Primary/Elementary Activity: Energy in Food

Background
Food energy is the amount of energy in food that is available for the body to use through digestion. The values for food energy are measured in Calories. One food Calorie is the amount of food energy (heat) that will raise the temperature of one kilogram of water on degree Celsius. The average 4-8 year old child needs 1200-1800 Calories per day and the average 9-12 year old needs 1600-2200 Calories per day, depending on the child’s weight and activity level.

Purpose
To explore the amount of energy in different kinds of food.

Procedure
For each group, rank the foods by the amount of energy you think they contain (1-least, 4-most).

<table>
<thead>
<tr>
<th>Cheeseburger</th>
<th>Milk</th>
<th>Banana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain Hot Dog on Bun</td>
<td>Soda</td>
<td>Large Carrot</td>
</tr>
<tr>
<td>6 Chicken Nuggets</td>
<td>Orange Juice</td>
<td>Cup of Broccoli</td>
</tr>
<tr>
<td>Small Taco</td>
<td>Water</td>
<td>Slice of Cheese</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Slice of Pepperoni Pizza</th>
<th>Bowl of Cheerios &amp; Milk</th>
<th>2 Peanut Butter Cups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nachos with Cheese</td>
<td>Granola Bar</td>
<td>Cup of Ice Cream</td>
</tr>
<tr>
<td>PBJ Sandwich</td>
<td>Bagel &amp; Butter</td>
<td>Bag of Potato Chips</td>
</tr>
<tr>
<td>Medium French Fries</td>
<td>Sausage Egg &amp; Biscuit</td>
<td>Cup of Sunflower Seeds</td>
</tr>
</tbody>
</table>

Conclusions
Answer the following questions in your science journal:

1. Into what forms of energy does your body convert food energy?
2. What happens if your body takes in more food energy than it needs?
3. What happens if your body does not get the food energy it needs?
4. What other things besides energy content do you need to consider when choosing food to eat?

Extensions
- Examine the packages of several foods to determine the amount of food energy they contain.
- Make a list of the plants that can be used for food and for other types of fuel.