**Subject area/course**: Science

**Grade level/band**: 5th grade

**Task source**: New Hampshire Task Bank; Authors: Mary Wilke, Lindsey Foley, Liz Finney, Wendy Harrison, Jamie Zipke, Karen McCormack, Susan Lauze, Donna Palley, Chris Demers

**Whirligigs**

**STUDENT INSTRUCTIONS**

1. **Task context**:

Guiding Question: How do scientists design and carry out experiments?

Crunchy Crumb Cereal Company has asked for your help! They have designed a toy, called a whirligig, which they would like to include in their cereal boxes, so that kids like you will beg their parents to buy Crunchy Crumb. They think the toy will be more popular if it takes a long time to fall to the ground, so they need to know what factors affect the speed of its fall.

1. **Final product**:

It’s your job to design and perform an experiment to determine whether the time it takes a whirligig to fall a certain distance is affected by one of these factors:

* the number of paper clips
* the length of the blades
* the length of the tail
* the location of extra weights (paper clips) placed on it
* the type of the paper
* or some other variable you would like to change

1. **Before** conducting the experiment, identify:
   1. Your question
   2. Your hypothesis
   3. Your independent and dependent variables
   4. The variables you will keep constant
   5. The materials and equipment you will need
   6. Your procedure, including the number of trials you will perform
2. **During** the experiment:
   1. Collect data and record it in a data table.
   2. Record your observations.
3. **After** conducting your experiment:
   1. Write a conclusion based on your data.

**Additional Information**

1. **Knowledge and skills you will need to demonstrate on this task:**

Student will learn the following in the unit:

* Recall what the following terms mean: hypothesis, variable, dependent, independent
* Write a scientific lab report.

The following will be assessed in the task:

Students can write a lab report using content information gained in class (i.e., scientific terminology, procedural knowledge).

1. **Materials needed:**

* Whirligig template
* Lab report template/graphic organizer
* Checklist
* Paper clips
* Scissors

1. **Time requirements:**

This task is designed to take place over the course of three days. Your teacher will provide you with more directions about the time needed to complete each part of the task.

1. **Scoring:**

Your work will be scored using the Whirligig rubric. You should make sure you are familiar with the language that describes the expectations for proficient performance.