegetable slices left in distilled water?
3. What happened to the turgidity of the cells left in distilled water?
4. How would you describe the stiffness and texture of the vegetable slices soaked in salt water?
5. Do these slices have greater of lesser turgidity than the slices left out in the air?
6. What conclusions can you draw from the results?
7. Explain the movement of water in this experiment.

**Matching section: Match the term and definition.**

 **Term Definition**

1. \_\_\_\_\_ Isotonic
2. \_\_\_\_\_ Plasmolysis
3. \_\_\_\_\_ Solvent
4. \_\_\_\_\_ Cytolysis
5. \_\_\_\_\_ Hypertonic
6. \_\_\_\_\_ Hypotonic
7. \_\_\_\_\_ Passive Transport

1. \_\_\_\_\_ Semi-permeable
2. \_\_\_\_\_ Solute
3. \_\_\_\_\_ Phospholipids
4. \_\_\_\_\_ Fatty acids
5. \_\_\_\_\_ Diffusion

1. \_\_\_\_\_ Osmosis
2. \_\_\_\_\_ Turgor
3. \_\_\_\_\_ Pinocytosis
4. \_\_\_\_\_ Active Transport
5. Main component of the cell membrane

1. What is being dissolved; there is less of it in the solution.

1. Type of transport which happens without the expenditure of energy.
2. Word that describes the cell membranes ability to only let some solutes through.

1. Molecules moving against the concentration gradient.

1. Solution with equal levels of solutes on both sides of a membrane.

1. Random natural movement of molecules from a high concentration to a low concentration.
2. Plant cell shrinking when in a hypertonic environment.

1. Cell drinking.
2. Movement of water through a membrane.
3. Portion of a phospholipid which is hydrophobic.
4. When comparing two solutions, the solution with more solute.

1. When comparing two solutions, the solution with less solute.
2. Type of osmotic pressure which helps a plant maintain shape and support

 O. What does the dissolving; the more plentiful substance in the solution.

 P. When a cell bursts after being placed in a hypotonic solution

**Draw a phospholipid molecule (long hand) in the space below that has hydrocarbon chains composed of 10 carbons. Circle and label the phosphate group the glycerol and the 2 fatty acid tails.**

**Why is the phospholipid important?**

26. What is the name of the process that combines the glycerol, phosphate and the fatty acids? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

27. What “waste” molecules are formed from this process?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

28. How many of these waste molecules form?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

29. What is the molecular difference between a saturated and unsaturated fat? Draw the difference in the space below?

What are 3 general differences between a saturated and unsaturated fat?

30. Draw a plant and an animal cell with .2% dissolved solute in each solution below, and label as either hypo-, hyper- or isotonic:

|  |  |  |  |
| --- | --- | --- | --- |
|  | 100% Distilled Water (0% solute) | .2% Saline Solution | 10% Sucrose Solution |
| Animal Cell |  |  |  |
| Plant Cell |  |  |  |