CARBOHYDRATES: Use p. 66 of your text

1. What is the number one function of carbohydrates in our bodies?
2. What are the 2 types of carbohydrate? Explain the difference, and give 2 examples of sources of each.
3. Which organelle makes use of simple sugars? In which cellular process?
4. What is the energy from carbohydrates used for in our bodies?
5. Why is it better to have a diet with more complex carbs than simple carbs?

PROTEINS: Use p.67 and the information below

1. What kinds of foods are high in protein?
2. What does your body do with the proteins you eat?
3. Which building blocks found inside of proteins are needed for the body to do its work?
4. What is the difference between a complete protein and an incomplete protein? Name 3 sources of each

The human body is about 45% protein.

Proteins are built from molecules called amino acids. Our bodies build proteins in all of our cells, at the ribosomes. Not only can proteins build body tissues, but they can also send chemical messages in our bodies (hormones), enable chemical processes to occur (enzymes), and give us energy.

The human body uses more than 20 different amino acids to do its work. The human body can synthesize some amino acids if they’re not being eaten in our diets. Some other acids cannot be created in our bodies (we call these **essential** amino acids) so we need to obtain them from foods. Still other amino acids are not produced by our bodies, but are only essential in times of illness or stress. Our bodies do not store amino acids for future use, so it is important to get a balance of these every day. We get amino acids from breaking down proteins in the foods we eat.

Plants are generally considered **incomplete** sources of protein, because a single plant will not provide us with all of the essential amino acids at once.

Animals (who have eaten enough plants to collect all the A.A.s) are **complete** sources of protein. Foods like meat, fish, poultry, eggs, and dairy are complete proteins. Soy and quinoa also have complete proteins

Incomplete proteins can be combined to create complete proteins. Usually, combining any 2 of: grains, seeds, legumes, nuts & dairy over the course of a day will give you a complete protein profile.

FATS: Use p.67 and the information below

1. What does your body do with fats?
2. Do you need fat in your diet?
3. If you eat more fat than your body can use, what happens to the extra?
4. There are 2 types of fats: saturated and unsaturated. How can you usually tell the difference? Give 2 sources of each.
5. What is plaque, and how is it linked to heart disease (heart attack) and stroke?
6. What are trans fats, and why are they of particular concern?

You may have heard of “trans fats” on food labels. A trans fat is created when liquid vegetable oil is changed into solid fat. It is frequently added to processed foods because it can improve taste & texture, and because it helps the food stay fresh longer. Deep fried foods, frozen meals, hard margarine, baked goods, cookies, chips, etc. are common sources of trans fats. Since Dec. 2005, Health Canada has required that any product with 0.2g or more of trans fat per serving must be labeled as such. In Sept 2009, British Columbia became the first province in Canada to require its restaurants to use oils and margarines that contain 2% trans fat or less. All foods sold must not have more than 5% of their mass from trans fats. Exceptions: dairy products, meats, and pre-packaged foods with nutrition labels.

Why does Health Canada care about Trans fats? They significantly increase your risk of developing heart disease, as they increase your bad cholesterol and lower your good cholesterol.

VITAMINS, MINERALS & WATER p.68

1. Why does the body need vitamins & minerals (in general)?
2. Name some vitamins you know, and their foods sources
3. Name some minerals, a food source for each, and why your body needs them.
4. Vitamins can be water-soluble or fat-soluble. Which one is easier to overdose on (so it builds up to toxic levels)? Why?
5. Why do our bodies need water?
6. How much water should we drink each day?