

# BROCKWAY AREA ELEMENTARY SCHOOL STARTER PACKET



## STUDENT ENTRY FORM (Return this page to Mr. French)

NAME OF PROJECT: \_\_\_\_\_ GRADE: \_\_\_\_\_

STUDENTS:           Limit of no more than three students.  
                          Projects are displayed and judged at the oldest student's grade level.

1. First/ Last  
Name: \_\_\_\_\_ GRADE: \_\_\_\_\_ HOMEROOM: \_\_\_\_\_

2. First/ Last  
Name: \_\_\_\_\_ GRADE: \_\_\_\_\_ HOMEROOM: \_\_\_\_\_

3. First/ Last  
Name: \_\_\_\_\_ GRADE: \_\_\_\_\_ HOMEROOM: \_\_\_\_\_

Check (X) for the category of project:

\_\_\_\_\_ INDIVIDUAL           \_\_\_\_\_ GROUP PROJECT           \_\_\_\_\_ CLASSROOM PROJECT

Check (X) if your project requires an electrical outlet: \_\_\_\_\_

Please list any special requirements for the display of your project

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If you have any questions concerning the Brockway Area Elementary School Science Fair  
Please contact the  
Brockway Area Elementary School Office at  
265-8417





**Place:** Brockway Area Elementary School Gymnasium  
**Date and Time:** Public Gallery Wednesday, April 17, 2018 6:00-7:00 PM  
**Rewards for all participants:** Participation wristband and Movie  
**Awards:** 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Place Medals at all grade levels  
(Awards are presented on BTV)

### Important Dates and Times

Friday	April 2	Pick up starter packets
Friday	April 3	Pick up display boards
Monday	April 15	Deadline for entry forms
Tuesday	April 16 (3-6 PM) and	Set-up for show
Wednesday	April 17 (7:30-8:15 AM)	Set-up for show
Wednesday	April 17 (9-2:30 PM)	Student Science Fair
Wednesday	April 17 (6-7 PM)	Public Science Fair Gallery
Wednesday	April 17 (7:00-7:15 PM)	Tear down
Thursday	April 18	Science Fair Movie

### What is a Science Fair?

(There's no right or wrong just FUN)

Did you ever have a question you wanted to know the answer to? Have you ever had an idea for an invention and wanted a reason to develop it? Do you or someone in your family have a collection you want to share with others? Can you demonstrate a simple science experiment? Can you create a display that answers a question about the world we live in? Then you, my friend, are a scientist, and the Brockway Area Elementary School wants you to take part in the Science Fair.

This packet is designed to aid you in the completion of a simple science fair project. Science fair projects don't have to be big to be cool; they just need to answer a question. Students don't have to work alone; all family members are welcome to get involved in this lifelong learning experience. Most projects use common everyday household items, research from books, and/or the Internet. The school provides science fair boards, and this packet will walk you step by step through the completion of your project using a proper science fair format.



## Frequently Asked Questions

### It's as Easy as 1,2,3

#### Your project will consist of:

1. A **display board unit** provided by the Brockway Elementary School.  
This is where you will hang all of your written information, pictures and graphs.
2. **Exhibit Materials:** these are models or other items used in your experiment, which will be placed on the provided table space (in front of your display board)
3. During the science fair, you may be asked to describe your project and answer questions about your project. Viewers will be curious and want to discuss your project.

