



# INVENTOR'S JOURNAL



tracking your  
invention journey  
to innovation

# HELLO INVENTOR!

Welcome to the Young Inventors' Program and the world of invention. As you begin your journey, we encourage you to take positive risks. Ask questions. Be creative. Most important, do not be afraid to fail. Innovation is all about testing and re-testing and pushing boundaries to make the world a better place. No matter where your journey takes you, you will learn new things, challenge yourself, and ultimately be successful.

## Tell the Story of Your Invention

This Inventor's Journal is a place for you to record your ideas, activities, research, and discoveries as you create your own invention. The journal is not a book report that is created after you are done. It is a diary that is continuously filled in as you work. The purpose of the journal is to tell the story of your invention. For every step, you will record what you did, why you did it, and how you did it. Invention journals are important because they provide a complete and accurate record of your ideas, plans and processes by which your invention was created. It is proof that you came up with the ideas and the invention on your own.

## About the Inventor's Journal

Your YIP Inventor's Journal is divided into two sections to help you document your invention journey. The EXPLORE section includes worksheets that you may fill out as you complete YIP activities led by your teacher or on your own. Here you can record your idea exploration and brainstorming. The DESIGN/BUILD/TRACK section includes required pages to help you record important information about your invention project. The rest of the journal is an open space for you to record your own invention story – develop a design, draw sketches, and label parts, share results of testing and document all of your work.

You may jump around from section to section and page to page as you invent. Not every page may be completed at one time and you certainly can go back to pages as you work. But remember, never erase! If you make a mistake or make a change, simply cross it out, and then make your new notes. Your missteps and modifications are valuable parts of your story.

You are welcome to insert additional pages to your journal. Simply staple or clip them in. You may add photographs of yourself working on your invention, drawings, notes taken on different paper, or other records you may have. Each time you record an entry, be sure to sign and date the page at the bottom. If you are working with a team, each team member will keep their own journal, but all team members should sign each other's journals each time you work together.

When your YIP Inventor's Journal is complete, it will become part of your final project presentation. Your teacher may give you more guidelines and requirements for your Young Inventor's Journal, so be sure to follow them.

**Have fun and good luck!**

The YIP Team





# Inventor's Journal

This Journal tracks the innovations by

Inventor Name:

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

School/Organization Name:

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Teacher/Leader Name:

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## INVENTOR'S CHECKLIST

### Checklist of the Process of Invention

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Inventor's Name

- Identify the problem to be solved
- List ways to solve the problem
- Choose the solution
- Sketch ideas
- Make a model (prototype) of your invention
- Decide if your invention solves the problem
- Improve your invention and prototype as needed
- Make your display board
- Present your ideas

💡 Have fun!



This journal is a guideline for your creative process. Do not feel limited by this format. Please complete required sections needed for your assignments and Invention Fair.

# INVENTION COMPETITION REQUIREMENTS

## All projects must have the following components

### **YIP Inventors Journal or invention logbook (hardcopy or virtual)**

The journal documents the student's journey and all aspects of the invention process. Journals should be used throughout the development of the project and should not be a report completed after the fact.

### **3-panel Display Board (tri-fold board or virtual display)**

Displays are a visual aid to communicate significant aspects of the invention. Displays must include the student name/s, grade level/s and title of the invention. A tri-fold display board may be a maximum of 48" wide and 36" tall (the board should be 24" with both 12" sides folded in.) The board must fit into a footprint of no more than 30" wide (with sides folded in) on the tabletop. Prototypes and models should fit within this tabletop space as well or on the floor in front of the table and should not encroach upon neighboring display spaces. No oversize displays will be allowed.

Display boards must have the following information in one consolidated place on the poster:






- Student(s) Name(s)
- Name of Invention
- Student(s) Grade(s)
- Student(s) School
- School City, State
- Statement of the problem
- Explanation of the invention as a solution to the problem
- Details of model construction
- Diagrams of design



Note: **Models or prototypes (which may be working or non-working) are not required but are recommended.** These models demonstrate the key characteristics that make the invention valuable, original, and useful. This model does not have to be fully functional.

## Project Restrictions

The following items are not allowed on your person or in your project:

-  Electric stun guns, martial arts weapons, or devices
-  Guns, replica guns, ammunition, and fireworks
-  Knives of any size
-  Mace and pepper spray
-  Razors and box cutters

**Also: No balloons, glitter, or confetti are allowed in any form. If a project requires batteries, these must be provided by the inventor.**

# PREPARING YOUR PRESENTATION

Inventors need good ideas and good communications skills. Part of YIP is to present your invention to your peers at your school or program and present to judges at your Invention Fair and other competitions. When doing these presentations, be sure to:

1. Be prepared and practice.
2. Ensure your presentation is within time limits set by your teacher.
3. If you are part of team, make sure each team member has a part of the presentation.
4. Speak clearly and loud enough for judges to hear you.

