**MACROMOLECULE JIGSAW POSTER ACTIVITY**

TEKS:

**9.1A** Compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids.

**9.1D** Analyze and evaluate evidence regarding formation of simple organic moleucles and their organization into long complex molecules.

Directions:

1. Your group will be assigned a macromolecule to research.
2. Each person in the group must create a poster.
3. You will create a poster that answers statements 1 through 4 below. Be sure to divide your poster into four sections and write the titles for each section. Colors and neatness are required.
4. Once posters are completed, we will break into expert groups and complete the macromolecule graphic organizers.

The following must be addressed on your posters (the labels you must include are in all caps)

1. BUILDING BLOCKS
   1. State the components of the macromolecule.
      1. Include the elements that make it up
      2. Include the name of the monomer
      3. Draw a picture of the monomer.
2. SUPPLY
   1. Describe how we get your macromolecule in our bodies.
      1. Is it ingested? Yes or no
         1. If yes, what foods provide us with it?
      2. Is it made in our body? Yes or no
         1. If yes, where is it produced in the body?
3. EXAMPLES & FUNCTION
   1. Identify two specific examples of your macromolecule
   2. Describe the function of each.
4. IMPACT ON HEALTH
   1. Carbohydrates, Lipids, and Proteins Groups - Choose option 1 or 2

Option 1: ☹ Identify and describe one specific example of a disease that may be

brought on by a dietary deficiency (too little) / or excess amounts (too much) of a

particular type of your macromolecule.

Option 2: ☺ Identify and describe one specific example of a health benefit that may be

gained by consuming a specific type of your macromolecule.

* 1. **Nucleic Acid** **Groups** - For this portion of your assignment, you should name & briefly

describe the characteristics, signs and symptoms of one of the following human genetic disorders: [http://www.answers.com/topic/chromosome](http://www.answers.com/topic/chromosome" \t "_top)Down Syndrome, Klinefelter’s Syndrome, Prader-Willi Syndrome, Turner Syndrome, Angelman Syndrome

**Macromolecule Jigsaw Poster Rubric**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Excellent  (20 /10) | Strong  (15 / 8) | Fair  (10 / 5) | Weak  (5 / 2) | Missing  (0) |
| Building Blocks (20) | Includes all elements, name of monomer, detailed illustration | Includes all information but needs more detail | Missing one component | Missing two or more components | Missing from poster |
| Supply (20) | Includes a detailed description of how we obtain it | Includes all information but needs more detail | Missing one component | Missing two or more components | Missing from poster |
| Examples and Functions (20) | Two examples with functions described in detail | Includes all information but needs more detail | Missing one component | Missing two or more components | Missing from poster |
| Impact on Health (20) | Includes a detailed description on impact on health | Includes all information but needs more detail | Missing one component | Missing two or more components | Missing from poster |
| Neatness (10) | Extremely neat and easy to read | Neat and easy to read | Moderate neatness, slightly difficult to read | Not neat, difficult to read | Unable to read |
| Colorful (10) | Bright and very colorful | Colorful | Moderate Color | Very little color | No color |
| Total Points |  |  |  |  |  |

**Helpful websites (in addition to my.hrw.com):** Below are some helpful websites to get you started:

* (Encyclopedia) <http://www.britannica.com/>

\*\* Enter what you’re looking for in the search box

* (Med Encyclopedia) <http://www.webmd.com/default.htm>
* (Nutrition) <http://www.hsph.harvard.edu/nutritionsource/what-should-you-eat/>
* (Dietary Basics) http://www.cdc.gov/nutrition/everyone/basics/
* (Carbohydrates) http://ehealthmd.com/content/what-fiber
* (Protein Deficiency) [http://www.livestrong.com/article/269901-a-list-of-protein-deficiency-diseases/](http://www.livestrong.com/article/269901-a-list-of-protein-deficiency-%09%09%09%09%20%20%20%20%20%20%20%20%20%20%20%20%20diseases/)
* (Dietary Deficiencies) <http://www.humanillnesses.com/original/Conj-Dys/Dietary->

Deficiencies.html

* (Lipids) <http://www.livestrong.com/article/237323-role-of-lipids-in-human-diet/>
* <http://bcs.whfreeman.com/thelifewire/content/chp03/0302002.html>
* <http://www.cliffsnotes.com/sciences/anatomy-and-physiology/anatomy-and-chemistry-basics/organic-molecules>