



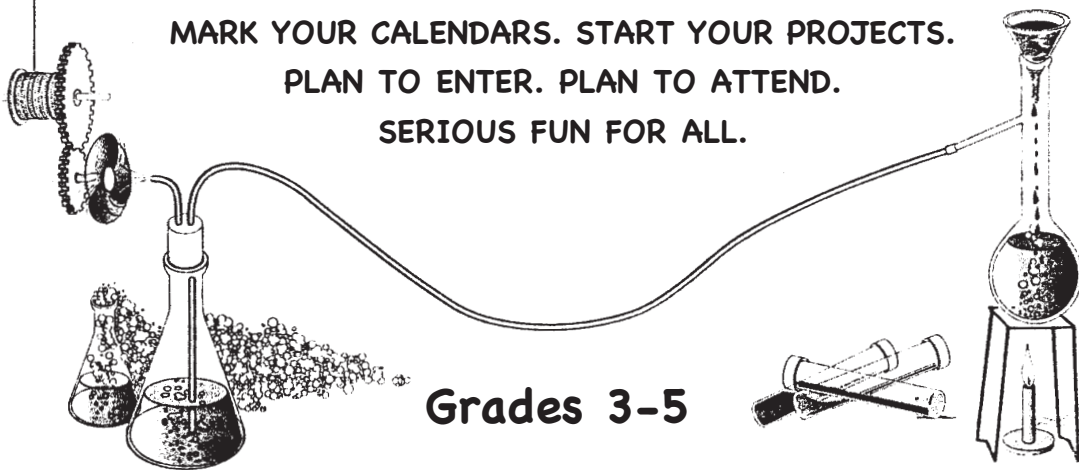
AINSWORTH SCIENCE FAIR

SATURDAY, MARCH 17, 2018

- 9:00 - 9:30 Set up project displays
9:30 - 11:00 Project viewing and presentations
to Science Buddies, hands-on
science activities
11:00 - 12:00 Science Show in auditorium
12:15 - 12:45 Egg Drop Contest
12:30 - 1:00 Remove displays and clean up

MARK YOUR CALENDARS. START YOUR PROJECTS.
PLAN TO ENTER. PLAN TO ATTEND.
SERIOUS FUN FOR ALL.

Grades 3-5



The Science Fair welcomes all Ainsworth students and families. Every interested student is encouraged to enter a project. But even if you don't enter, you can still come and enjoy the project displays, do a hands-on activity, watch the science show or take part in the Egg Drop Contest.

GUIDELINES FOR SCIENCE FAIR PROJECTS:

- Please skim through the entire booklet before beginning.
- Do something that really interests you...**GET EXCITED!**
- Keep it simple and fun.
- Fill out an entry form (on back of this packet); pick up a display board from school.
- Complete the Laboratory Notebook in this booklet (**make sure you have the correct booklet for your grade**).
- Put together a display that shows and explains your project, **including your Laboratory Notebook**, and bring it to the Fair.
- A "Science Buddy" will discuss your project with you at the fair.
- Adult help is fine--the emphasis is on **learning** and **enjoying science!**

GUIDELINES FOR THE EGG DROP CONTEST:

- Bring a raw egg inside a package of your own design that will protect it so it won't break when dropped off the backfield wall.
- No pre-registration required; egg drop is grouped by grade level.
- Egg must be raw, but in splatter-proof packaging smaller than 12" x 12."
- No bubble wrap, balloons or styrofoam, please.

PPS Science Showcase: Students have the option for their project to be judged at the school Science Fair using the district-wide judging scorecard. Based on scoring, one project in each of grades 3-5 from our school will be invited to show their project in the District Science Showcase at OMSI on May 19th. The Showcase is not a competition; all participants will have the opportunity to share their projects. See page 12 at the end of the booklet for more info.

THANK YOU AINSWORTH PTA FOR SPONSORING THE SCIENCE FAIR!