We have a few tips to prepare for your invention presentation:\*

- **Practice Out Loud:** Practice your presentation in front of a friend or family member at least 5 times so you are more familiar with your speech and are comfortable speaking in front of someone.
- **Take a Deep Breath:** If you lose your place or get nervous, take a deep breath, pause, and restart. There is no rush when speaking and the audience appreciates time to think about what you are saying as well.
- **Practice in Front of a Mirror:** Stand in front of a mirror and give your presentation. Be careful not to wiggle, twitch, or shift. Practice how you will stand, sit, move, or point as you present.
- **Time Yourself:** Time yourself as you give your entire speech from start to finish. Speak at a normal pace, which will probably seem slower than you think it should.
- **Make Eye Contact:** Look up at your audience at least 3 times when you present.
- **Expect the Unexpected:** It is okay if things do not go as planned. Stay positive and follow through.
- **Summarize & Restate:** At the end of your presentation, repeat your most important points to summarize your project.
- **SMILE!** When you smile, your whole body relaxes. And smiling is contagious- if you smile, your audience will too.

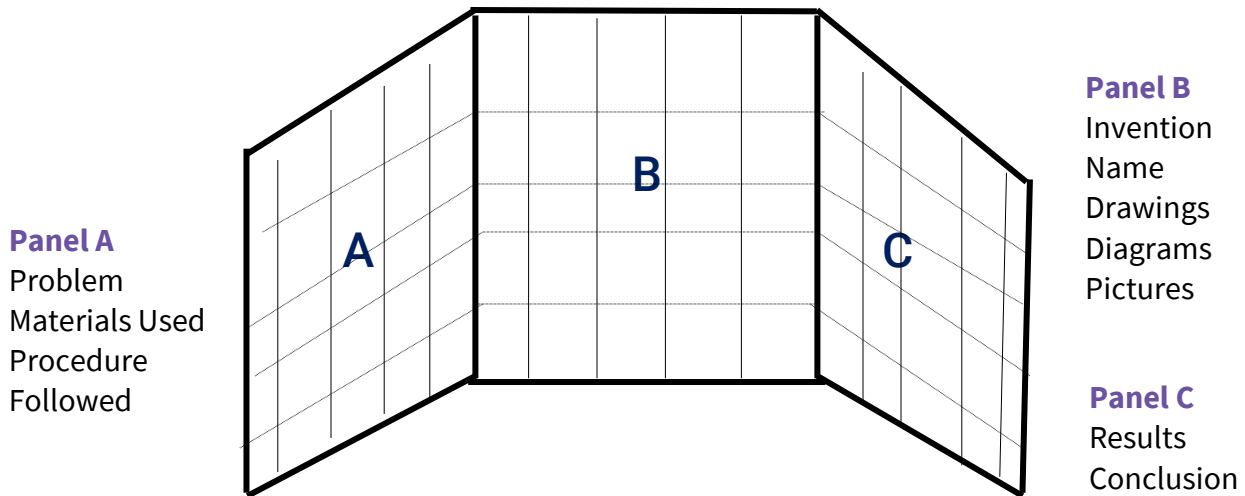
\* Adapted from Science Buddies, "Science Fair Project Presentation Speech Tips".

## Questions Judges May Ask You

- How did you come up with your invention idea?
- Did you work on the first idea you thought of?
- What disappointments/hurdles did you have while working on your invention?
- Did you build any prototypes before this invention?
- What was more fun for you: thinking up your invention or building it and making it work?
- Where did you get your materials/supplies?
- Have you thought of ways to make your invention even better?
- If you could have this invention built using any material, what would you choose?
- Did you have fun inventing?
- What else would you like to tell us about your invention?

# INVENTION DISPLAY REQUIREMENTS

This is an example of what a Display Board might look like, but you can be creative and make it your own.



**Maximum size:** A tri-fold display board may be a maximum of 48” wide and 36” tall (the board should be 24” with both 12” sides folded in.)

## Display boards must have the following information in one consolidated place on the poster:

- Student(s) Name(s)
- Name of Invention
- Student(s) Grade(s)
- Student(s) School
- School City, State
- Statement of the problem
- Explanation of the invention as a solution to the problem
- Details of model construction
- Diagrams of design

## Your display may also include many items, such as:

- How you thought up your idea
- How you researched if your invention already exists
- A statement of the problem solved
- Other brainstormed idea solutions which were unsuccessful and/or improvements
- Other people’s impressions about the usefulness of the invention
- Personal testimonies of your own uses
- Short autobiography
- Photographs and/or diagrams

## Helpful Hints:

- Materials for the poster may be pre-printed or handwritten
- Photographs, illustrations/drawings, charts are encouraged
- Use font or handwriting that is readable (in style, color, and size)
- Use colors that pop and look good together
- Use correct spelling and grammar
- Use proper punctuation

# EXPLORE: IDEA EXPLORATION & BRAINSTORMING



## Problems All Around Me

Ask other people what problems they have around their homes, neighborhoods, or that could be solved with a new invention. List their responses below.

