



# Inventor's Journal

tracking your invention  
journey in innovation

a program of



University of New Hampshire  
Leitzel Center

# 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 YIPLit: Inventor's Journal

Your YIPLit: Inventor's Journal includes worksheets and activities that you will do in your class. You can write on these pages as you do the activities with your classmates or on your own. You can take notes, draw pictures, and write down key words. Adults may help you with your writing if needed. The rest of the journal is an open space for you to record your own invention story – you can add more notes or drawings or show how you make changes to your design ideas over time.

You do not have to complete every page at one time and you can always go back to pages as your work. Your teacher will guide you through it. 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.

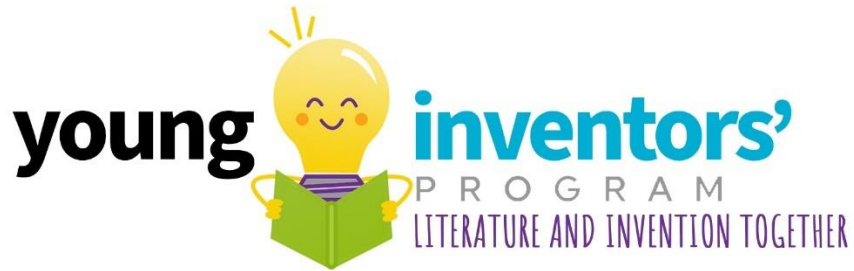
You are welcome to insert additional pages to your journal. Simply staple or clip them in. You may add photographs of yourself working on your invention, drawings, notes taken on different paper, or other records you may have. Each time you record an entry, be sure to sign and date the page at the bottom. 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 YIPLit: 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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# 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: \_\_\_\_\_

