

Freedom Hill's Science Fair

Monday, February 22, 2016
6:30-8:00 pm



Come join the fun!
Be a part of the 2016 Science Fair

Contact: Christina Chebili at Cchebili@hotmail.com

Return Entry Form by
Friday, January 22, 2016
To the PTA Box in Main Office or scan to Cchebili@hotmail.com

For the complete instructions, guidelines, and project ideas check
the Freedom Hill PTA website <http://www.freedomhillpta.org>
*The entire Freedom Hill community is invited to the fair on February 22 to view the
projects and demonstrations.*

Freedom Hill Science Fair

Monday, February 22, 2016 6:30-8:00 pm

ENTRY FORM

Please return this form to the PTA Box in the Main Office by Friday, January 22, 2016

NAME: _____

GRADE: _____ TEACHER: _____

MY PROJECT IDEA IS: _____

THE TITLE OF MY PROJECT IS: _____

I WILL NEED AN ELECTRICAL OUTLET _____ YES _____ NO

There are limited tables with access to an electrical outlet. If, after working on your project you find that you no longer need an electrical outlet, please let us know. Bring an extension cord.

IF THIS IS A JOINT PROJECT, MY PARTNER(S) IS (ARE) *

***=Each member of a joint project must submit a separate entry form**

I understand that this project will need to fit on a table space approximately 1 meter (3 feet) by ½ meter (1.5 feet). Please be considerate to your neighbors – oversized or disruptive displays risk removal from the general display area. School wide surveys are not permitted. Students are prohibited from using the following organisms: molds, bacteria, vertebrates. Please **do not bring in any live or dead animals**. As a number of students have food allergies displays that include nuts or distribution of any food will not be permitted.

STUDENT'S SIGNATURE _____

PARENT'S SIGNATURE _____

We will need parent volunteers to help in several ways:

I can help with setting up the Fair on Mon., Feb. 22 (6-6:30pm) ____ Yes ____ No

I can help clean up after the Fair ____ Yes ____ No

PARENT Name/Email **Must include email address. Please write clearly.**

Freedom Hill Science Fair

A guide to getting started on your Science Fair Project

The goal of this Science Fair is to have fun while learning science. In general cooperative projects with two (or more) people are encouraged. A big part of the Science Fair is sharing what you learn with your friends and family, and you'll do a better job if you give yourself time to do each step thoroughly. The following is a guide for an experimental project, but you'll also find it useful for projects on scientific models, demonstrations, collections, observations, and apparatus. This project is to be done outside of the classroom and is not part of any required curriculum. There should be no expectation of any class time dedicated to these projects. Have fun and enjoy!

1. Choose a topic that interests you.

Think about things in science that you find interesting. There are a number of ways you can get ideas. Try looking at:

- Science resource books
- Library books
- Encyclopedias
- Science magazines
- Newspaper articles
- Educational TV programs
- Museums
- Films

You can also talk with:

- Your parents
- Older brothers and sisters
- Teachers
- Friends
- Your librarian
- A scientist

On the Internet:

- www.ipl.org/kidspace/
- www.school.discoveryeducation.com/sciencefaircentral/
- www.cdli.ca/sciencefairs/
- thehappyscientist.com/

2. Gather Information

Once you have selected a topic, you need to learn a little before you decide on a question you want to answer. Do some reading and speak with some of the people listed above.

3. Identify a Problem

Now that you know something about the topic you selected, it is time to choose a question you want to answer. When choosing a question:

- Be specific
- Choose a question you'll be able to answer. Remember you'll need to get materials and conduct an experiment.
- Choose a question you're really interested in answering!

4. Make a Hypothesis

A hypothesis is your guess about what the answer to your question will be. For example, if you are asking 'Which cleanser cleans grease off floors the best?' your hypothesis might be: 'Hot soapy water cleans grease off floors better than vinegar, plain water, laundry soap, or soda water.'

When you conduct your experiment, you will be testing your hypothesis. It doesn't really matter whether your hypothesis was correct. It is important to experiment carefully, keep good records, use your observations to check out your hypothesis

5. Experiment, Observe, and Keep Good Records

Before you start your experiment, there are a few things you need to do:

- Make a list of all the materials you will need.
- Gather those materials
- Clear an area to work
- Set up a notebook to record procedures and observations. Possibly prepare to take photographs.
- Figure out exactly what you will be looking for.

6. Analyze your Data.

When your experiment is complete, it is time to go over your records. An easy way to do this is by making a chart. Use the chart or graphs to help you answer your hypothesis. Also, this is a good time to try to figure out why you got the answers you did. You may need to look up information, or discuss with someone, to help answer your questions. You may need to repeat an experiment.

7. Draw Conclusions

Your conclusion should say whether your hypothesis was right or wrong. You may also want to tell why things might have happened the way they did. Your conclusions should be short, to the point, and supported by your data/observations.

8. Prepare your Presentation.

Displays should be neat and attractive. Your display should also make it easy for people to see what you did. Some things you may want to think about are:

- Should the display stand up?
- Should I include graphs, drawings, charts, photographs, or pictures?
- Is the lettering neat?
- What part of my experiment should I show?