### Family

### Friends

### Neighbors

### Yourself

To pick the best idea pick the best idea. To make your selection, ask yourself which idea is most interesting to you, most needed, most original, and one you think you can make using the materials around your home.

**Best Idea:** \_\_\_\_\_





# Invention Ideas

What are your ideas for an invention? What problems do they solve? List them here.  
Use your Problems All Around Me and your What's Your Problem? worksheets to make your list.

Invention Idea	What Problem Will It Solve?

# My Invention Research

## Part 1: Starting to Make Plans

If needed, ask an adult to help you research. Think about your invention. Talk about the questions below. Check the boxes for Yes or No as you read each question. You may not be able to complete each question now, so you may go back to it as you learn more.

Is My Idea...	Yes	No	Needs Improvement
Going to work? Can you draw or make a model of it?			
New and original, or an improvement on an existing invention? (Research by asking others, checking the library, and calling stores that would sell your product.)			
Creative and unusual?			
Useful to all ages?			
Cleverly named?			
Too complex?			
Too simple?			
Helpful to the environment?			
Durable? (Not easy to break)			
Made from recycled materials?			

## Part 2: Researching Your Problem & Invention Idea

If needed, ask an adult to help you research and record notes here (an adult may help you write).



### Notes from Internet Research:



### Notes from Library Research:



### Notes from Interviews with People:



## Part 3: Let's Go Shopping

Ask an adult to help you find if a similar product already exists in stores. You can go to online stores to look up products.



### Keywords

Write down 3 key words to describe your invention. Use these words when doing your search.

1.

2.

3.



### Shopping Sites

With an adult, go to online shopping sites such as Amazon.com or Target.com to begin a search for products that already exist.

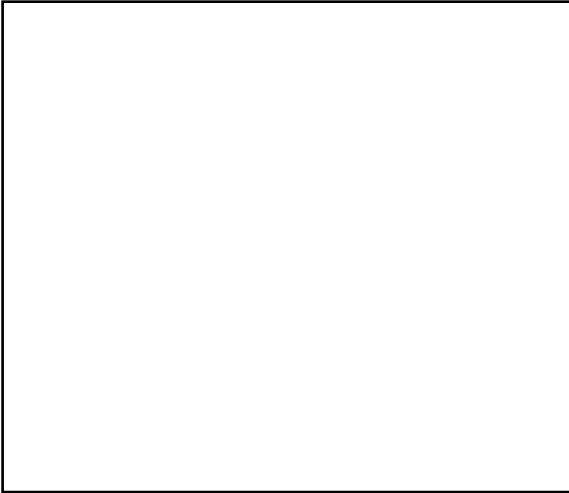
How are these products similar to your invention?

Do not be discouraged if your idea already exists; **instead, think about how your idea is or can be different** from or an improvement to the existing product.

- Type in your keywords. Search.
- Look over the products that come up.
- Click on items that might be similar to your invention to learn more.
- Record your findings.

## Products that relate to my invention:

Draw what you see:



What makes this like your invention?

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How is your invention different?

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Draw what you see:



What makes this like your invention?

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How is your invention different?

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## DESIGN / BUILD / TRACK

This section is to track and document your invention journey. It's a place to brainstorm ideas / collect sketches / catalogue ideas as well as state your intent to invent.



### STATEMENT OF ORIGINALITY

I promise that the ideas in this Inventor's Journal are my own. (If a team project, all members of the team should have their own logbook, but complete this statement together and all members should sign.)

Inventor Name(s):

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Signature(s):

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Date: \_\_\_\_\_

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

School/Program: \_\_\_\_\_

Town: \_\_\_\_\_





## EXPLAINING THE PROBLEM AND IDENTIFYING THE SOLUTION

**What problem are you trying to solve?** The more specific you are in describing the problem, the better your solution will be.

**How did you come up with the problem?** Use your Problems All Around Me worksheet and interviews with others to help you choose your problem and explain your selection.

**What is the result you are trying to achieve?** The more specific you are in describing the result you want, the better your solution will be.



