

21B – AMINO ACIDS

INQUIRY

Living organisms are made of chemicals. Are the chemicals of “life” different from ordinary chemicals?

MATERIALS

- Molecular Model Set



BACKGROUND

Virtually all life on Earth, both plants and animals, share the same twenty amino acids. This is extraordinary evidence for the evolutionary relationship between all life on our planet. It is also the reason we can eat plants and animals to replenish the proteins in our own bodies. The amino acids in spinach, fruit, nuts, meat, milk, and every other food are the same amino acids we use to build proteins in our own bodies.

SAFETY

Follow regular lab safety procedures.

PROCEDURE

1. A section of RNA has the following sequence.

AUG / UCU / UGC / GAC / GGC / GCA / ACC / GUC / AAC / CUA / UAG

2. Use the Reference section (see answer sheet) to determine the amino acid sequence. Record the amino acids in Table 1 on your answer sheet.
3. Your teacher will assign you one of the above amino acids to build. Once this is done, combine your amino acid with the other groups to build the "protein." Discuss with you lab partner which specific part(s) of the amino acid must be removed in order to join amino acids together in a chain.

ANALYSIS

Complete the analysis on your answer sheet.

QUESTIONS

Answer the questions on your answer sheet.