Grades 3-5 Laboratory Notebook



(Title)



-A SCIENTIFIC INVESTIGATION-



By



(Name)



(Date)



(Grade)



(Teacher)



**AINSWORTH SCHOOL
SCIENCE FAIR 2018**



HOW TO USE THIS LABORATORY NOTEBOOK

Make sure you are using the lab notebook for your grade level. Look through all the pages. The wrapper sheet has basic Science Fair information and your entry form. Check out the Guidelines. This lab notebook guides you through steps to follow in choosing and doing your Scientific Investigation, making your display, and presenting to your audience. Put the completed lab notebook into your display, along with any other notes. Your lab notebook must be included in your display.

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MAKING A PLAN

I was most interested in investigating...(what ?)...

Because...(why ?)...

I thought this topic of investigation would make a good:

collection - demonstration - experiment (circle one),

because...

Then I thought about how long it might take me to

- find out more about my topic,
- decide what specific question or hypothesis I wanted my investigation to address,
- design and obtain exactly the procedures and materials my investigation would require,
- do my investigation and record what I observed (my data),
- describe what I think the results of my investigation mean (my conclusion),
- prepare a display of my investigation for the Science Fair,
- present my investigation using my display,

and do all this on a realistic schedule (my timetable, see P.11).

FORMING A QUESTION OR HYPOTHESIS

I learned more about my topic by talking with parents and teachers and others, by looking for written materials, by reading, and by locating and examining other sources of information, such as Internet websites. Here are some notes on what I found.

What I learned helped me to be more specific with exactly what it was about my topic that I wanted to investigate further. I wondered...

(a question, hypothesis, prediction, or concept to demonstrate)

DESIGNING AN INVESTIGATION

My goal was to do a simple, practical procedure that was appropriate for my topic and my particular investigation. It would need to answer my question, test my hypothesis (or prediction), or demonstrate my concept in a logical way. To do that, my procedure would have to produce some new information that I could measure, describe, and record. My procedure should fit my timetable and knowledge level, use my available supplies, and be safe.

These are the materials and equipment I would need:

An **independent variable** is what you change in an experiment, a **dependent variable** is the effect or response you'll observe because of what you changed, and the **control variables** are the things you try to keep the same so they don't interfere with your results.

The independent variable(s) in my investigation:

The dependent variable(s) in my investigation:

The control variable(s) in my investigation:

These are the steps in my procedure:

COLLECTING OBSERVATIONAL DATA

My goal was to make a thorough and accurate description of what I actually observed as I went through the steps in my procedure. The information I gathered through my observations is my data. Here is an example of the notes I took to record the data of my investigation.

SHOWING DATA CLEARLY

I wanted to show my data clearly so that I could think about it more easily, and so that others could understand what I observed. Charts, pie charts, tables, graphs, bar graphs, and illustrations are common ways to do this. Here is an example of how I decided to organize the data from my investigation.

EXPLAINING RESULTS

When I looked at my data, I tried to understand what my results meant. Was my question answered? Was my hypothesis supported or not? Was my prediction correct? Was my concept demonstrated? How so, or how not? Here is a summary of my results, and a discussion of the conclusions I have made from the patterns and relationships I observed from my experiment.

THOUGHTS ABOUT NEXT TIME

Based on what I learned in my investigation, here are some questions I now have:

Here is what I'd like to know more about:

