

# Energetic Planaria

## Summary

Students will participate in this Inquiry lab where students design an experiment to see how flat worms (or other invertebrates) respond to various forms of energy.

## Time Frame

2 class periods of 45 minutes each

## Group Size

Small Groups

## Materials

Materials will vary depending on the experiments that the students design.

light sources

heat sources

ice

containers for planaria (1-2 quart transparent plastic boxes work well)

- [student sheet](#)

(attached)

radio or other sound source

batteries

planaria (can be ordered from any scientific supplier) Snails, crickets, pill bugs or worms can be used in place of planaria.

spring water for containers

## Background for Teachers

Planaria will not live more than a few days without being fed, feeding instructions should come with the planaria. A small piece of liver is often recommended. Planaria can be collected in freshwater ponds with a piece of liver on a string or ordered from a science supplier.

Time Needed: 30 minutes one day to design experiment and prepare supplies, 45 minutes the next day to carry out experiment.

## Instructional Procedures

### 1. Hook activity

-- Without warning, pop a balloon. Ask students how they reacted to the sound -- explain that sound waves are a form of energy and that organisms respond to different forms of energy in different ways. Ask the students to list different forms of energy they are familiar with. (light, sound, heat, electrical, chemical, mechanical, etc...)

Talk to the students about the planaria, here is a kid friendly site if they need more information: [Planaria Flatworm Regeneration & Movement](#) (YouTube video)

Tell the students that they will be designing their own experiments to test how planaria respond to different forms of energy. Students need to choose one form of energy to test and then figure out a way to test it. Show the students the containers they will use to put the planaria in and the water they need to use.

Limit the students to one experimental variable. Let the students know how many planaria each group will receive.

Make sure you have extra planaria for other periods, some may not survive.

The reaction the students will most likely measure is whether or not the planaria are attracted to the energy source or repelled by it.

Groups of three or four will work best.

Have the students get the teacher's approval after they have written up their experiment.

Once begun, the experiment will take a little time, planaria are very slow. You may want to have another short activity for the student to do while they are waiting.

Assessment Plan

Scoring Guide

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1. Participation.....5
2. Student Sheet filled out completely and correctly.....10

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

[Utah LessonPlans](#)