



Jumping into Science Research

A Four Session Program to Satisfy Your Curiosity about a Topic and to

Produce a Project for Science Competitions

For Members of A Time for Science Science Clubs

Jumping into Science Research is a *science club* program being developed by *A Time for Science* Nature and Science Learning Center. Since it is currently in a test stage, only a limited number of registrants can be accepted. Consequently, it is being offered at a reduced registration fee (dues) of \$25.00.

For more information on *A Time for Science* (A Greater Greenville Community Foundation Charitable Fund) and to *obtain registration materials for this program* go to the website

www.atimeforscience.org

Are you aware that:

- Through North Carolina student science competitions such as NCSAS, ISEF, Envirothon, and others over \$10,000,000 worth of prizes and awards are available to competitors in the form of scholarships, internships, travel awards, outright money awards, etc.?
- Participation in a Regional competition is a requirement for participation in the State and National competitions?
- Experience has shown that students receiving assistance of the type being offered by **A Time for Science's** (ATFS) program, *Jumping into Science Research*, often fair better in such competitions?

Did you know that membership in one of the Jumping into Science Research Clubs

(3rd – 5th grade; 6th – 8th grade; 9th – 12th grade)

- Qualifies you to attend a series of four *hands-on working sessions* throughout the school year guided by *experienced science educators*
- These workshops will be further supplemented by phone and e-mail *support from an assigned project advisor*.
- These *project advisors are scientists or engineers* who have experience in the “doing of science”.
- Together these “guides” will enable the club participant to produce a *scientific research* project.

****All meetings will take place at ECU Howell Science Complex unless notified in advance.**

Jumping into Science Research November 7

Session 1: Getting Started

ECU Howell Sci. Complex 9:30–11:30 am**

- **Arousing your curiosity**
You will be guided to focus in on and refine topics and problem questions by exploring interesting electronic and print media such as:
 - *Live Science.com*
 - *Science Buddies*
 - *Science Week*
 - *And others*
- **Selecting your topic and question**
You will learn how to:
 - Narrow it down using “Four Question Strategy”
 - Form a problem question
 - Learn to recognize a *good* problem question
- **Literature search**
You will learn:
 - What to look up
 - What sources to use
 - Which are appropriate
 - Which are not
 - What to put into your research paper
 - What else needs to be in your research paper
- **Begin writing**
You will begin the introduction to your paper *which will be brought to the next session*
- **Connect with your Advisor**
 - After you have centered on a topic and problem question you will be paired with an appropriate advisor from among the **ATFS** volunteer scientists.
 - This advisor will be available to you throughout the year by phone and e-mail to answer questions, offer advice, suggestions, and support on all aspects of your project as you progress.

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Jumping into Science Research December 5

Session 2: Doing What Scientists Do
ECU Howell Sci. Complex 9:30–11:30 am**

- ***The Fun Begins***
With the results of your literature search in hand you will be given guidance in
 - Editing assistance for your introduction
 - Using your literature search discoveries to zero-in on your hypothesis
- ***Experimental Design and Planning***
With an hypothesis established you will be guided in formulating an experimental design.
 - Deciding what data you need
 - What measurements to make and how to make them
 - What materials you need
 - Considering safety issues
 - Deciding how your data might be presented
 - Data tables • Graphs and figures
- ***Advisor approval***
After you have completed the process described in this session you **must get approval for your experimental design** from either your ATFS advisor or from another qualified adult (e.g., yours or another science teacher, other **technically qualified** friend, etc.)
- ***Necessary Forms***
At this stage you will receive instructions in filling out forms for eligibility for the various science competitions.
- ***Prove your point!***
You will now be able to begin collecting your data and will be required to ***bring data to the next session***

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Jumping into Science Research January 16

Session 3: You've got data - NOW WHAT?
ECU Howell Sci. Complex 9:30–11:30 am**

- ***Analyzing your data***
You will be guided in:
 - Examining different types of data that require different types of analyses
 - Determining which would be best for your data
- ***Presenting your data***
You will:
 - Experiment using, Excel®, to see different types of graphs for different types of data
 - Determine which type would be best for what you want to show
- ***Discussing your data***
You will be guided in appropriate ways to:
 - Look at your data
 - To draw conclusions from your data
 - Does your data support your hypothesis?
 - Does it have to support it?
 - What if it doesn't?
- ***Developing your presentation materials***
You will learn about preparing:
 - A PowerPoint® presentation for NCSAS competition
 - A poster (backboard) presentation for science fair competitions

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Jumping into Science Research February 6

Session 4: Stepping Up On the Stage
ECU Howell Sci. Complex 9:30–11:30 am**

- ***Putting it all together***
In time for the competition season you will be aided in:
 - Reviewing what you have
 - Determining what else, if anything, is needed
 - Editing your work
- ***Presenting to others and thinking on your feet***
Now that you have the stage you will:
 - Be given pointers on how to share your project with others
 - Be given the opportunity to practice on your peers
 - Be given the opportunity for a dress rehearsal with scientist advisors.
 - Be given practice answering questions from your audience
 - Get an idea of what to expect from judges
- ***Final suggestions from scientist advisors***
You will receive some final advice suggestions and encouragement and you will know that
- ***It's all up to you now! Go for it!***

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