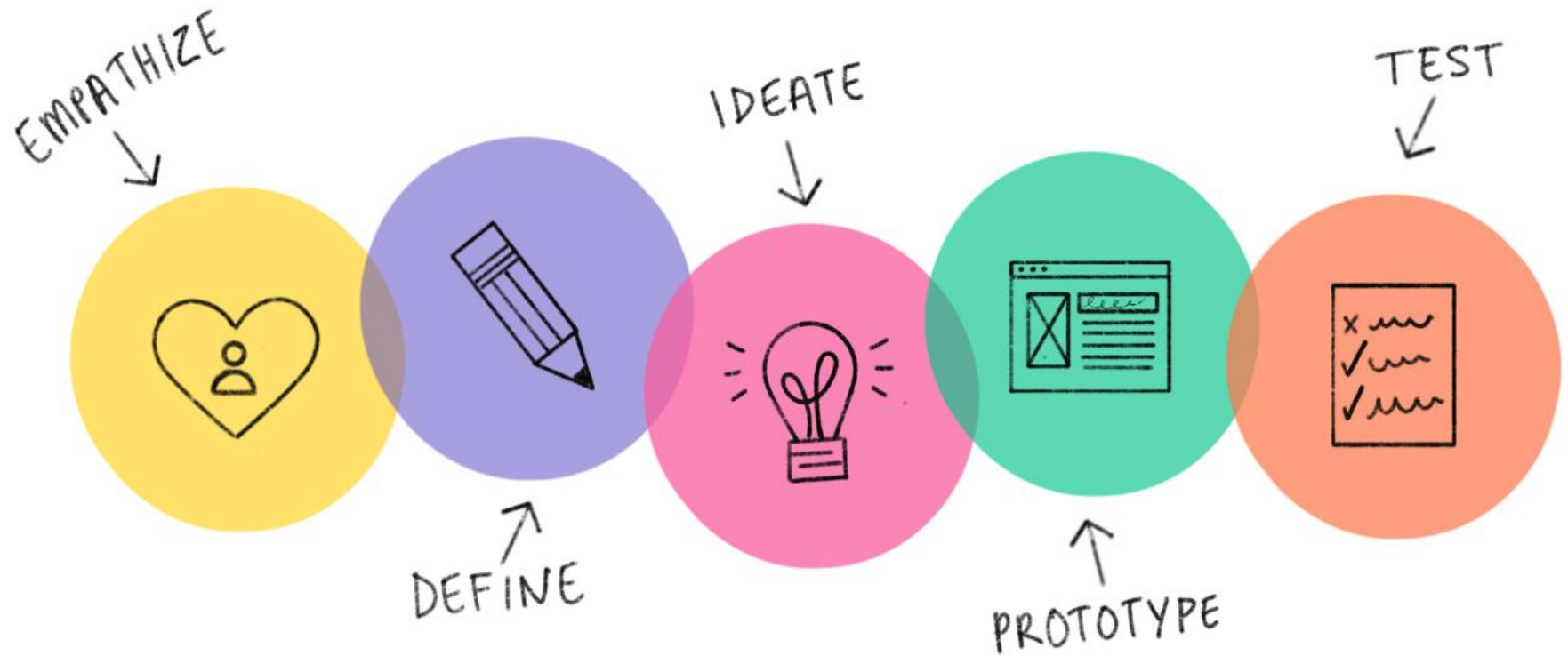
Grade: \_\_\_\_\_

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

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



# INVENTION PROCESS



COMMUNICATE

# INVENTION OR INNOVATION?











Walk around your classroom or school. Make a list of the inventions you see. What problems do they solve? Then, determine if the items you listed are “**inventions**” or “**innovations**”.

Use the chart below to **circle** if the item is an invention















or an innovation



Item	Invention or Innovation?	What problem does it solve?
	 	
	 	
	 	
	 	
	 	

# CHARACTER CHART

Who are the characters in the book? What problems do they have? How do you think they feel?  
**Write down your ideas** in the chart below.

Character	How are they feeling?	What problem are they experiencing?
	   	
	   	
	   	

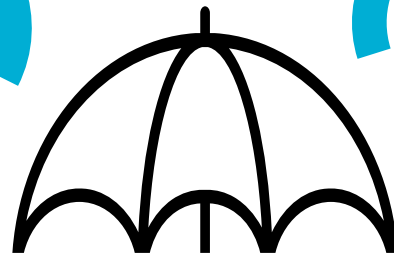
# MINDMAP

A way to break down the problem before trying to solve it.

Character you are making the umbrella for:

Parts of an Umbrella

What are umbrellas used for?



How might you improve the UMBRELLA for a character in the book?

What problems do people have with umbrellas?

What else can people be doing when they are using an umbrella?

Blank purple box for notes on 'Parts of an Umbrella'.

Blank light blue box for notes on 'What are umbrellas used for?'.

Blank light green box for notes on 'What problems do people have with umbrellas?'.

Blank light yellow box for notes on 'What else can people be doing when they are using an umbrella?'.



# CHARACTER SCAMPER WORKSHEET

Choose one character from the book. Then, SCAMPER an item for a new invention that character can use to solve their problem. (Example: an umbrella) Try to look at this item in different ways. Choose at least 3 verbs to SCAMPER. **Record your ideas** in the chart below. You

My Character is: \_\_\_\_\_

My Item to SCAMPER is: \_\_\_\_\_

Put an "X" by each way you SCAMPER	Ways to SCAMPER	Tell or show how the item changed.
	<b>S</b> ubstitute something	
	<b>C</b> ombine things	
	<b>A</b> dapt or <b>A</b> dd something	
	<b>M</b> inify, <b>M</b> agnify, or <b>M</b> odify	
	<b>P</b> ut it to another use	
	<b>E</b> liminate something	
	<b>R</b> earrange or <b>R</b> everse	

# PROBLEM AND SOLUTION

**Define the problem you wish to address, why it is a problem and the solution you have ideated.**  
Write or draw your ideas to the prompts below. Remember that this solution will be the focus for your very own invention project.

