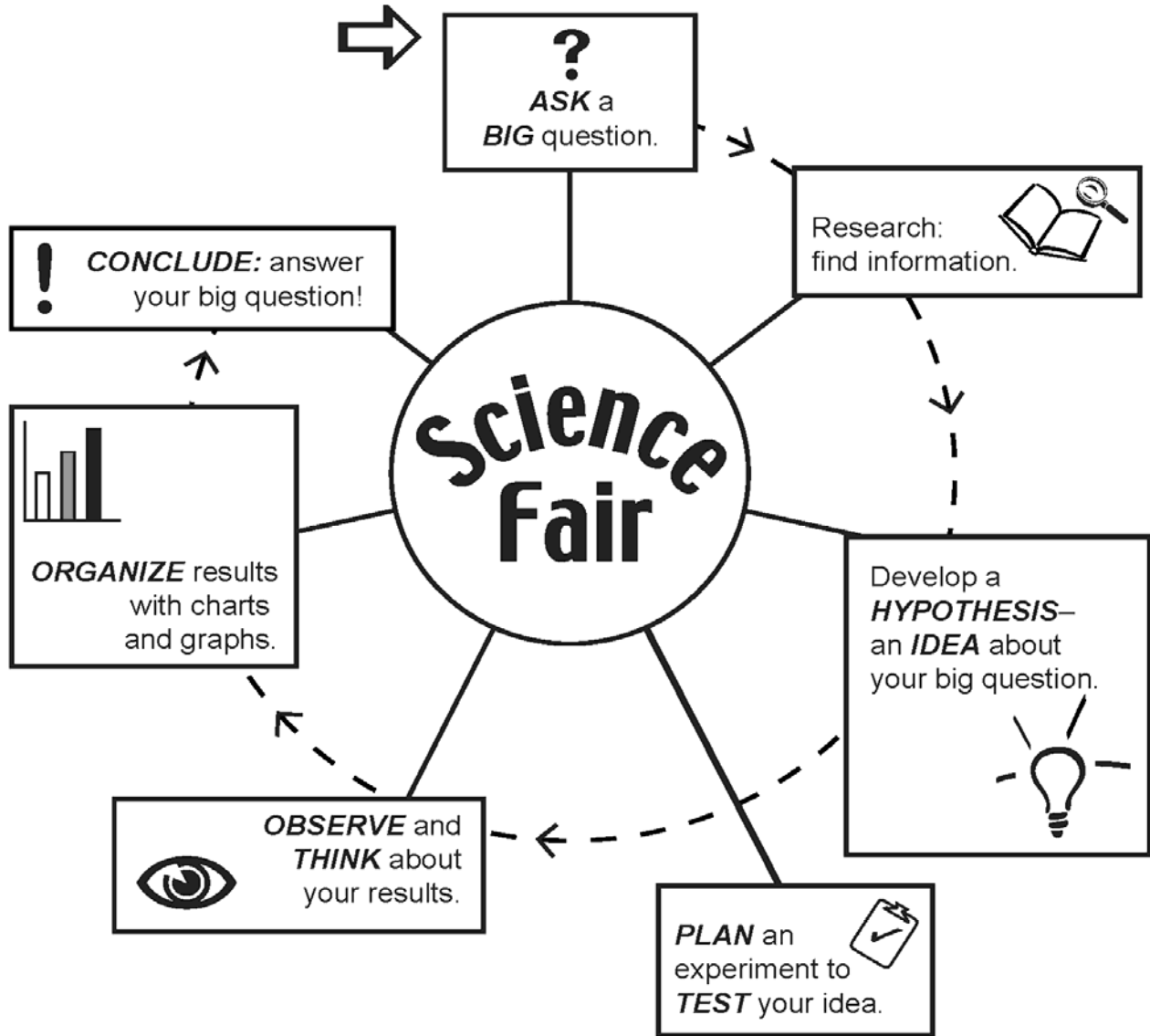


# SCIENCE FAIR GUIDE

## What's Important?



Think it through.

## CONNECT SCIENCE FAIR WITH SKILLS AND KNOWLEDGE DEVELOPMENT

These guides are designed for “do-it-yourself” learning progress.

Use this checklist to organize your science project.

- **Step 1: Make a short list of things you are interested in learning about.** *Choose one topic that interests you and make sure you can find information on it! For example, creating a rocket is complex but contrasting different kinds of road salt is easy and appropriate, and you will find lots of information about icy roads and road salt.*
- **Step 2: Form a big question to ask about your topic.** *Focus on a question you hope to be able to answer as you explore this topic.*  
\*This is your PURPOSE.
- **Step 3: Gather information about your topic.** *Use the research guide to help organize information you find in books, encyclopedias, and online to compile an interesting summary of a topic related to your experiment.*  
\*This is your REVIEW OF LITERATURE.
- **Step 4: Form an educated guess about your big question.** *Guesses or predictions do not have to be correct. Great scientific discoveries have come from making mistakes!*  
\*This is your HYPOTHESIS.
- **Step 5: Create an experiment that can help answer your big question.** *Write out the steps you will take in your experiment, list your materials, and don't forget variables and controls!*  
\*This is your PROCEDURE.
- **Step 6: Carry out your experiment and record everything that happens.** *Try your experiment several times in order to collect as much data as possible.*  
\*These are your RESULTS (data) and should be organized on charts and graphs.
- **Step 7: Decide if your experiment helped answer your big question.** *If not, think of ways you might improve your project. You may need to make some changes.*  
\*This is your CONCLUSION.

