

SCIENCE FAIR PROJECT

Information for Incoming 7th graders

Life Science students in 7th grade at Aquinas are required to do a science fair project. This project will unfold gradually as the year progresses and students are taught the various parts of a proper scientific study. There will be specific assignments due throughout the year for which students will receive progress grades leading up to the Aquinas science fair in the spring.

The project will be done in cooperation with computer classes. Students will be learning or reviewing the use of Microsoft Office software and will be required to generate all of the science fair project materials using these programs. They will also be taught how to use the internet for research and how to properly cite sources. There will be significant time in computer class for students to generate their papers but the experimentation itself must be done at home. Students' work should be evident in the project. Judges will look to see that the student has an understanding of his or her project and is responsible for the final outcome. **The final project will be due in March to be displayed at the Aquinas science fair. It will include a research paper, a tri-fold board and the student's journal. In addition, a PowerPoint presentation of the project will be due at the end of May.**

In place of a summer reading assignment in science, students who will be entering the 7th grade will be required to choose and describe TWO possible topics for their science fair project. (See examples.)

Students are required to record **ALL** of their science fair work (ideas, notes, references, observations, data and calculations) in a journal. This should be a one subject composition notebook. Please do not use larger notebooks, spiral notebooks, or binders.

The topics chosen can come from any branch of science. Try to choose something that would be interesting, challenging and enjoyable for you! Be sure the materials and equipment needed for the project can be easily obtained. I can help with some materials and students are able to use lab equipment such as balances at school. Please note, no non-human vertebrates may be used. Experiments involving humans require permission and completion of informed consent forms.

The topic you choose should involve asking a question that can be answered by a controlled experiment and that will, preferably, provide numerical data. **Model building, observational studies, and demonstration type projects are not acceptable.**

What should you do this summer?

1. Obtain a science journal. Put your name on the front cover. **Leave the first page blank** for a table of contents and begin numbering each page after the contents page. Put the numbers on the outside bottom corner or center of each page (front and back) and number to page 10. Pages **may not** be torn from the journal. **Write in ink and date all entries.**

2. Look for ideas for your project. Libraries have science fair books and there are many ideas available on the internet. Remember to choose a project suitable for Middle School. Be sure to write down the sources for your ideas or bookmark them so you can revisit them later.

3. **For each idea:** write the question you will try to answer, a brief summary of how you might proceed to answer the question, a sentence explaining why the topic interests you, and your source.

These topic ideas with accompanying notes should be written in your journal. Journals will be collected at the beginning of the 2nd week of school. I will then work with each student to refine the ideas to make a final choice for the project.

If you have any questions about the suitability of a project or you want to get started on collecting data before school starts, you may contact me at home this summer. I look forward to seeing you all in Life Science next year!

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EXAMPLES:

IDEA 1:

Problem: I would like to know whether organic or synthetic fertilizer will help plants grow better.

Procedure: I will choose 6 plants of the same type and size. The initial height will be measured. Two will be treated with organic fertilizer, two with synthetic fertilizer and two will be controls. All plants will be grown in the same place and be given the same amount of water for 6 weeks, after which the height of each plant will be measured to see if any differences can be shown.

Interest: I am interested in this project because I like to garden and raise plants and would like to know what helps them to grow better.

Source:

IDEA 2:

Problem: I would like to know which stain treatment best removes permanent marker from clothing.

Procedure: I will have strips of white cloth marked with a line of black permanent marker. Before pictures will be taken. Each cloth will be treated with a different stain remover according to instructions except one will be an untreated control. I will do each test three times. After pictures will be taken. I will compare the cloths to see which stain remover works best.

Interest: I am interested in this project because I want to be able to tell my mom which stain remover to buy.

Source:

SCIENTIFIC CATEGORIES FOR RESEARCH

Examples From PJAS State Competition

Behavioral Science

Correlation Between Short Term Memory and Age
Eyewitness Identification

Biochemistry

Are the Nutrition Labels Accurate on Ice Cream?
Best Way to Get Grass Stains from Baseball Pants

Biology

Bug Spray: DEET versus Non-DEET
Effect of Sunscreen Application Intervals on UV Rays

Botany

Algae as a Biofertilizer
Effect of Acid Rain on Vegetables

Chemistry

Which Antacid Can Neutralize the Most Acid?
Electrolytes in Sports Drinks

Computer Science

What Materials Block Wi-Fi?
Browser Speed Testing

Earth and Space

Clean, Clean, Clean Your Dirty Solar Panels
Do Different Roofing Materials Affect a House's Temperature?

Ecology

Are the Chemicals Used on Golf Courses Safe?
Using Nature's Medicines to Remedy Toxic Algae Blooms

Mathematics

Can Math Patterns Be Found in Bach's Preludes and Fuges?
How Ethanol Effects Gas Mileage

Microbiology

Rub-a-Dub-Dub Bacteria in the Tub

How Different Sweeteners Affect Yeast Growth

Physics

Effects of LED Lights and Temperature

How Does the Number of Blades Affect the Voltage of a Wind Turbine?

Zoology

Effects of Pollutants on Brine Shrimp Development

Can Goldfish Recognize Color?

Engineering

What Material is Best for Parachutes?

Soundproofing

There are many websites to give you some ideas. Be sure to look for Middle School Science Fair ideas and not Elementary.