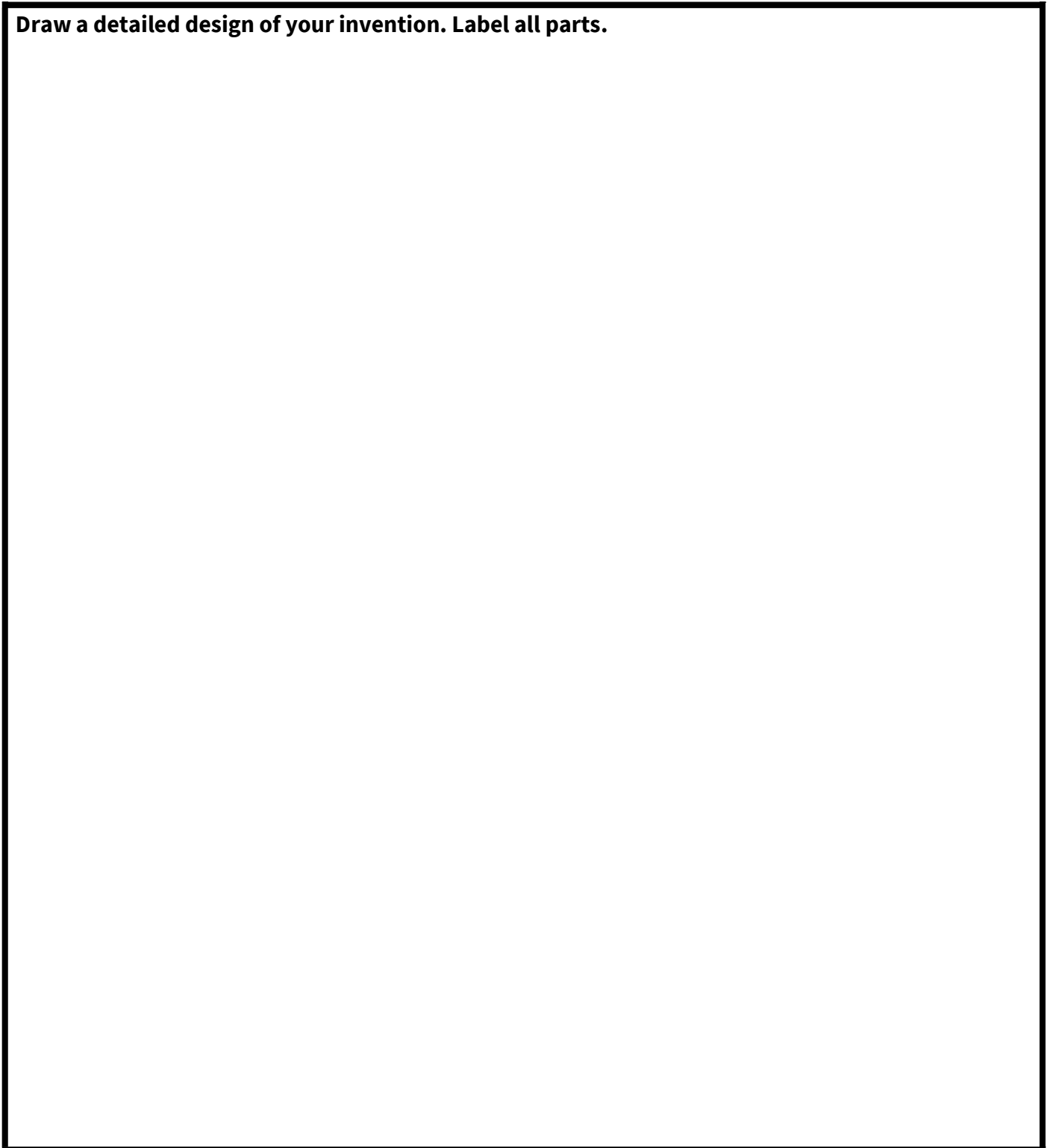
**The problem is:**

**This is a problem because:**

**My solution is:**

# INVENTION DESIGN #1

**Draw a detailed design of your invention. Label all parts.**

A large, empty rectangular box with a black border, intended for drawing a detailed design of an invention. The box is currently blank, providing space for the student to create their design and label its parts.

# INVENTION DESIGN PLAN

**Think about your invention design.** Complete the following chart for your idea with a partner. 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.

**IDEA :** \_\_\_\_\_

Is My Idea...	YES	NO
Realistic? Is it something that could exist in real life?		
Something I can draw or make a model of? (The model can be working or non-working.)		
Useful to someone or a group (a target audience)?		
Can your idea be made from recyclable materials and other items that you have or can get?		
Something that already exists or is sold in a store? (You may need to research this on websites like Amazon or Target later.)		
If the idea already exists, my idea is different because... (If Yes, write how it is different here.)		

