

Life's Backbone

Most of the compounds that make up living things contain carbon. In fact, carbon makes up the basic structure, or “backbone,” of these compounds. Molecules that are found in living things, such as proteins, fats, and carbohydrates, all contain carbon. Each atom of carbon can bond with four other atoms. Therefore, long chains of carbon can form, leading to the huge number and variety of different carbon compounds that exist. Think about what you already know about carbon compounds, including those found in the foods that you eat.

1. Write a brief description of what you think fats, proteins, and carbohydrates are. If you know of other elements that are found in these nutrients, write those elements next to the nutrients in which they are found.
2. Which of these nutrients do you think should make up the largest part of your diet? Which should make up the smallest? Explain your answers.
3. If you know of any nonliving things that are made of or contain carbon, list them.

1. Accept all reasonable descriptions. You may want to have students revisit their descriptions after completing this section. Students may know that carbon compounds may also contain oxygen, hydrogen, or nitrogen.
2. Carbohydrates; fats. Students may know that the body only needs small amounts of fats or that fats contain more calories than the other nutrients.

3. Students' lists may include: charcoal, coal, graphite (in pencils), diamonds, carbon dioxide, oil, gasoline, wood.