



SCIENCE FAIR PROJECT

PACKET # 1 OF 4

Project Timeline

"If you fail to plan...you plan to fail!"

Task	Days Needed (How long do you think it will take you? OK to change later.)
Choose Topic	
Perform Research/Form Hypothesis	
Design Experiment	
Buy/Get Materials	
Setup Experiment	
Finish Experiment/Get Data	
Draw Conclusion	
Plan Display	
Finish Display	

Interests and Resources

"Science Fair projects can be fun or boring...it's all in the topic you choose!"

Interests:

→ What do you really "like" about science? Favorite activity, subjects, topics? What about other areas of science...chemistry, physics, astronomy, engineering...spark any interests!? **Be specific or narrow it down.**

Resources:

→ Resources are things or knowledge you already have or can get easily.

A hobby. Some hobbies involve special skills or equipment you may already have to help...just turn your hobby into a science fair project.

Specialty stuff. Do you have access to any cool or unusual materials or experts that could help? Free plants, extra electrical wire?

A smart person. Do you know an expert or professional that might be able to lend a hand...or an idea?

SCIENCE FAIR PROJECTS

There are two main types of science fair projects:

INVESTIGATIONS

In an investigation, you'll come up with a question. You'll learn as much as you can about it. Then, you'll design and run an experiment that answers the question.

INVENTIONS

In an invention project, you'll identify a real-world problem. You'll invent a gadget to solve that problem. Then, you'll test the invention to see how well it works.

Which type of project is right for you? It depends. Do you love reading and thinking? Does the idea of running an experiment excite you? You might want to try an investigation. Are you a good problem solver? Do you love to work with your hands? An invention project might be right up your alley.

Ideas...Everywhere!

You need to find something specific that fascinates you. And you need it pronto! So, where are you going to find it? Well, anywhere, really. There are endless sources of ideas. Here are the most popular ones.

The library. Your school or local library is a science fair bonanza. You can browse books on science topics. You can look at magazines such as National Geographic, Popular Science, Discover, and many more. Newspaper articles can also give you science-related ideas. Don't be afraid to ask a librarian for suggestions.

The Internet. There's enough science info on the Internet to keep you reading 24/7 for 176,892 years. Okay, we made that up. But seriously, there's a LOT of stuff. Use a search engine like Google (www.google.com) or Yahoo (www.yahoo.com) to look up anything your little heart desires.

Your TV. Yes, watching TV can be good for you! Check out the shows on Discovery, the Science Channel, Animal Planet, and other science-oriented channels. They're guaranteed to fan your science fair flame.

No Easy Way Out!

At this point, you may be wondering which type of project is simpler. Maybe you're thinking you'll just choose the easier one. Don't bother. Investigations and inventions are equally challenging. In fact, they have a lot in common.

The "ZZZZZZZ" Factor

Certain types of projects are notorious snoozers. They've been putting science teachers to sleep for decades. Make absolutely, positively, 100% sure you have something original to say before tackling these ho-hum classics or you may not like your grade.

- Models: Of DNA, buildings, the solar system, human organs, and so on.
- Displays: Of your rock collection, fall leaves from your backyard, seashells, etc.
- Surveys: Of hygiene habits, flowers on the P.E. field, dogs vs. cats, yada yada yada.



Information Overload...

If you have even one curious bone in your body, you're not going to have trouble finding ideas. In fact, you might have the opposite problem. It might be hard to narrow things down. Focus is the key to avoiding this problem. Remember your main interests. Remember your resources. Then skip subjects that don't fit into both categories. Sure, a random article may catch your eye. But don't get bogged down. Fish for ideas and read for fun later. It's a winning strategy for any aspiring scientist.

Useful Websites

Discovery Channel (dsc.discovery.com)

Exploratorium (www.exploratorium.com)

Fact Monster (www.factmonster.com)

How Stuff Works (science.howstuffworks.com)

NASA (www.nasa.gov)

Yahoo! Kids: Science (kids.yahoo.com/science)

ADD MORE HERE ➔

My Topic Ideas!

