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Revision sheet

Grade 9 ASP/ Life Science

Sections: 3.1, 3.2, 3.3

Teacher: Inas Nasr

Choose the best answer.

One benefit of being a large organism is that you have

|  |  |  |
| --- | --- | --- |
|  | A. | Larger cells. |
|  | B. | Fewer predators. |
|  | C. | Simpler functions. |
|  | D. | Only one kind of cell. |

Which of the following statements is not part of the cell theory?

|  |  |  |  |
| --- | --- | --- | --- |
|  | A. | Animals and plants share the same kinds of cells. |  |
|  | B. | All organisms are made up of one or more cells. |  |
|  | C. | The cell is the basic unit of all living things. |  |
|  | D. | All cells come from existing cells. |  |

Which statement is NOT part of the cell theory?

|  |  |  |  |
| --- | --- | --- | --- |
|  | A. | All organisms are made of one or more cells. |  |
|  | B. | Animal and plant cells contain the same organelles. |  |
|  | C. | The cell is the basic unit of living things. |  |
|  | D. | All cells originate from other cells. |  |

A cell’s volume grows faster than its surface area, so if a cell gets too large

|  |  |  |  |
| --- | --- | --- | --- |
|  | A. | Its surface area–to-volume ratio will decrease. |  |
|  | B. | The cell membrane and cell walls will break down. |  |
|  | C. | Its outer surface will harden like an eggshell does. |  |
|  | D. | It will not be able to take in enough nutrients or get rid of wastes. |  |

Which two things must be compared to explain why almost all cells are small?

|  |  |  |
| --- | --- | --- |
|  | A. | Surface area and volume |
|  | B. | The shell and the yolk |
|  | C. | Food production and waste elimination |
|  | D. | Membranes and organelles |

A group of cells with the same function makes up

|  |  |  |
| --- | --- | --- |
|  | A. | an organism. |
|  | B. | an organ system. |
|  | C. | a tissue. |
|  | D. | a structure. |

In what kind of tissue does photosynthesis take place?

|  |  |  |
| --- | --- | --- |
|  | A. | nerve |
|  | B. | muscle |
|  | C. | transport |
|  | D. | ground |

The highest level of organization is the

|  |  |  |  |
| --- | --- | --- | --- |
| a. | cell. | c. | organ. |
| b. | tissue. | d. | system. |

The functions of an organism’s parts are related to those parts’

|  |  |  |  |
| --- | --- | --- | --- |
| a. | structures. | c. | blood cells. |
| b. | systems. | d. | alveoli. |

Robert Hooke and Anton van Leeuwenhoek not only helped discover cells but also

|  |  |
| --- | --- |
| a. | discovered that cells came from existing cells. |
| b. | helped develop the microscope. |
| c. | concluded that all living things had cells. |
| d. | discovered mushrooms and fungi. |

What cell part supports the cell and might be made of cellulose or chitin?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | cell membrane | c. | ribosome |
| b. | cell wall | d. | nucleus |

What part of the cell forms a barrier between the cell and its environment?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | cell membrane | c. | ribosome |
| b. | nucleus | d. | cholesterol |

What part of the cell keeps the cell membrane from collapsing?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | cell wall | c. | cytoskeleton |
| b. | cytoplasm | d. | nucleus |

A cell’s nucleus contains DNA, which carries genetic material with

|  |  |  |  |
| --- | --- | --- | --- |
| a. | ribosomes. | c. | the endoplasmic reticulum. |
| b. | the cytoskeleton. | d. | instructions for how to make protein. |

Ribosomes, the organelles that make proteins, are found on the membranes of the

|  |  |  |  |
| --- | --- | --- | --- |
| a. | cell wall. | c. | mitochondria. |
| b. | endoplasmic reticulum. | d. | vacuoles. |

What part of the cell acts as the cell’s delivery system?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | nucleus | c. | mitochondrion |
| b. | nucleolus | d. | endoplasmic reticulum |

Energy released by a cell’s mitochondrion is stored in

|  |  |  |  |
| --- | --- | --- | --- |
| a. | ATP. | c. | the ER. |
| b. | DNA. | d. | RNA. |

What cell parts carry materials between organelles such as the ER and the Golgi complex?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | ribosomes | c. | vesicles |
| b. | lysosomes | d. | vacuoles |

A large vesicle that aids in digestion within plant cells the way lysosomes do is called

|  |  |  |  |
| --- | --- | --- | --- |
| a. | an enzyme. | c. | a mitochondrion. |
| b. | a vacuole. | d. | a nucleolus. |

How are archaea different from bacteria?

