

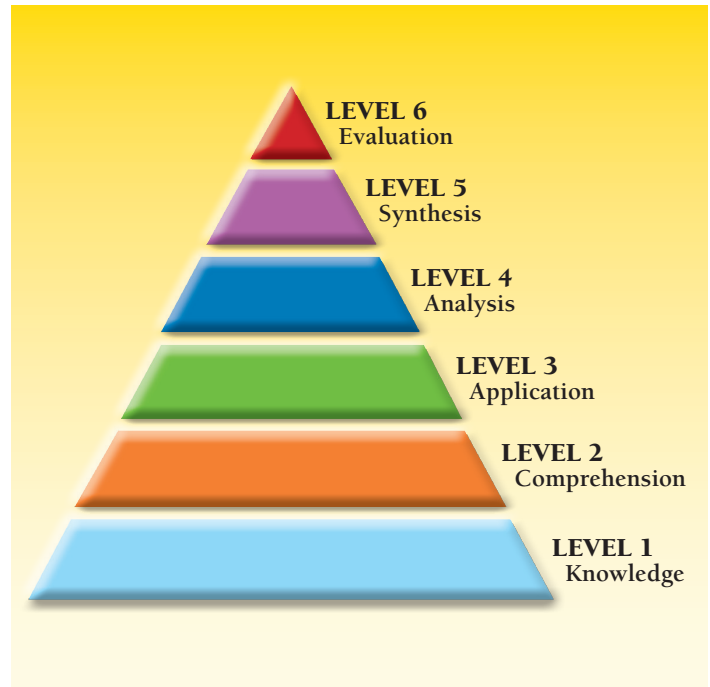
Bloom's Taxonomy

Our resource is an effective tool for any SCIENCE PROGRAM.

Bloom's Taxonomy* for Reading Comprehension

The activities in our resource engage and build the full range of thinking skills that are essential for students' reading comprehension and understanding of important science concepts. Based on the six levels of thinking in Bloom's Taxonomy, and using language at a remedial level, information and questions are given that challenge students to not only recall what they have read, but to move beyond this to understand the text and concepts through higher-order thinking. By using higher-order skills of application, analysis, synthesis and evaluation, students become active readers, drawing more meaning from the text, attaining a greater understanding of concepts, and applying and extending their learning in more sophisticated ways.

Our resource, therefore, is an effective tool for any Science program. Whether it is used in whole or in part, or adapted to meet individual student needs, our resource provides teachers with essential information and questions to ask, inspiring students' interest, creativity, and promoting meaningful learning.



BLOOM'S TAXONOMY: 6 LEVELS OF THINKING

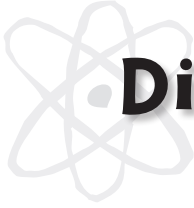
**Bloom's Taxonomy is a tool widely used by educators for classifying learning objectives, and is based on the work of Benjamin Bloom.*



Vocabulary



- matter • cell • magnify • microscope • organism • building block
- amoeba • multicellular • single-celled • nucleus • DNA • cell membrane
- particles • cytoplasm • organelle • cilia • cell specialization • specialize
- chromosome • mitosis • meiosis • asexual reproduction • cell wall
 - vacuole • plastid • centriole • lysosome • tissue • organ
- organ system • organism • diffusion • osmosis • active transport
 - passive transport • semi-permeable

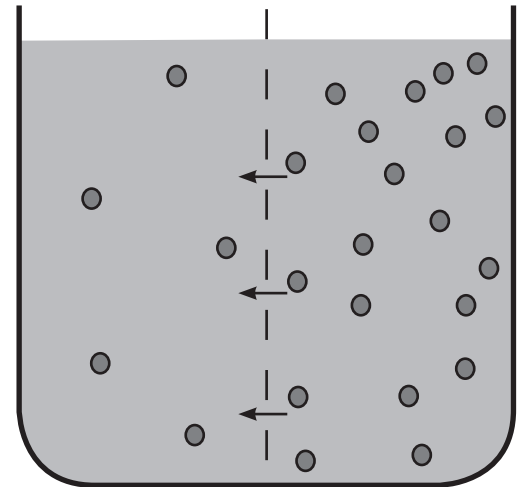


Diffusion and Osmosis



How do humans stay alive? We need to eat, drink, breathe, sleep, etc. All plants and animals have things they must do to stay alive. Also, all plant and animal cells must do certain things to stay alive. In order for a cell to live, tiny bits of matter, called **particles**, move into and out of the cell. They get in and out by passing through the **cell membrane**, the cell's outside "wall".

Particles can pass through a cell membrane in two ways: by active transport and passive transport. In **active transport**, energy from food is needed to move the particles across the cell membrane. **Passive transport** happens randomly. It does not need energy from food to help move the particles.



(Motion of Diffusion)



Describe what you think is the difference between someone who is ACTIVE and someone who is PASSIVE.

Imagine you are standing in a room with 100 people but you don't like crowded places. The room next door has only two people in it. What would you do? You would move to the room with fewer people! When this happens in cells, it is called **diffusion**. In diffusion, particles move from an area where there are many other particles to an area where there are fewer particles. Diffusion is a form of passive transport. It can occur across a cell membrane. The membrane allows small particles like water and oxygen to move into or out of the cell.

What happens if a particle is too large to pass through a cell membrane? Then it moves by **osmosis**, a special type of diffusion. The particle can move into or out of the cell because the cell has a **semi-permeable membrane**. This means that the cell lets some particles pass through and not others. Osmosis is a form of active transport that helps keep the cell alive.



Comprehension Quiz

25

Part A

Circle the word **True** if the statement is true. **Circle** the word **False** if it is false.

1. Most organisms are made up of millions of cells. There are also some organisms that are made up of one cell.

True **False**

2. A cactus, a human and an oak tree are all examples of single-celled organisms.

True **False**

3. The cell's nucleus is like a front door. It controls everything that passes in and out of the cell.

True **False**

4. Most organisms are made up of many specialized cells which carry out specific functions that support the life of the organism.

True **False**

5. Meiosis and mitosis are two types of cell reproduction.

True **False**

6. Plant cells can only be found in single-celled organisms. Animal cells can only be found in multicellular organisms.

True **False**

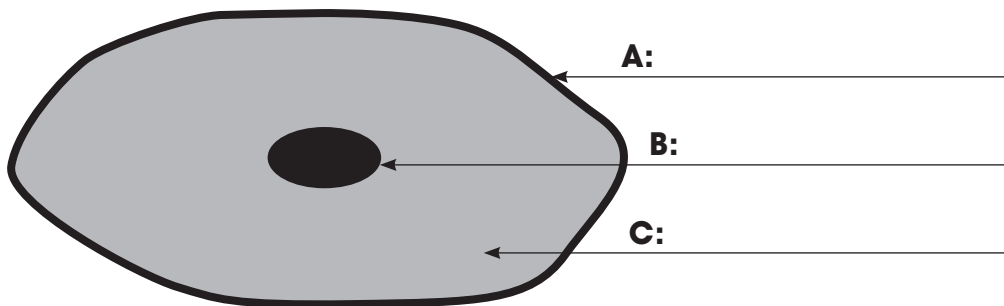
Part B

On the diagram below, label the three main parts of a cell. Use the words in the list.

nucleus

cell membrane

cytoplasm



SUBTOTAL: /9

Diffusion & Osmosis