NOW WHAT?

You've read, you've browsed, you've watched TV. And the effort has paid off! Your logbook is bulging with incredible ideas. You're excited about each and everyone of them.

Now it's time to get more specific. You need to choose your very favorite idea-the one that really knocks your socks off. You're going to boil it down to a single question. **This question will be your topic.**

THE TOPIC IS A BIG DEAL!

Did we get your attention? Good, because this concept is important. Your topic is like a springboard. It's the starting point for the next few weeks or months of your life. So, choose wisely. Make sure your topic is something you can live with and, yes, even love!

AND THE WINNING TOPIC IS...

Let's talk for a moment about **interests vs. ideas vs. topics**. An interest may be very broad. An idea is narrower. A topic zooms in on one small aspect of your idea. Check out the difference in the examples below.

Time to try it yourself!

Think about your own interests and ideas. How could turn them into science fair topics?

Interest: _____

Idea: _____

Topic: _____

Interest: _____

Idea: _____

Topic: _____

Interest: _____

Idea: _____

Topic: _____

Examples

Interest: Light and heat

Idea: It's cool that different colors absorb different amounts of heat.

Topic: Which popsicle melts fastest in sunlight: red, orange, or purple?

Interest: Model cars

Idea: I want my models to go faster!

Topic: Which lubricant works best on model car wheels?

Interest: Sports

Idea: Some foods and drinks might make me better at sports.

Topic: Do energy drinks improve reaction time?

A MYTHBUSTERS MOMENT
THE SCIENTISTS ON THE DISCOVERY
CHANNEL'S "MYTHBUSTERS" HAVE THE
SAME TOPIC FOR EVERY PROJECT:
"IS (INSERT MYTH HERE) REALLY TRUE?"
THIS SIMPLE QUESTION HAS LAUNCHED
HUNDREDS OF FASCINATING EXPERIMENTS
FOR THE "MYTHBUSTERS" CREW.

Validating Your TOPIC (Question)

Validating a topic isn't tricky. You just have to ask the right questions. This list will help you to do it. If any "Nos" pop up, it's time to tweak. When you can say "Yes" to everything, you're in business. Congratulations!

Once you have chosen your final question, you must check to make sure it is "valid". Using your "question" fill out the checklist to validate your topic. You must be able to answer YES to all the questions!

(use pencil so you can reuse for other questions)	YES	NO
Is there a specific answer?	<input type="checkbox"/>	<input type="checkbox"/>
Do I know how to find it?	<input type="checkbox"/>	<input type="checkbox"/>
Do I have enough time?	<input type="checkbox"/>	<input type="checkbox"/>
Can I get the materials I need?	<input type="checkbox"/>	<input type="checkbox"/>
Can I afford the materials?	<input type="checkbox"/>	<input type="checkbox"/>
Is it safe?	<input type="checkbox"/>	<input type="checkbox"/>
Is it ethical?	<input type="checkbox"/>	<input type="checkbox"/>
Do I understand it?	<input type="checkbox"/>	<input type="checkbox"/>
Is it original?	<input type="checkbox"/>	<input type="checkbox"/>
Am I truly interested?	<input type="checkbox"/>	<input type="checkbox"/>

TOP 3 TOPIC CHOICES

You must narrow down your choices to your top 3 choices for final approval by your teacher. List your choices below and don't forget to make sure it is "valid" first by answering the questions above.

1. _____

2. _____

3. _____

(for Teacher use only)

Topic Approved

1 → yes no

2 → yes no

3 → yes no

FINAL TOPIC CHOICE

Must have topic approved above first! In pen re-write your final choice for your topic and get FINAL APPROVAL from your teacher. (If you want to change your Topic in any way, it must be re-Approved!)

Approved on _____
Teacher Signature _____
Parent Signature _____

Once you have your FINAL Topic approved, you are ready for Packet #2