#### Frequently Asked Questions:

- **How do I enter the Science Fair?**  
Return the entry form found in the packet to your homeroom teacher for review.
- **Where can I get an idea?**  
On the school website, the school library, parents, and teachers are all great sources to select an idea. Remember the best ideas aren't expensive.
- **Can I have a partner?**  
Up to three partners are permitted to present projects together. Students can have a partner from a different grade level. At the fair, the projects will be displayed at the oldest student's grade level.
- **Can my parents help?**  
Parental involvement is always encouraged in grades K-3. Parents should try to guide students through the learning process and direct them as needed. **Guide** is the keyword. In Grades 4-6 projects are completed in school as part of Science Class to help students better understand the scientific method.
- **How do I get a display board?**  
Display boards are provided by the school and can be picked up in the Computer Lab after your project is approved.
- **Are there prizes?**
  1. A participation rover wristband
  2. A ticket for the Science Fair Movie
  3. A chance to win the Student's Choice Award (medals for 1<sup>st</sup>-3<sup>rd</sup>)
- **What is the Student's Choice Award?**  
Medals presented to the top three projects at all grade levels.  
Three finalists are determined by the science fair judges. The winner at each grade level will be determined by the students. All medals will be presented on BTV.
- **Can I bring in my pet rattlesnake?**  
**NO!** Since safety is of the utmost importance to have a successful science fair, no pressurized containers will be allowed. Flammable liquids will also not be permitted. Although electricity is allowed to be used in a project, students should not have a project that may expose anyone to electrical shock. About the rattlesnake...**No** live vertebrate



## The Parts of a Science Fair Board

### **TITLE: Watering Beans**

#### **QUESTION?**

Ask a question that you want to answer.  
Do plants grow best with or without water?

#### **HYPOTHESIS**

It is an educated guess. It should be written in an if/then format. I believe that if I water the plants, Then they will grow best.

#### **RESEARCH**

Background information from books, the Internet, and other sources. I chose wax beans because according to the book "Wax Bean Faster" They germinate quickly and grow fast.

#### **MATERIALS**

12 plastic pots, 12 bean plants, Potting Soil, Ruler, Clipboard, Table Spoon.

#### **PROCEDURES**

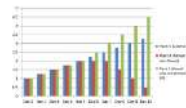
Write down step-by-step what you plan to do in your experiment. These For example, instead of saying I will water the plants, say...

1. Plant 12 bean plants
2. Divide them into 3 groups
3. Label pots, 0oz, 2oz, 4oz H<sub>2</sub>O
4. Water plants each day
5. Measure plants and record



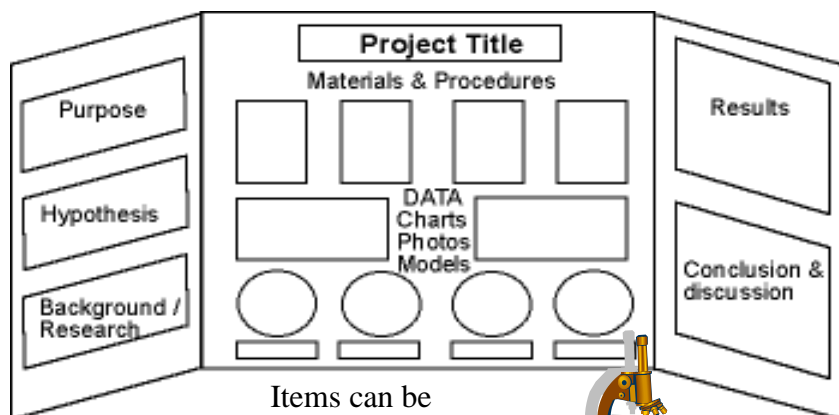
#### **DATA/RESULTS**

charts, graphs, photos, sketches, and records

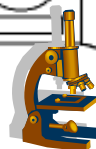


#### **CONCLUSION**

This section explains the results and agrees or disagrees with your hypothesis. If the **hypothesis** and **conclusion** do not agree that does not make your experiment a bad one. It means that you have learned something new. My hypothesis was correct, the beans...



