

Name: _____

Date: _____

Planning a Science Fair Project

Fenway High School Science

Introduction

In this activity you will go through some of the steps of designing a project before designing your own science fair project.

Step 1: Read the following project ideas/scenarios

1. You've been to Six Flags and noticed that on the slides and roller coasters they don't ask how heavy people are – they seem to expect everything to work the same no matter how much people weigh. You wonder if how fast something goes down a slide depends on how heavy it is.
2. Your neighbor has a compost pile and puts all kinds of food scraps in it, including egg shells and banana peels. You wonder if the kind of food put into the compost affects how good the compost is for growing plants.
3. You have heard that acorns grow into oak trees, but you've seen a lot of acorns lying around on the sidewalks that never grow into anything. You wonder if maybe the acorns have to be lying on dirt before they will start growing.

Step 2: Identify the variables

Every experiment has three basic kinds of variables:

Independent Variable: This is the variable you *change*. (You should only have one.)

Dependent Variable: This is the variable you *measure*. (You should only have one.)

Constants: These are things that *don't change*. (There can be several of these.)

In each of the project scenarios, identify the variables.

	<i>Scenario</i>		
	<i>1</i>	<i>2</i>	<i>3</i>
Independent			
Dependent			
Constants (think of at least two)			

Step 3: Make a testable question

This is the easiest step! The title of your project should be a *question* that you could *test* by making an experiment. Here's the format for a testable question:

How does independent variable affect dependent variable ?

That's it, except it should be written so that it's really clear from the title what the project is all about, so you have to be specific about your variables.

For each of the scenarios, write a testable question:

Scenario 1: _____

Scenario 2: _____

Scenario 3: _____

Step 4: Propose a hypothesis

For each of the scenarios, what do you think the result of the experiment will be? This is the *hypothesis*.

Scenario 1: _____

Scenario 2: _____

Scenario 3: _____

Step 5: Design a project

Pick **one** of the project scenarios, and on a separate sheet of paper, describe briefly how you would set up an experiment to test it. Include a diagram.