

Energy and Calories

Summary

In this lab students will learn to correlate calories with obtaining and using energy. They will do this by analyzing several meals, calculating caloric value and calculating their own calorie expenditure.

Time Frame

1 class periods of 60 minutes each

Group Size

Individual

Materials

- Food containers for several meals (just collect them from home or have students bring them in)
- calculators
- [calorie spending charts](#)
(attached)
- overhead of recommended caloric intake for teenagers
- [student page](#)
(attached)

Instructional Procedures

Set up 3 sample meals in the classroom, a breakfast, lunch and dinner is preferable. You could also have the students bring in sample meals but they would need to be sure to bring the packaging with them.

Samples:

Breakfast: Dry cereal, milk, raisins

Lunch: Potato chips, can of pop, baby carrots, lunchable

Dinner: Spaghetti, meatballs, sauce, green beans, garlic bread, ice cream

Snack: Candy bar

instruct the students to use the given serving size and calculate the number of calories each meal contains.

They should then calculate how many calories they would consume in one day, if they ate these foods.

Then using the calorie chart closest to their weight they should plan a day's worth of activities.

Finally they will calculate how many calories they will use in one day.

Assessment Plan

Scoring Guide:

Student participated in lab.....10 points

Data tables completed.....20 points

Questions answered correctly.....12 points

Conclusions are in full, clear sentences and contain thoughtful ideas.....10 points

Answers:

answers will vary

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You would need more energy because you would be using more energy

Coyotes may start to put on weight unless they kept moving and chasing things

Lions must conserve their energy for hunting which requires a lot of energy

Hummingbirds use a great deal of energy hovering so they must constantly be sucking nectar to get enough energy

A bear hibernates to save energy. It cannot obtain enough energy to forage for food all winter long when food is scarce.

A seed does not waste energy germinating when conditions are harsh, if there is not enough water, sunlight etc.

To produce a store-bought loaf of bread there are tractors used to harvest the wheat, it is ground in a factory, transported by automobiles. . . fossil fuels are burned in all steps of the process. This uses a great deal of energy. In a loaf made in a 3rd world country, the wheat is harvested by hand, ground by hand, much less energy is used in the process.

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

[Utah LessonPlans](#)