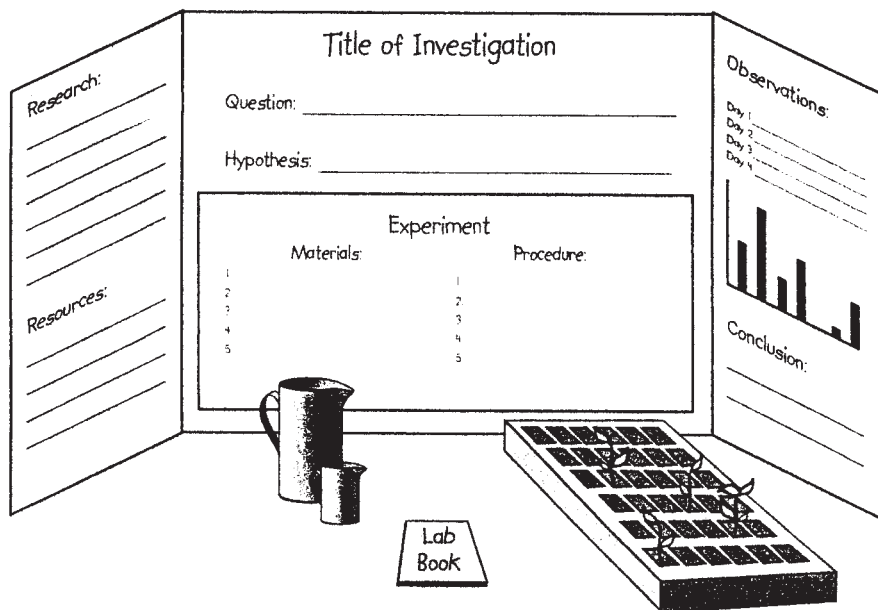
If I had it to do over again, here is what I would do differently:

BIBLIOGRAPHY/RESOURCES USED

These are the most important resources and references I used:

TIPS ON MAKING YOUR DISPLAY

You might use your display board to do something like this. Make your display fit you and fit your investigation — and include your lab notebook.



TIPS ON PRESENTING TO YOUR AUDIENCE

As you prepare your display and presentation, remember that you will be using them to address an audience. They are methods of communication. To communicate well, think about what will assist your audience in understanding your investigation. Family, friends, teachers, schoolmates, judges, and others will be wanting to understand what you did, and why, and what you found out. In the real world of scientific investigation, other scientists would want to be able to repeat your investigation to see if their results agreed with yours. So be clear—and include your Lab Notebook.

Questions? Contact Kara Stone at khsemail@gmail.com.

TIPS FOR YOUR PROJECT TIMETABLE

| <u>Task</u> | <u>Completion Date</u> |
|--|------------------------|
| Choose a topic that interests you | _____ |
| Do some background research, get advice. | _____ |
| Form a question or hypothesis to investigate. | _____ |
| List your material and equipment needs. | _____ |
| Gather your material and equipment, etc. | _____ |
| Conduct the investigation, collect data. | _____ |
| Organize your findings usefully. | _____ |
| Draw conclusions from your results. | _____ |
| Complete your Scientific Investigation Lab Book. | _____ |
| Complete your Science Fair display. | _____ |
| Present your project to your class. | _____ |
| Present your whole project at the Fair. | MARCH 17 |

SCIENCE BUDDIES

At the Science Fair, Science Buddies will interview you, hear your presentation, view your display, and tell you their reaction to your project. They will, of course, pay attention to your grade level, and will pay special attention to the following questions:

- Is your **topic** suited to your knowledge and interests?
- Is your **purpose** clear?
- Is your **investigation** logical and orderly?
- Is your **presentation** clear and thoughtful?
- Is your **display** well-developed and suitable to the investigation?
- Is your **laboratory notebook** completed and displayed?

Finally, they will tell you...

- What they think might make your project even better
- What they especially like about your project

PPS Science Showcase: Students have the option for their project to be judged at the school Science Fair using the below district-wide judging scorecard. Based on scoring, one project in each of grades 3-5 from our school will be invited to show their project in the District Science Showcase at OMSI on May 19th. **NOTE: To be eligible, parents must sign the "District Showcase" portion of Science Fair form.**

To be judged at the Science Fair using the PPS scorecard, don't forget to sign and turn in the form on the back of this booklet. Showcase is for grades 3-5 only.