Name of Sharing Partner	They liked idea...	Why did they like this idea?

# INVENTION RESEARCH

Ask an adult to help you research. Record notes here (an adult may help you write).



**KEY WORDS** - List 5 words you used to describe your invention? These are the words you will use in your research.

- 1.
- 2.
- 3.
- 4.
- 5.



## Internet Search:

Use Google or another internet search engine to look for invention ideas like yours. Enter your key words into the search bar and see what inventions, products or information you find. Write or draw the information here.

**Internet Site:** \_\_\_\_\_

**I found (name invention/product):** \_\_\_\_\_

Draw what you see:

What makes this like your invention?

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How is your invention different?

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**Internet Site:** \_\_\_\_\_

**I found (name invention/product):** \_\_\_\_\_

Draw what you see:

What makes this like your invention?

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How is your invention different?

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**Internet Site:** \_\_\_\_\_

**I found (name invention/product):** \_\_\_\_\_

Draw what you see:

What makes this like your invention?

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How is your invention different?

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**Notes:**



## Interviews with Others:

**Name of Person:** \_\_\_\_\_

**Occupation/Role:** (How do you know them? What do they do?) \_\_\_\_\_

\_\_\_\_\_

**I learned:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



**Name of Person:** \_\_\_\_\_

**Occupation/Role:** (How do you know them? What do they do?) \_\_\_\_\_

\_\_\_\_\_

**I learned:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



## INVENTION DESIGN #2

**After doing research and receiving feedback, draw an improved/changed design for your invention. Label all parts and note any changes from Design #1.**

# PROTOTYPE PLAN

(You may use more paper and insert it in your journal if you need more space for your plan.)

**I will build my invention prototype by doing the following steps:**

1.

2.

3.

4.

5.

6.

**I will use the following materials in my invention:**



# INVENTION TESTING FEEDBACK GRID

It's time to test! Use this grid to help you evaluate your prototype and see where you want to make changes.

**PLUS**   
**What did you like?**

 **CONCERN**  
**What question do you have?**

**POTENTIAL**   
**How can you make it better?**

 **NEW IDEA**  
**What new ideas were introduced?**

## CHANGES TO PROTOTYPE PLAN

**After testing and feedback, I will make changes to my original design plan.**

# INVENTION NAME

1. List all the key words and ideas you have for a name for your invention below. You may try to combine words or rearrange them, add other words and try different combinations.

2. List at least 2 ideas you have for your invention name. You may use your ideas from above to help you. Then take a poll (vote) of your classmates. Which name do they like best? Record the number of votes each name gets in the chart below.

Name Idea	Number of Votes

3. Select your favorite name.

**My Invention is called the** \_\_\_\_\_

# STORY MOUNTAIN

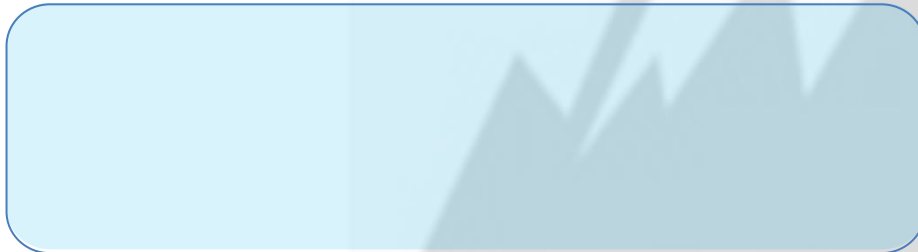
**Describe your design and how you made your invention**



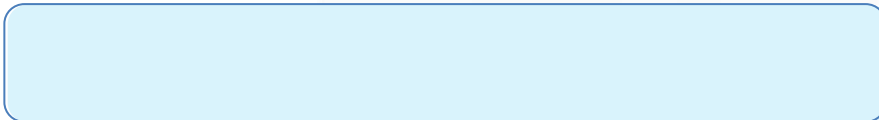
**Things that the character needs and ideas for a new invention to help them**



