**Biology Brain Builders**

Monomer-*one* unit of a large compound

Polymer-*many* units or the large compound

Analogy a brick is one unit (monomer) of the brick wall (polymer)

Relate to biology: The monomer of a protein is an amino acid. In order for our bodies to build proteins it needs to put together several amino acids.

Amino

acid

Amino

acid

Amino

acid

Protein

**Neuro Stimulation week 2**

 Word: enzyme

 Definition: biological catalyst made up of protein

 Catalysts speed up chemical reactions.

 Protein is a polymer made up of the monomers amino acids.

Why are enzymes important? (without them chemical reactions in the body would take too long to occur)

Based upon this information see if students can combine this information to create their own definition of an enzyme.

Examples of some enzymes: carbonic anhydrase, hexokinase

i.

![C:\Users\lreisbig\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\0Y5PSCA1\MC900318584[1].wmf]()Biology Brain Builders Week 3

w

Why should I let you in?

**Semi-permeable membrane**: it surrounds the cytoplasm of a cell

 AKA: cell membrane, plasma membrane, cell skin

**Function**: Semi-permeable membranes only let certain molecules pass through them. A cell membrane is like the Bouncer at a nightclub he only allows certain people through the entrance of the club.

**Biology Brain Builders Week 4**

Aerobic Respiration: the breakdown of glucose into energy

AKA: cellular respiration

All cells require energy to do work and preform the functions vital to life. The process of Aerobic Respiration happens in the mitochondria of cells.

 Sally Cell “Wow I sure could use some glucose so that my mitochondria could make me some energy. That process of Aerobic Respiration keeps me going”

**Biology Brian Builder Week 5**

**Hypothesis**: a possible explanation

Making a hypothesis is a natural human behavior. If you can’t find your shoes you would think about where you saw them last or where you last had them on. This thinking is your *possible explanation* to the problem “Where are my shoes?” You may even gather other information such as ask your mom “have you seen my shoes?” In the process of gathering the information you are providing yourself with an education about your problem. That is why a hypothesis is sometimes called an Educated Guess.

How many hypotheses have you made today and what were they about?

![C:\Users\lreisbig\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\INZ0771C\MC900334372[1].wmf]()

**Biology Brain Builder week 6**

**Homozygous**

* Same form of the gene from each parent.

FF

Homozygous

Dominant

* Examples:

ff

Homozygous

Recessive

**Heterozygous**

* One dominant and one recessive form of the gene (different)
* Example Ff

**Biology Brain Builder week 7**

**Genotype**: letters that represent the genes an organism has.

 Example: Tt

Each letter represents a trait variation. In the example the capital T represents tall for the trait Height of a pea plant. In the example the lower case t represents short for the trait Height. Because capital letters represent the dominant trait the above Genotype would produce a Tall Pea Plant. One letter comes from each parent.

**Phenotype**: the traits that can be seen or expressed as a result of the genes.

 Example: Tall

The genotype Tt results in the phenotype Tall.

![C:\Users\lreisbig\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\LF0XM9XK\MC900383074[1].wmf]()