## INTENT TO INVENT

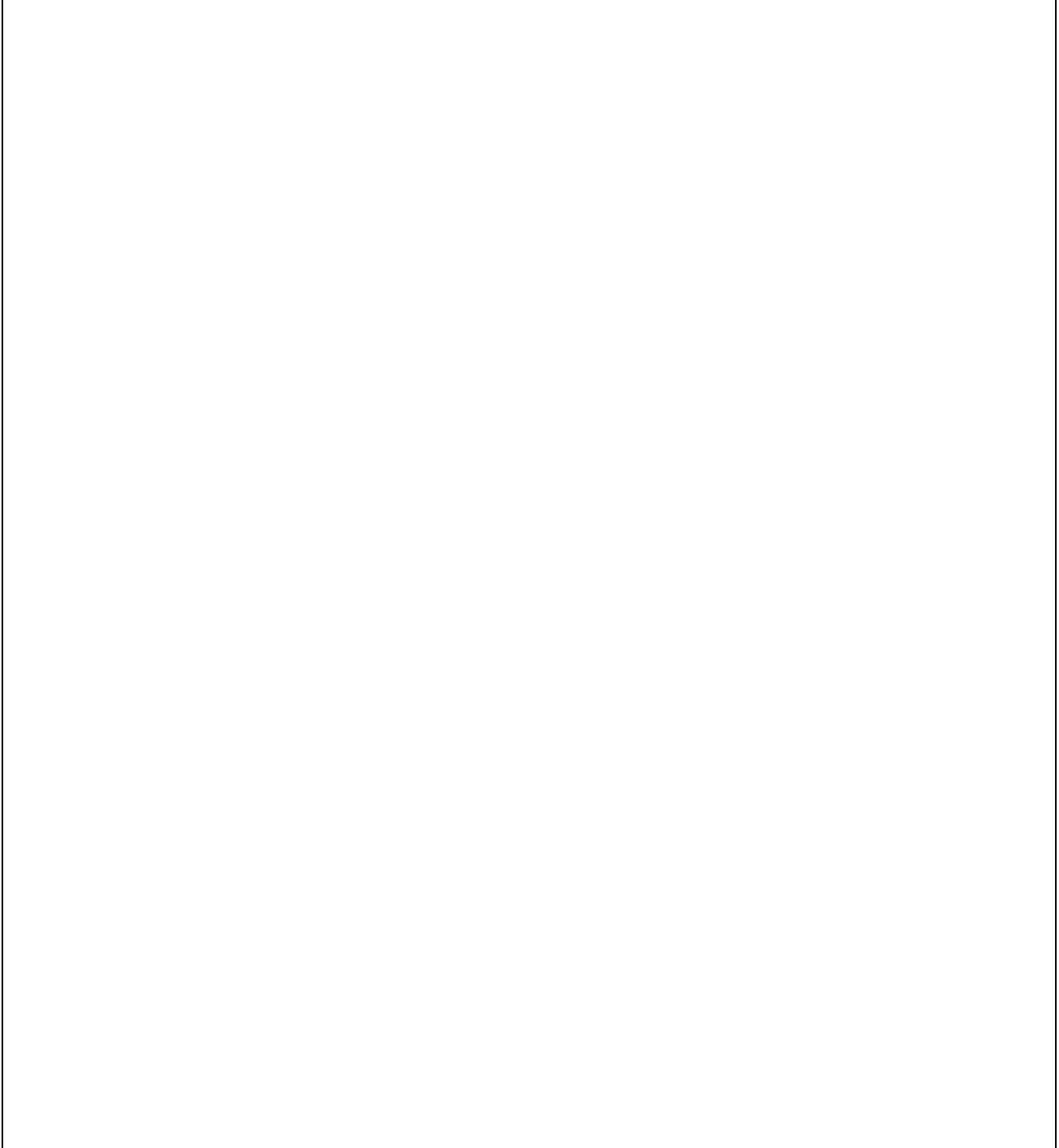
<b>Inventor:</b>	<b>Grade:</b>
<b>Teacher/Leader:</b>	<b>Date:</b>
<b>I intend to invent:</b>	
<b>The problem it will solve is:</b>	
<b>I have determined to the best of my ability that my invention will be original by taking these steps:</b>	
<b>I will use the following materials in my invention:</b>	



# INVENTION DIAGRAM

Draw a diagram of your proposed invention. Explain how it will work.

All inventors make drawings of their inventions to show how they will work. Draw some quick sketches of your idea in your YIP Inventor Journal and pick what you think will look and work the best. All diagrams should be labeled, dated, and briefly explained.



**Inventor's signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## INVENTION MATERIALS

Use this chart to record the materials that you use and any that you purchase. Be detailed in your list.

Name of Material or Item Used	Description and/or purpose	Quantity Used	Name of supplier or store where purchased	If purchased, Price per item	Total Cost for Material (Price per item x Quantity)
<p><b>Digital Journal Users:</b> Please recreate this grid on a blank page or use the back cover</p>					

# INVENTION JOURNAL PAGE

Record steps to develop ideas, research, and notes as you build your invention.

**Inventor's signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

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[fuelthespark.org](http://fuelthespark.org)