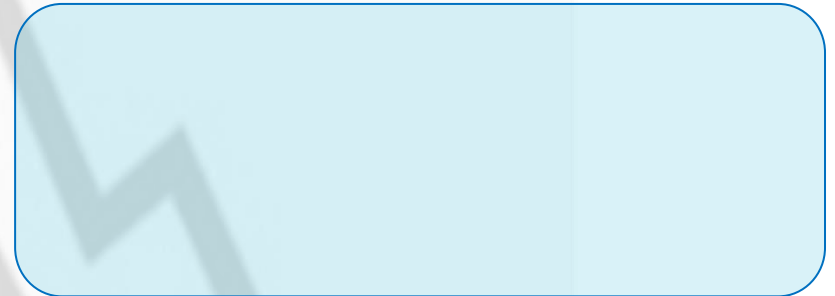
**Problem Statement**



**Character you helped**



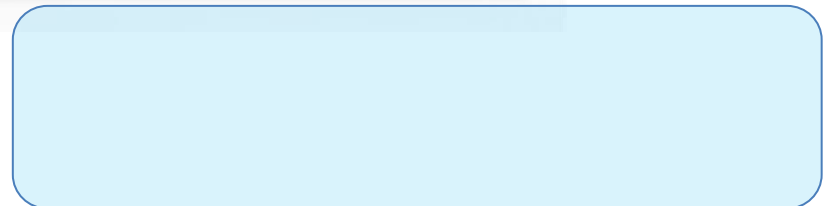
**What changes to you make and why?**



**What challenges did you face? How did you overcome them?**

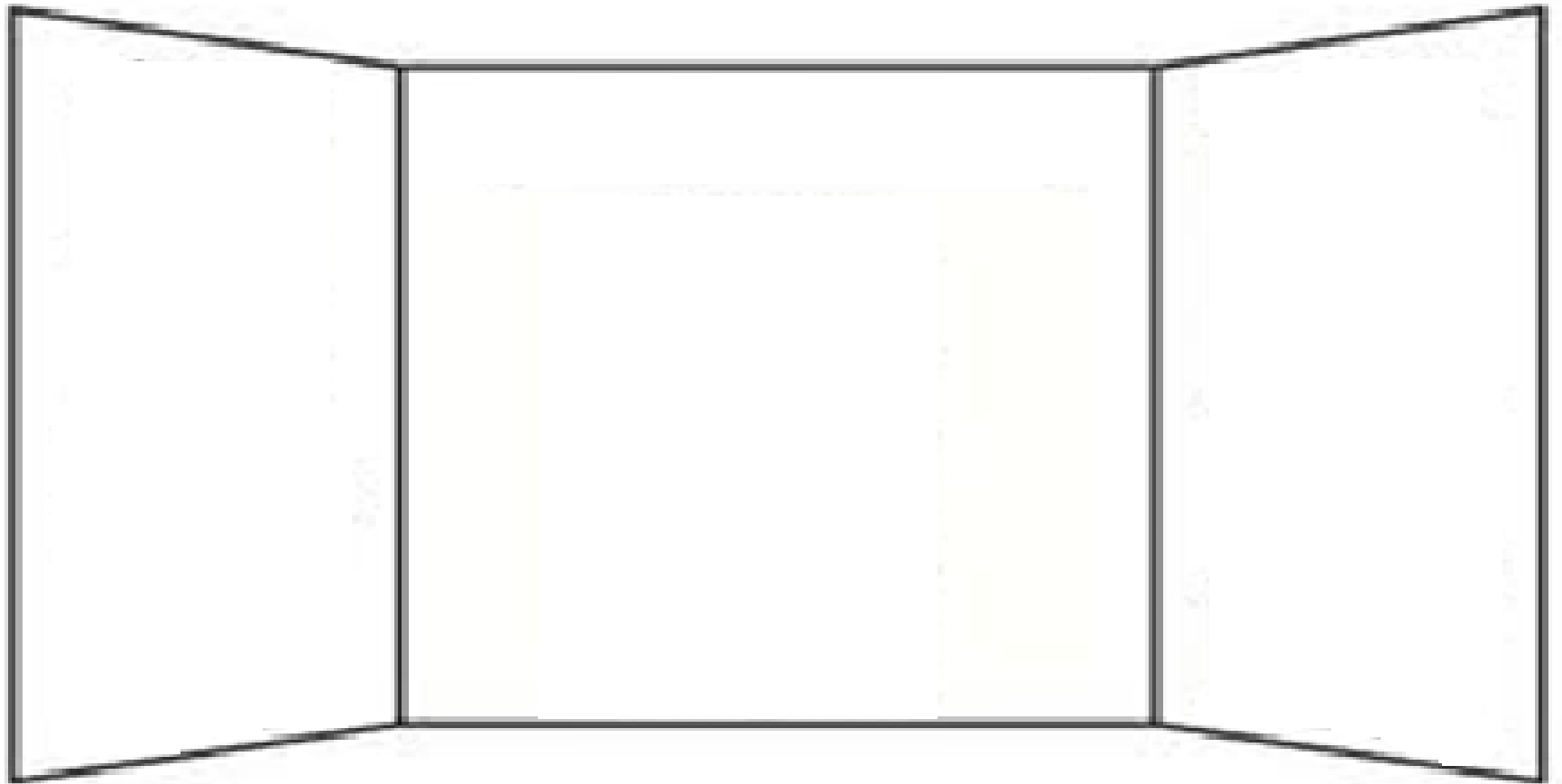


**How does your invention solve the problem?**



# INVENTION DISPLAY TEMPLATE

Draw your ideas for your own invention display board here:





# INVENTION JOURNAL PAGE

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

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

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

# INVENTION JOURNAL PAGE

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

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

