

**young**  **inventors'**  
PROGRAM

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**INVENTOR'S JOURNAL**

**tracking your invention journey in innovation**

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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 YIP Inventor's Journal

Your YIP Inventor's Journal includes worksheets and activities that you will do in your YIP program. 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 and you can always go back to pages as you work. Your teacher or mentor 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 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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## 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):**

\_\_\_\_\_

**Signature(s):**

\_\_\_\_\_

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

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

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

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



## STEPS OF THE INVENTION PROCESS



**IDENTIFY** – Ask questions to determine the problem.



**UNDERSTAND**- Research the problem fully. Who does it affect? What may cause the problem? What might be possible solutions?



**IDEATE**- Use creative problem-solving to turn an idea into a solution.



**DESIGN**- Sketch a drawing of the solution and its design. Label the parts. out their prototype designs.



**BUILD**- Put your plans in action and build a model (a prototype).



**TEST**- Test the model to collect data and receive feedback.



**REDESIGN**- Make adjustments and improvements to the prototype. The Test and Re-Design steps may repeat several (or many) times until the inventor is satisfied with the results.



**COMMUNICATE**- Present your idea and your solution.

# WHAT'S THE PROBLEM?

**Identify the problem.** 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** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Brainstorm ideas to solve the problem.** Write or draw ideas for solutions for your problems.

<b>1.</b>	<b>2.</b>
<b>3.</b>	<b>4.</b>
<b>5.</b>	<b>6.</b>

**Narrow your list.** Choose your 3 favorite invention ideas from above and put a circle around them.

**Think about your invention.** Complete the following chart for each idea. 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 #1:** \_\_\_\_\_

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... <i>(If Yes, write how it is different here.)</i>		

**IDEA #2:** \_\_\_\_\_

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... <i>(If Yes, write how it is different here.)</i>		



### IDEA #3: \_\_\_\_\_

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... <i>(If Yes, write how it is different here.)</i>		

**Share your ideas.** Share your ideas.

- What do they like about your ideas?
- What suggestions do they have?
- Which one is their favorite idea?

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

**Choose your final invention project.** After Sharing your top ideas, which one is the best? Write it below: (This is your Problem Statement)

**My problem is:**

**My project solution is:**

**Draw your solution.** Use the rest of the page to draw what you want your solution to look like. This will be the design for your prototype. If you need more space, insert a page with your design drawing or use one of the blank pages at the end of this journal.

# MY INVENTION RESEARCH



## Part 1: Researching Your Problem & Invention Idea

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

### Notes from Internet Research:



### Notes from Library Research:



### Notes from Interviews with People:



## Part 2: Shop Around – Does Your Idea Already Exist?

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 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?

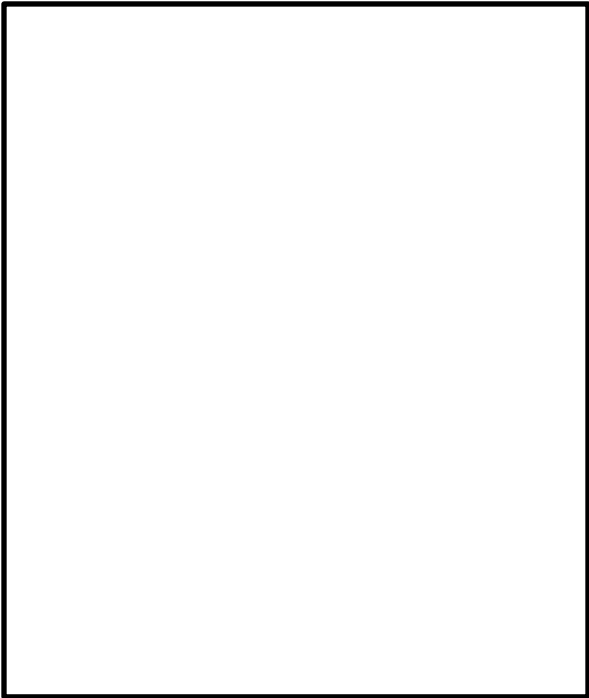
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Draw what you see:



What makes this like your invention?

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How is your invention different?

