

## Student Page

Title: Energy and Calories

Name: \_\_\_\_\_ Period: \_\_\_\_\_

Purpose: To calculate the number of calories consumed in an average day and compare that to the average number of calories burned in a day.

Materials: food packaging, calorie charts

Hypothesis: Do you burn more calories or less calories than you spend in a day?

### Procedure:

1. Calculate the number of calories for 3 meals and one snack in Table 1.
2. Calculate the total number of calories eaten in one day.
3. Obtain a calorie chart that most closely represent your current weight.
4. For each time period on Table 2, select an activity that most closely represents what you would be doing on an average school day.
5. Fill in the number of calories burned for an hour while performing that task
6. Calculate the total number of calories you used in one day
7. Find out if you used more or less calories than you ate.

Data:

Table 1:

| Meal      | # of Calories |
|-----------|---------------|
| Breakfast |               |
| Lunch     |               |
| Dinner    |               |
| Snack     |               |

Total Calories in Day \_\_\_\_\_

Table 2:

| Time  | Activity | # of calories per hour |
|-------|----------|------------------------|
| 7 am  |          |                        |
| 8 am  |          |                        |
| 9 am  |          |                        |
| 10 am |          |                        |
| 11 am |          |                        |
| 12 pm |          |                        |
| 1 pm  |          |                        |
| 2 pm  |          |                        |
| 3 pm  |          |                        |
| 4 pm  |          |                        |
| 5 pm  |          |                        |
| 6 pm  |          |                        |
| 7 pm  |          |                        |
| 8 pm  |          |                        |
| 9 pm  |          |                        |
| 10 pm |          |                        |

Total Calories used in a 15 hour time period \_\_\_\_\_

Calories eaten – Calories used = \_\_\_\_\_

#### Analysis Questions:

1. Did you eat more calories than you used?
2. Did you use more energy than you gained from eating the food?
3. What if you had to hunt for your food, how would that affect the amount of calories (or energy) that you need?
4. How would restaurants that served coyotes mice, affect the behavior of a coyote?
5. Why do you think a lion needs to sleep all day but you don't?

6. Why do you think that a hummingbird has to spend all day everyday eating?
7. What type of strategies would a bear use to conserve its energy during times when food is scarce?
8. A seed is dormant. That means that it's development is stalled or paused. It will not germinate until conditions are correct. How is this a strategy for conserving energy?
9. Explain the energy used to produce a loaf of bread you bought at the store, compared to the amount of energy used to produce a loaf of bread in a third world country with products grown in their own fields.

Conclusions: In complete sentences please explain 2 major concepts you learned from this activity.