

61. Stored Energy – The Turtle

Classroom Activity: To build a model turtle that propels itself through the use of stored energy.

Grade: 5

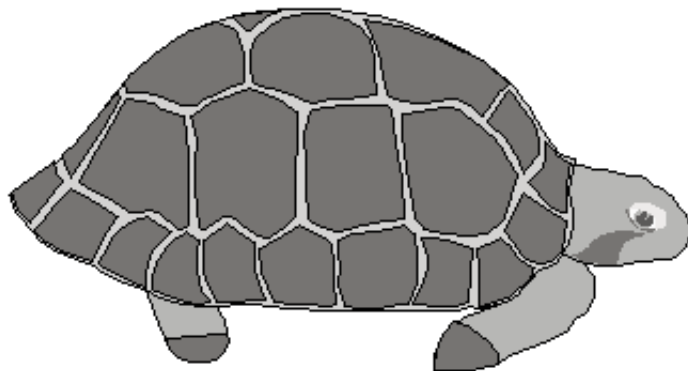
Strand (s): Understanding Earth and Space Systems

This task addresses the following overall expectations:

- investigate energy transformation and conservation;
- demonstrate an understanding of the various forms and sources of energy and the ways in which energy can be transformed and conserved.

and the following specific expectations:

- follow established safety procedures for using tools and materials;
- use scientific inquiry/research skills to investigate issues related to energy and resource conservation;
- use technological problem-solving skills to design, build, and test a device that transforms one form of energy into another and examine ways in which energy is being "lost" in the device;
- use appropriate science and technology vocabulary, including energy, heat, light, sound, electrical, mechanical, and chemical, in oral and written communication;
- use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes;
- identify a variety of forms of energy and give examples from everyday life of how that energy is used;
- describe how energy is stored and transformed in a given device or system;
- recognize that energy cannot be created or destroyed but can only be changed from one form to another.



Assessment Categories:

- Knowledge and Understanding
- Thinking and Investigation
- Communication
- Teambuilding skills

Type of Activity:

Classroom, Independent Study

Preparation:

Time to plan: 3 hours

Time to complete the activity: 6-8 hours

Assemble the materials, and have a model prepared beforehand.

Materials/Resources for teachers:

Construction paper

Plastic tub (margarine container)

Elastic bands

Glue

Scissors

Materials/Resources for students:

Same as for Teacher

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Activity Description:

To build the Turtle:

1. Cut slits in opposite sides of the margarine tub
2. Attach elastic band
3. Decorate the sides of the tub to look like a turtle
4. Make a neck and head for the turtle
5. Wind up the elastic band
6. Place turtle on a smooth surface
7. Release the elastic band to move the turtle

Students:

Discuss where the energy comes from, how it is stored, how it is released and how it is transferred to motion.

Extension:

Students discuss and experiment with how to store more energy to produce faster motion of the "turtle"!

Search for other sources of stored energy.

Tips:

Have the children work in small groups of 4.

Students will need help with gluing and winding up the elastic band.