You may want to provide your teacher a written report in addition to a display to show your accomplishment. The report can be short, but it should include:

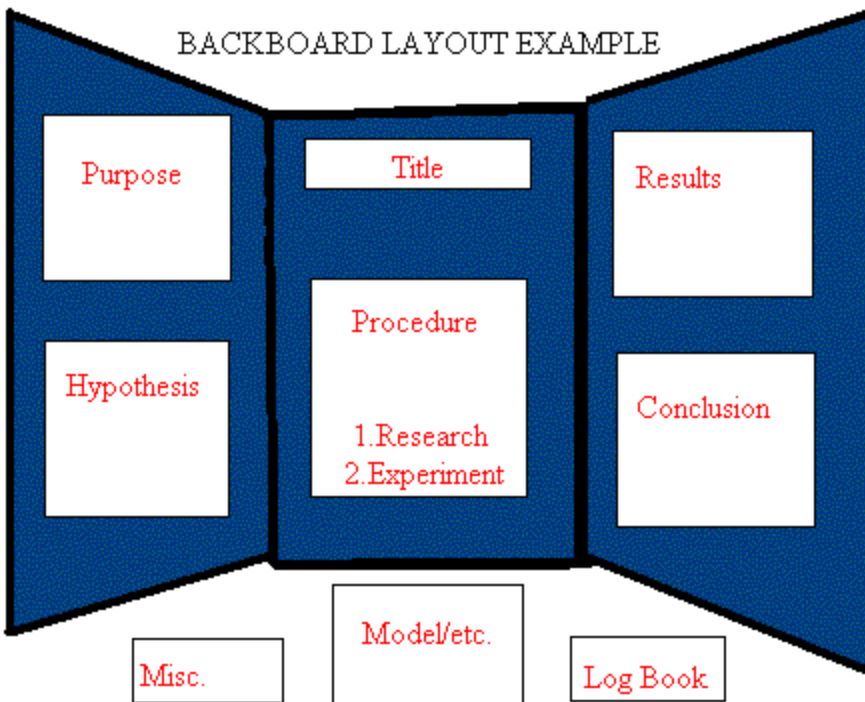
-Your name and grade and teacher

- A title
- The problem
- Your hypothesis
- Materials used
- Your procedure
- Some data
- Your conclusion

Remember that this is your project, and it is good to show your handwriting and work you did yourself. It is all right to have your parents help a little, but do most of it yourself.

Important: Even if your project did not work out as you expected, make an exhibit for the Fair. Share what you learned about why it did not work and some ideas on how it may work more successfully.

BACKBOARD LAYOUT EXAMPLE



Project Ideas

Experiments

Magnetic and nonmagnetic materials
Which materials conduct electricity best?
Which materials conduct heat best?
Sounds from different rubber bands (or glasses of water)
Which toy car rolls furthest?
Which materials dissolve in water?
Which paper towel absorbs the most water?
How vinegar affects eggshells
How a shadow changes throughout the day
Measuring rainfall with a rain gauge
Depth of snow at 10 different locations
Testing a sundial with a clock
What a plant needs to grow
Have a seed race – which seed germinates first? Grows the most?
Do large apples have more seeds than smaller ones?
Do different kinds of apples have different amounts of seeds?
What conditions do pill bugs prefer?
Can an earthworm detect light and darkness?
How far does a mealworm or snail travel in one minute?
What are the best conditions for the growth of mold?
Which bread molds most quickly?
Can people identify flavors of Kool-Aid when blindfolded?

Models and Demonstrations

How a bicycle works	How are sounds produced
Simple machines	Why things float
Levers	Why elevators have counterweights
Pulleys	How things move on movie film
Rocks, sand, soil	Why the wind blows
Open and closed circuits	What makes hail
How a switch works	Inside our earth (model)
How fuses work	Earth's surface features (model)
How a flashlight works	Volcanoes (model)
How light reflects	Features of the sea floor (model)
Mixing colors	How a generator (or motor) works
How magnets work	Our solar system (model)
Galaxies and the milky way (model)	An electromagnet
Friction	Optical illusions
How the ear works (model)	Newton's 3 rd Law
The ant	How thermometers work
How seeds travel	Heat and air (convection mobile)
Do plants give off water?	Does air have weight?
Tree rings	Does air exert pressure?
Fermentation	Evaporation

Observations

Fingerprints
Shadows
Crystals
Properties of solids, liquids and gases
Objects that pass and block light
Gravity
Shapes of magnetic fields
Rocks and minerals
The moon
Planets you can see
Our sun
Spring constellations
Local weather
How to read a weather map
Clouds
All about horses (or dogs, frogs, fish, birds, etc.)
A beaver home

Local wildlife
How animals, hide, defend, etc.
Animal tracks
All about crickets (or bees, beetles, ants, etc...)
Earthworms
Spider webs
Watching an ant colony
How insects change
Living things in my yard
Trees near my home
Leaf prints
Parts of a flower
Roots of different plants
Inside the egg
Teeth
Seashells

Other Project Ideas

Making pH indicators from plant materials
Comparisons of pH in shampoos, soils
Sugar content of foods
Water content of foods
Boiling/freezing point of liquids
Comparison of taste receptors on the tongue
Diffusion
Osmosis
Measuring surface tension
How color affects heat absorption
Solar heating devices
Comparison of insulations
Working of electronic devices
Rocks and how they were formed
The biology of speech and sound
Earth science phenomenon: volcanoes, earthquakes, tidal waves

Making paper
Aerodynamics
Testing soil porosity
Erosion
Weather phenomena
How birds fly
Pendulums
Static electricity
Plant growth comparisons
Plant propagation from leaves, stems, roots
Testing for nutrients
Temperature variations through a house
Building a camera
The senses

Collections

Chemical elements (carbon, lead, iron, copper, etc.)	Fossils, bones
Solids, liquids, gases	Seashells
Feathers	Leaves
Rocks, sand and soil	Seeds
Bark rubbings	

Apparatus

Make a homemade thermometer	Make a robot
Series and parallel circuits	Create an electrical question board
Electromagnets	Construct a balance and invent your own measuring system to measure matter
Weather related, e.g. barometer, wind vane	