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| --- | --- | --- | --- |
| a. | Archaea have different ribosomes. | c. | Archaea have cell membranes. |
| b. | Archaea have only one cell. | d. | Archaea have RNA, not DNA. |

Robert Hooke thought that animals did not have cells because he

|  |  |
| --- | --- |
| a. | had not yet invented the microscope. |
| b. | could not see animal cells in his microscope. |
| c. | had not yet discovered protists. |
| d. | was looking at dead cork cells, not live ones. |

Where does photosynthesis take place in a cell?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | in the nucleus | c. | in the chloroplasts |
| b. | in the mitochondria | d. | in the ribosomes |

What does the Golgi complex do in a cell?

|  |  |
| --- | --- |
| a. | It packages and distributes proteins. |
| b. | It is the power source of the cell. |
| c. | It makes proteins. |
| d. | It makes sugar and oxygen. |

During the process of diffusion,

|  |  |
| --- | --- |
| a. | Cell surrounds and absorbs large particles. |
| b. | Particles move from areas of lower concentration to higher concentration. |
| c. | A cell surrounds and gets rid of large particles. |
| d. | Particles move from areas of higher concentration to lower concentration. |

Osmosis is important to cells because

|  |  |
| --- | --- |
| a. | Cells are filled with fluids that are made mostly of water. |
| b. | Cells need to get rid of large particles they don’t need. |
| c. | Cells need to move from place to place. |
| d. | Cells are usually dry. |

Cellular respiration is the process by which

|  |  |
| --- | --- |
| a. | Plant cells create glucose. |
| b. | Cells grow and reproduce. |
| c. | Cells use oxygen to produce energy from food. |
| d. | Cells breakdown food without using oxygen. |

Fermentation in muscle cells produces

|  |  |  |  |
| --- | --- | --- | --- |
| a. | glucose. | c. | water. |
| b. | lactic acid. | d. | bacteria. |

Photosynthesis allows ]

|  |  |  |  |
| --- | --- | --- | --- |
| a. | an animal cell to get energy from food. | c. | a plant to produce food (glucose). |
| b. | a cell to produce energy without oxygen. | d. | a plant leaf to turn green. |

What must organisms be able to obtain in order to survive?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | energy and heat | c. | heat and cold |
| b. | DNA and water | d. | energy and raw materials |

Osmosis is important to cells because

|  |  |
| --- | --- |
| a. | cells contain fluids that are mostly water. |
| b. | cells are filled with fluids that are mostly sugar. |
| c. | cells need to be kept cool. |
| d. | cells need food. |

A cell moving particles with the use of energy is called

|  |  |  |  |
| --- | --- | --- | --- |
| a. | active transport. | c. | passive transport. |
| b. | osmosis. | d. | endocytosis. |

Why does a plant need to produce glucose?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | in order to turn green | c. | in order to move |
| b. | in order to obtain energy | d. | in order to get sunlight |

Cellular respiration allows an organism to get energy from

|  |  |  |  |
| --- | --- | --- | --- |
| a. | sunlight. | c. | water. |
| b. | oxygen. | d. | food. |

When wilted celery is soaked in water, it becomes crisp again due to

|  |  |  |  |
| --- | --- | --- | --- |
| a. | exocytosis. | c. | vesicle movement. |
| b. | active transport. | d. | osmosis. |

Which of the following is NOT used to make glucose in photosynthesis?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | H2O | c. | CO2 |
| b. | O2 | d. | light energy |

When a human feels hungry it is because his or her cells need

|  |  |  |  |
| --- | --- | --- | --- |
| a. | sunlight. | c. | water. |
| b. | rest. | d. | energy. |

Most complex organisms obtain energy through

|  |  |  |  |
| --- | --- | --- | --- |
| a. | photosynthesis. | c. | breathing. |
| b. | growth. | d. | cellular respiration. |

What part of a cell uses cellular respiration to release energy stored in food?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | cell membrane | c. | mitochondria |
| b. | chlorophyll | d. | water |

Answer the following questions.

What are two functions of smooth ER?

List the four basic types of tissues that animals have?

1. protective tissue
2. nervous tissue
3. muscle tissue
4. connective tissue

Why weren't cells discovered until 1665? What invention made their discovery possible?

There was no microscope and because of the discovery of the microscope cells were discovered.

List three differences between prokaryotic and eukaryotic cells.

See power point presentation on my wikispace

What part of the cell do materials pass through to get into and out of the cell?

Cell membrane

Explain why fermentation takes place within human muscle cells.

To produce energy in the absence of oxygen

Explain how photosynthesis and cellular respiration are related.

Photosynthesis use CO2 and H2O which are the products of the cellular respiration in order to produce glucose and release O2 gas and these two products will be used in cellular respiration in order to produce CO2 and H2O

What would happen to a cell if it could not get rid of wastes?

It won’t function properly and it will be poisoned by the wastes and later die.

Use the figure below to answer the following questions.



1. Figure A represents \_\_endocytosis\_\_\_.
2. Figure B represents \_\_exocytosis\_\_\_.
3. In Figure B, the third stage is \_\_\_\_\_\_\_fusion of the vesicle with the cell membrane in order to release the substances out of the cell.

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Use the figure below to answer the following questions.



1. This figure best represents what important cell process?

\_\_\_cellular respiration\_\_\_\_.

1. Is this organism a prokaryote or eukaryote and why? \_\_\_\_\_\_\_eukaryotic cell since it has a nucleus and a lot of organelles\_\_\_\_\_\_.

 Use the figure below to answer the following questions

1. Look at the figure. What two processes does it show?

\_\_\_\_photosynthesis\_\_\_

\_\_\_cellular respiration\_\_\_

Use the picture below to answer the following questions.



a. What does Part A represent in the diagram above?

Hydrophilic heads of phospholipid molecules.

b. What can you conclude about the content of the fluid surrounding the cell? Explain.

It is polar