

## Sample Science Fair Investigations

### Life Science

#### Plant Science

(Adapted from: "So You Have to do A Science Fair Project", Henderson & Tomasello, 2002)

1. Do plants grow best when fed water or another liquid?
2. How does water move through plants?
3. What is the effect of microwaves on germination of seeds?
4. What is the effect of temperature on the germination of seeds?
5. Does presoaking seeds affect the germination and growth of plants?
6. How do different factors affect seed germination? Factors that you could test include the intensity, duration, or type of light, the temperature, the amount of water, the presence/absence of certain chemicals, or the presence/absence of soil. You can look at the percentage of seeds that germinate or the rate at which seeds germinate.
7. Is a seed affected by its size? Do different size seeds have different germination rates or percentages? Does seed size affect the growth rate or final size of a plant?
8. How does cold storage affect the germination of seeds? Factors you can control include the type of seeds, length of storage, temperature of storage, and other variables, such as light and humidity.
9. What conditions affect the ripening of fruit? Look at ethylene and enclosing a fruit in a sealed bag, temperature, light, or nearness to other pieces or other fruit.

### Animal Science

1. Which foods do \_\_\_\_\_kinds of cats prefer?
2. Which foods do \_\_\_\_\_kinds of dogs prefer?
3. Which foods do \_\_\_\_\_kinds of fish prefer?
4. Can a gerbil learn to run a maze?
5. Can a hamster learn to run a maze?
6. Which foods attract \_\_\_\_\_kinds of insects?
7. Which foods repel \_\_\_\_\_kinds of insects?

### Food Science

1. Do kids prefer one kind of juice over another?
2. Which brand of fast-food french fries do kids my age prefer?
3. Do kids my age know what kinds of healthy snacks they should eat?
4. How much water do kids my age usually drink in one day?
5. Which brand of gum blows the largest bubbles?

### Human Science

1. Are boys my age usually taller than girls my age?
2. How much time do kids in my school usually spend on homework each night?
3. Are left thumbprints identical to right thumbprints?

## Physics and Chemistry

1. Which metals conduct electricity the best?
2. Which brand of battery lasts the longest?
3. Do fluorescent lights or LED's last longer than filament bulbs? Which is more energy efficient?
4. What affects the growth of crystals?
5. Which brand of orange juice has the highest amount of vitamin C?
6. Which detergent works best to remove grass stains?
7. What ratio of vinegar to baking soda produces the best chemical volcanic eruption?
8. Are night insects attracted to lamps because of heat or light?
9. Does the presence of detergent in water affect plant growth?
10. If you shake up different kinds or brands of soft drinks (e.g. carbonated), will they spew the same amount?
11. Do different brands of batteries (same size & new) last as long equally? If a brand lasts longer than others, does this change if you place the battery into another product? (e.g. using a flashlight versus a digital camera)
12. Is the nutritional contents of different brands of a vegetable (e.g. canned corn) the same?
13. How permanent are permanent markers? What solvents (e.g. water, alcohol, vinegar, detergent) will remove the ink? Do different brands/types of markers produce the same results?
14. Do all dishwashing detergents produce the same amount of bubbles? Clean the same amount of dishes?
15. Is laundry detergent as effective if you use less than the recommended amount? More?
16. Do all hairsprays hold equally well? Equally long? Does type of hair affect the results?
17. Does light affect the rate at which foods spoil?
18. Does the shape of an ice cube affect how quickly it melts?
19. How do differences in surfaces affect the adhesion of tape?

