



Energy and Sharks Webquest

Swimming on an Empty Shark Tank

Directions: Complete the webquest questions below by using the links provided.

PART 1: ENERGY

Energy is stored as chemical energy in the bonds inside molecules. Different foods are made up of different kinds of molecules, so different amounts of energy are stored in them. Our bodies release this stored energy in forms we can use through cellular respiration. Calories are the amount of energy it takes to raise the temperature of 1 gram of water by 1 degree Celsius (1.8 degrees Fahrenheit). In relation to our bodies, calories are the energy our body needs to do anything. The number of calories an individual should eat is based upon several things: age, gender, weight, height, and activity level. Every person has a specific number of calories that their body needs to properly function.

Watch this video for an introduction to calories: [Food is Fuel](#). **Answer the following questions.**

1. Describe what happens to a rat that has been eaten by a python.
2. What is the function of the digestive system?
3. What are calories? How can you measure the calories contained in food?
4. What do you think happens if a person eats more calories than their body needs?

Click on this link to read more about calories and answer the following questions: [What is a Calorie?](#)

1. What is the definition of a calorie?
2. What is the important word?
3. How many calories does a body need to fuel your brain, heart, and lungs?
4. What happens when the number of calories exceeds (is more than) your body needs each day?
5. How do you really lose weight?

Use this link ([How to Convert Fat Grams to Calories](#)) to determine how many calories the following contain, and learn how to convert grams to calories.

| | Cal/gram | Example or fat Total Cal |
|---------------|----------|--------------------------|
| Proteins | | X 12 grams = |
| Carbohydrates | | X 7 grams = |
| Fat | | X 3 grams = |

PART 2: SHARKS

Anatomy

[Shark Anatomy Interactive](#)

[All About Sharks](#)

1. Name all of the parts of the shark anatomy (should be 10 in total)?
2. How many fins do sharks have? Name them.
3. Do sharks have bones like us? Explain?

Types of Sharks

[Shark Profiles](#)

[Sharks Profiles Interactive](#)

1. Name six types of sharks.
2. Explain 2 characteristics that exist in each shark.

Ecology

[Shark Facts and Information](#)

[Discover Fish: Sharks FAQ](#)

1. Where do sharks live? How long do they live?
2. How do sharks find their prey?
3. Do sharks sleep?

Diet

[Sharks - Dinner Time](#)

[What do Sharks Eat? - Shark Facts and Information](#)

1. Name 5 different foods that sharks like to consume?
2. Are sharks vegetarians? Explain?
3. Can sharks chew their food? Explain?

Predation

[What is Predation?](#)

1. What is predation?
2. What's the difference between grazing and true predation?
3. What sorts of adaptations do prey have for avoiding predators?
4. Predators can be a keystone species. What does this mean?

Dr. Taylor K. Chapple's Shark Research
[College of Agricultural Sciences | Oregon State University](#)
[White Sharks | College of Agricultural Sciences | Oregon State University](#)

1. At what university does Dr. Chapple work? What does he study?

2. What species of sharks does Dr. Chapple study?

3. What are the three locations where Dr. Chapple studies sharks?

4. What type of tags are used to record shark movement? Explain what type of data the tag collects.