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



## INVENTOR'S CHECKLIST

### Checklist of the Process of Invention

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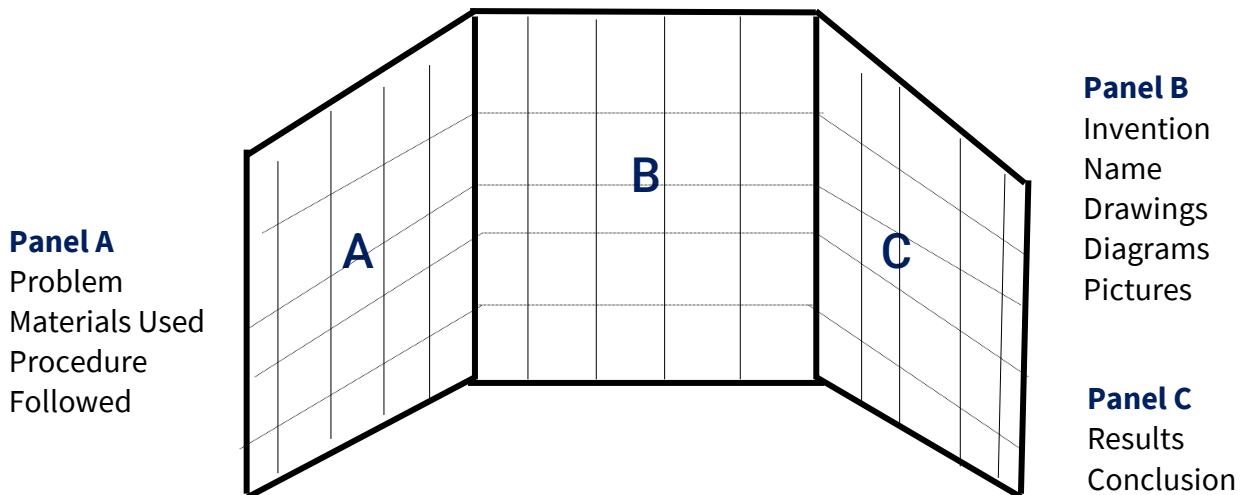
Inventor's Name

- 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



# 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

- A short autobiography
- Photographs and/or diagrams

**Helpful Hints:**

- Materials for the poster may be pre-printed or hand written
- 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

# 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.**



a program of the University of New Hampshire Leitzel Center  
<https://www.unh.edu/leitzel-center/young-inventors-program>