Items can be displayed on





## MY PROJECT

TITLE: \_\_\_\_\_

Grade \_\_\_\_\_ Room \_\_\_\_\_

**1. PURPOSE: WHY ARE YOU DOING THIS EXPERIMENT?**

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**2. HYPOTHESIS: WHAT DO YOU THINK WILL HAPPEN DURING THIS EXPERIMENT?**

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**3. MATERIALS: WHAT MATERIALS DO YOU NEED IN ORDER TO DO THIS EXPERIMENT?**

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**4. PROCEDURE: WHAT STEPS WILL FOLLOW IN THIS EXPERIMENT?**

1	4
2	5
3	6

**5. OBSERVATIONS: WHAT CHANGES OCCURRED DURING THIS EXPERIMENT?**

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**6. CONCLUSIONS: WHAT DID YOU LEARN FROM THIS EXPERIMENT?**

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# SCIENCE FAIR IDEAS

## PRIMARY EXAMPLES:

How much salt does it take to float an egg?  
What kind of juice cleans pennies the best?  
Which dish soap makes the most bubbles?  
What brand of raisin cereal has the most raisins?  
How long will it take a drop of food dye to color a glass of still water?  
Does warm water freeze faster than cool water?  
Do different types of apples have the same number of seeds?  
Does holding a mirror in front of a fish change what a fish does?

## INTERMEDIATE EXAMPLES

Test any responses to real and artificial sweeteners.  
How do temperature changes affect a fish?  
Do preservatives stop bread mold from growing?  
How leaves lose water.  
The effect of crowding on plants.  
How changing the fulcrum affects a level.  
What fabrics make good insulators?  
How do charged objects act toward each other?  
Materials that are the best conductors of electricity.  
The effect of the height of a swinging mass on its energy.  
How are crystals formed?  
Removing salt from water.  
Which foods contain starch?  
Which sense organ can detect the greatest variety of sensory information?  
Boiling points of liquid substances.  
In which liquids will ice cubes float?  
Freezing points of different liquid substances.  
What metals and/or materials will rust?  
The effect of type of circuit used on the brightness of light bulbs.  
How the color of an object affects how warm it gets.  
The effect of different kinds of physical activity on pulse rates.  
Controlling eye blinking.



## **DEMONSTRATIONS**

Construct a clay model (with cutaway sections) showing the 3 layers of earth.

Create your own fossils, using plaster casts.

Make a model of the ocean's floor, labeling each part.

Construct a model of the eye showing its different parts.

Where different flavors are tested on the tongue.

What does a magnetic field look like?

Plant 12 bean seeds; describe the changes every 5 days.

Make a model of a cross section of a leaf.

Sprout seeds without using soil.

Build an earthworm farm.

Create and label the parts of an imaginary insect.

Create a terrarium.

Make a model of an atom.

Create models of a variety of common molecules.

Construct the 2 types of circuits.

Compare and contrast the different types of batteries.

## **RESEARCH PROJECTS**

Show how living things depend on one another through food chains.

Use food webs to show how members in a community get their energy.

Illustrate how animals live underground.

What are the types of jobs bees have in a honeybee colony?

How are bees helpful to humans?

Show examples of parasite and host relationships.

How flowers produce seeds. Study a local bird population, recording the number and types of birds that visit a feeder. Graph your findings.

Who are the invertebrates?

The worm family, echinoderms, life cycle of a frog, or snakes in our area.

## **COLLECTIONS**

Start a collection of rocks found in the area.

Start your own ant colony and list the ants' different jobs.

Make casts of animal tracks.

Collections of leaves, pinecones and/or needles, weed seeds, plants etc.

Simple machines used in everyday life.

Collect some common minerals.

Display pictures of herbivores, carnivores, and omnivores.

Label them and list the foods they eat.

Collect different types of bird feathers & identify the birds they came from.

Using plaster of paris, make and paint several different life-size birds' eggs.

Assemble pictures showing different ecosystems.

Make replicas of the 3 types of galaxies.

Draw and label the parts of the heart from several animals.

Display weather maps from newspapers, showing the air masses.

Display household appliances, their wattage and cost of operation/hour.

## **APPARATUS**

Design your own invention.

Construct a homemade thermometer.

Series and parallel circuits.

How to make electromagnets.

