S2 Biology Cells Respiration and Diffusion HOMEWORK

DO NOT write on these sheets Number \_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| type of respiration | raw material(s) | product(s) |
| aerobic |  |  |
| anaerobic in animal cells |  |  |
| anaerobic in yeast cells |  |  |

1 a) Copy and complete this table

b) Which type of respiration releases most energy from food?

c) What is the test for the presence of carbon dioxide?

2. The diagram below represents differences in the concentration of molecules inside and outside an animal cell, together with the direction of movement of the molecules.



3

2

1

4

Which arrow would represent the diffusion of oxygen during aerobic respiration?

3. Dissolved substances move from one place to another by the process of diffusion. The below represents three cells surrounded by tissue fluid.

|  |  |
| --- | --- |
|  | relative concentrations of substance |
|  | substance X | substance Y | substance Z |
| Cell A | medium | medium | medium |
| Cell B | high | high | low |
| Cell C | low | low | high |
| Tissue fluid | high | high | low |

The table below shows the relative concentrations of three substances in the cells and tissue fluid.

a) Which substance would diffuse from cell A to the tissue fluid?

b) From where would cell A gain substance Z?

c) To where would substance X diffuse fastest from Cell B?

4. Decide if the following statements are TRUE or FALSE. If FALSE state ***the word that would replace the underlined word*** to make the statement TRUE.

a) Cell division is need for cells to grow.

b) When a cell with 30 chromosomes divides it would produce 2 new cells each with 30 chromosomes.

c) Normal cell division causes Cancer.