| | Exemplary | Mastery | Proficient | Not Yet | No Evidence |
|---|-----------|---------|------------|---------|-------------|
| Experimental Design Process (42 points) | | | | | |
| 1. Presented a question that could be answered through experimentation. | 6 | 4.5 | 3 | 1.5 | 0 |
| 2. Accessed a minimum of three, age-appropriate sources for background research, addressing all key scientific concepts of the project. | 6 | 4.5 | 3 | 1.5 | 0 |
| 3. Developed a hypothesis based on the background reading and identified independent and dependent variables. | 6 | 4.5 | 3 | 1.5 | 0 |
| 4. Developed good experimental procedure for testing the hypothesis, including use of control variables. | 6 | 4.5 | 3 | 1.5 | 0 |
| 5. Demonstrated ability to carry out the experimental procedure to an age-appropriate level of precision. | 6 | 4.5 | 3 | 1.5 | 0 |
| 6. Solved problems that arose with the experimental procedure. If necessary, redesigned the procedure and tried experiment(s) again. | 6 | 4.5 | 3 | 1.5 | 0 |
| 7. Investigated an original question or used an original approach or technique. | 6 | 4.5 | 3 | 1.5 | 0 |
| Data Collection & Conclusion (18 points) | | | | | |
| 8. Ran sufficient trials (at least three). | 6 | 4.5 | 3 | 1.5 | 0 |
| 9. Derived conclusions from appropriately organized and summarized data. | 6 | 4.5 | 3 | 1.5 | 0 |
| 10. Clearly related conclusions back to the hypothesis, key scientific concepts, and background research. | 6 | 4.5 | 3 | 1.5 | 0 |

FINDING AN IDEA

Ideas for projects are all around you. Sometimes the best ones come from questions you've already wondered about, like:

Why is the sky blue?

What do earthworms eat?

How does a smoke ring hold together?

Will more air inside a ball make it bounce higher?

If the earth is spinning so fast, why can't we feel it spinning?

Remember to do your project about something that interests you. Talk your ideas over with your family, friends and teachers to come up with something fun and exciting. Feel free to get any help available from adults -- the goal is to learn and have fun!

The library has lots of books that can help you come up with a project idea, and your teacher may have great materials in your classroom. If you have access to the Internet, there are many sites to choose from. Here's a quick sample:

<http://sciencefairproject.virtualave.net>

www.billnye.com

www.sciencenewsforstudents.org

www.ipl.org/div/projectguide/

<http://school.discoveryeducation.com/sciencefaircentral/>

<http://www.untamedscience.com/>

Many more are available by search through Google, for example, by entering "kids science fair project ideas."

SCIENCE FAIR ENTRY FORM (Grades 3-5)

Due Friday, March 9, 2018

Deposit into the "SCIENCE FAIR BOX" in the Main Office.

Pick up free display board when you turn in this form.

PLEASE PRINT ALL INFORMATION

LAST NAME: _____

FIRST NAME: _____

(IF 2 STUDENTS WORK JOINTLY ON A PROJECT, USE ONLY 1 FORM)

2ND PERSON FIRST & LAST NAMES: _____

Grade: _____ **Teacher:** _____

Project Title: _____

Special setup needs (if any): _____

Electrical outlet needed? _____

"I have read the Science Fair Guidelines and agree to follow them."

(Student Signature)

"My child has permission to enter the Ainsworth Science Fair."

Parents: please check legibility and accuracy on this form.

(Parent Signature)

If you would like to volunteer at Science Fair, please provide email:

District Science Showcase, Grades 3-5 (optional: see judging info on pg. 12)

I would like to have my science project judged at our school Science Fair, in order to be considered to move on to the District Science Showcase at OMSI on Saturday, May 19, 2018. The District Level Showcase is not a competition, and all participants will have the opportunity to share their projects. More details will be given to those students who are chosen by their schools to move on to the District Showcase.

Student Name: _____ **Parent Signature:** _____

Detach Entry Form Here