Name: \_\_\_\_\_ Grade: \_\_\_\_\_

## Connecting Variables and Controls to your PURPOSE

### **PURPOSE:**

*What do you want to find out by doing your experiment?*

**A variable is something you change as you do your experiment. It is connected to your purpose.**

For example, if your purpose is to find out if a car's shape affects its speed down a ramp, you might build three cars, each with a different shape. Car shape is your **variable**. (Try to stick with just one variable.)

*What is the variable you will be keeping track of in your experiment?*

**Controls are things you keep the same as you do your experiment.** If you're trying to find out how shape affects how fast a car goes down a ramp, you would keep things such as the ramp size, weight of car, size of tires, etc. the same for all cars tested. These things that stay the same are your **controls**.

*What are the controls in your experiment?*

*Why is it important to have these controls?*

**Use this page to help organize your RESEARCH.**

What I read (source of information): \_\_\_\_\_

**Important Words**

**Word**

**What it Means**

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

**Important Information**

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**MAIN IDEAS from this information:**

**Use this sheet to organize your EXPERIMENT.**

**PURPOSE:**

*What do you want to find out by doing your experiment?*

**HYPOTHESIS:**

*Form an educated guess about your big question. Don't worry about wrong predictions!*

**PROCEDURE:**

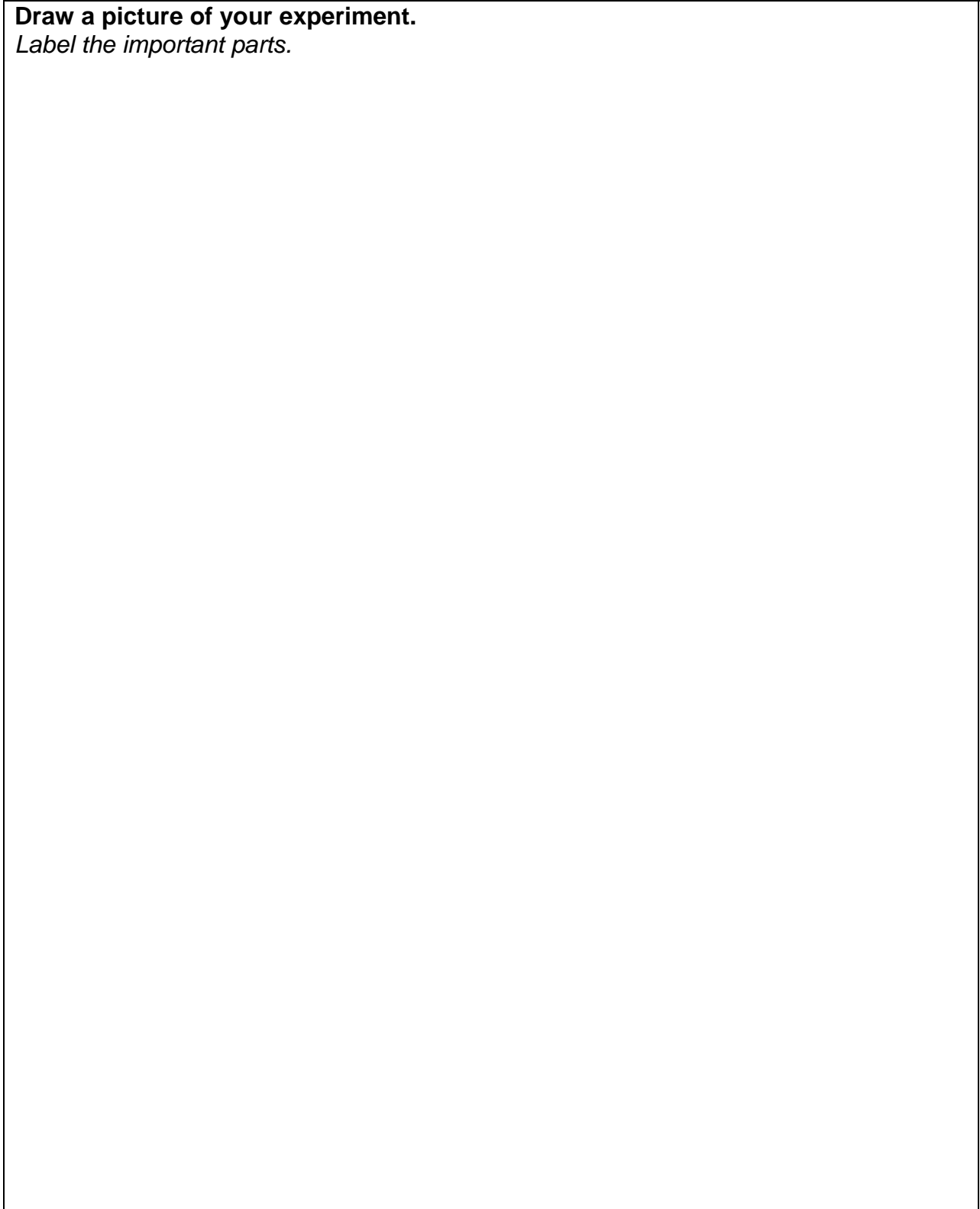
*The steps I will take in my experiment*

**List your materials:**

**Use this sheet to illustrate your experiment.**

**Draw a picture of your experiment.**

*Label the important parts.*



**Use this sheet to organize your RESULTS and DATA.**

**RESULTS:**

*Explain everything that happened when you did your experiment.*

**Draw a chart to organize measurements or observations.**

**Use this page to organize your CONCLUSION.**

**Did this experiment help answer your BIG QUESTION?**

*Explain why or why not.*

**How can you make your experiment even better?**

**What's new?**

*List important new things you have learned.*

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_