**MACROMOLECULES VIRTUAL LAB**

BIOLOGY

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**PROCEDURE**

1. Click on the following link for the lab website. <http://www.occc.edu/biologylabs/Documents/Organic%20Compounds/Organic%20Compounds.htm>

2. RESEARCH: Complete the following table by clicking on the link for each macromolecule.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Monomer | Function | Chemical Used to Test if Present in Food | Positive Result (color change if macromolecule is present) |
| Carbohydrates |  |  |  |  |
| Proteins |  |  |  |  |
| Fats |  |  |  |  |

3. HYPOTHESIS: Write your predictions about the presence of each of the macromolecules in each food item on the table below. Write “Yes” if the macromolecule is present in the food and “No” if it is not.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Simple Sugar (carbohydrate) | Starch  (carbohydrate) | Protein | Fat |
| Potato |  |  |  |  |
| Orange Juice |  |  |  |  |
| Almonds (nuts) |  |  |  |  |
| Eggs |  |  |  |  |
| Salmon |  |  |  |  |
| Milk |  |  |  |  |

4. Click on “Foods” tab.

5.EXPERIMENT: Test your hypothesis by clicking on the photo for each food item and testing each for each of the macromolecules on the table. Write “Yes” if the macromolecule is present in the food and “No” if it is not on the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Simple Sugar (carbohydrate) | Starch  (carbohydrate) | Protein | Fat |
| Potato |  |  |  |  |
| Orange Juice |  |  |  |  |
| Almonds (nuts) |  |  |  |  |
| Eggs |  |  |  |  |
| Salmon |  |  |  |  |
| Milk |  |  |  |  |

4. Complete the following ANALYSIS questions fully using complete sentences.

A. Describe 3 parts of your hypothesis you were correct on and why you made the correct prediction.

B. Describe 3 surprises you experienced during your experiment.

5. Complete the following CONCLUSION questions fully using complete sentences.

A. Explain how reagents are used to identify macromolecules in foods. Provide 2 examples and explain how they

work.

B. Infer how experiments like these may be important in the food industry (at least 3 sentences).

C. Predict another situation in which this these tests may be used. Describe how.