CELL MEMBRANE WEB QUEST

Name: _____

BACKGROUND

There may be a dozen different types of materials passing through the membrane of a cell at any one time. The job of the membrane is to regulate this movement in order to maintain the proper balance of ions, water, oxygen, carbon dioxide, nutrients, and other molecules. This interactive feature will illustrate the movement of some of these materials to you and will describe the structures that make it possible.

Directions: To start this webquest, go to this link: **https://bit.ly/cell_membrane**

1. Scroll down and click *Support Materials*, then *Background Essay*. Read the essay, and then answer the following questions.

    a. List 3 substances that can easily pass through the cell membrane.

    b. Describe how enzymes pass through the membrane. What is this process called?

    c. How is endocytosis different from exocytosis?

2. Launch the simulation and read the introduction under the *Instructions* and *About* tabs. Then, click on each label and read about the part in or near the cell membrane. Answer the following.

   A. Where is the **interstitial fluid**?

   B. What is the function in the interstitial fluid?

   C. What is the function of the **plasma membrane**?

   D. List the components of the plasma membrane.

   E. The **lipid bilayer** is part of which structure?

   F. Describe the characteristics of the lipid bilayer.

   G. What types of substances can pass through easily?

H. What is the purpose of an **ion channel**?

I. Does one ion channel, allow many different types of ions to pass through?

J. Describe a gated channel.

K. Is energy required to move substances through an ion channel?

L. What does a **protein pump** do?

M. What is the name of this action?

N. Does this action require energy?

O. List some substances that are moved by a protein pump.

P. Describe **aquaporin**.

Q. Explain how the **GluT Transporter** works.

R. What is the name of this action?

S. Does this action require energy?

T. Name the substance that is moved by a GluT Transporter.