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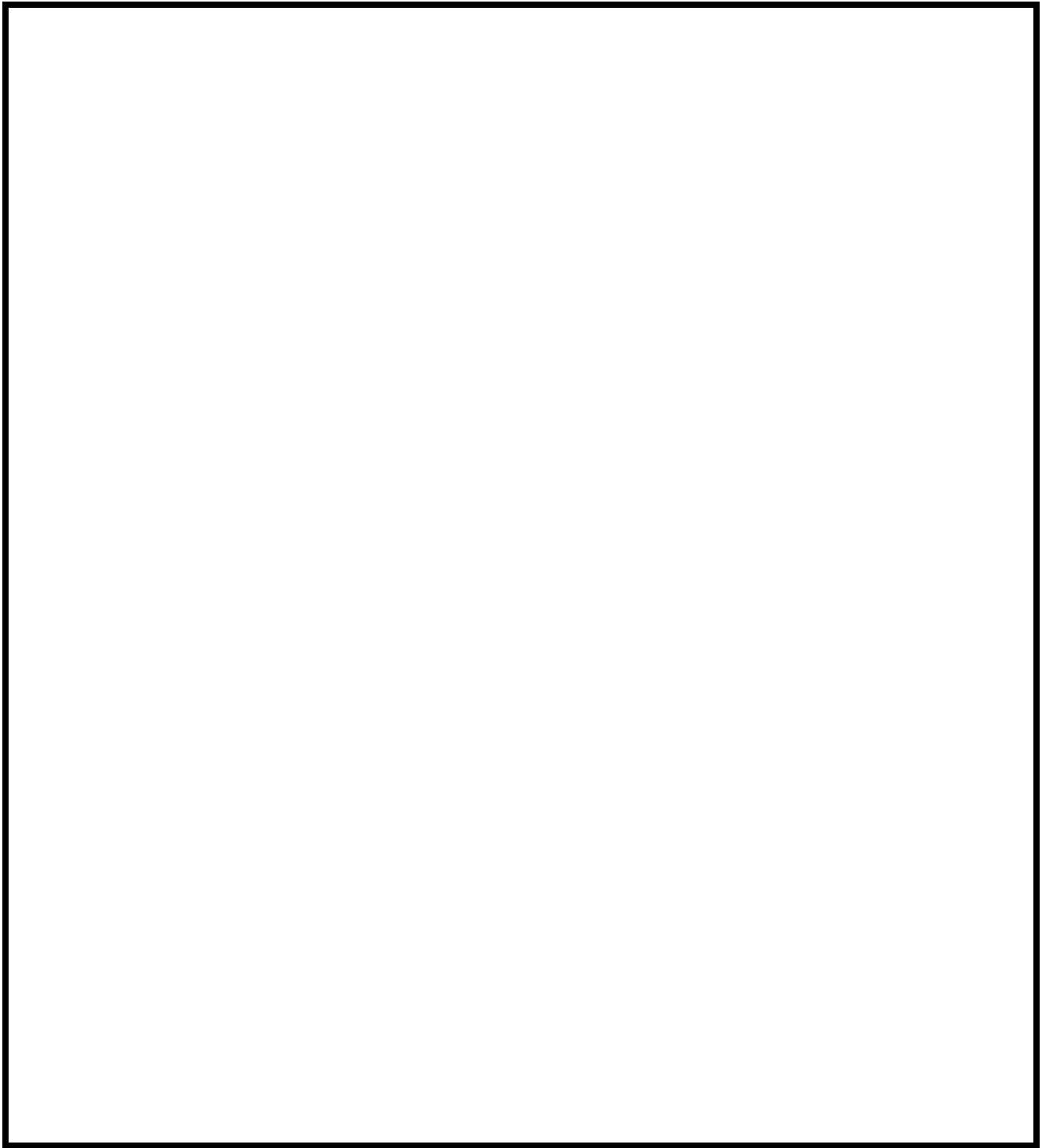
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# Intent to Invent

<b>Student Inventor:</b>	<b>Grade:</b>
<b>Teacher:</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>	

Draw a diagram of your proposed invention. Explain how it will work. Diagrams should be labeled, dated, and briefly explained.



# 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.

**What did you like?**



**How can you make it better?**

**Do you have any questions?**



**What new ideas were introduced?**



## CHANGES TO MY PROTOTYPE PLAN

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

## INVENTION NAME WORD IDEAS

Pick one word/prefix/phrase from Group A and one word/suffix/phrase from Group B that seem to really “fit” your invention. Now put them together. Try saying them quickly, and then reverse the word order. Add other words and try several different combinations to see if you can come up with something you like. Ask your friends what they think. List all your ideas.

<b>GROUP A</b>		<b>GROUP B</b>	
Aqua	Photo	Mister	Away
Travel	Handi	-Izer	Minder
Thermo	Micro	2000	N’ Go
Medi	Pet	Meter	Buster
Ele-	Sleep	-Ator	A-tron
Opti-	Auto	Aid	Ease
Work	Accu	Saver	Alarm
Pest	Compu-	Mate	- O
Mega	Safety	Be-gone	Feeder
Baby	Farmer’s	Max	Glow
Audio	Quick	Buddy	Flex
E-Z	Info	Tote	Freeze
Presto	Super	Rider	Shovel
Tele	Step	No-More	Helper
All-in-one	Pro	Finder	Sure
Nite	Cozy	Shield	Alert
Kiddie	Mini	Pal	Tech

# MY INVENTION NAME IDEAS

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

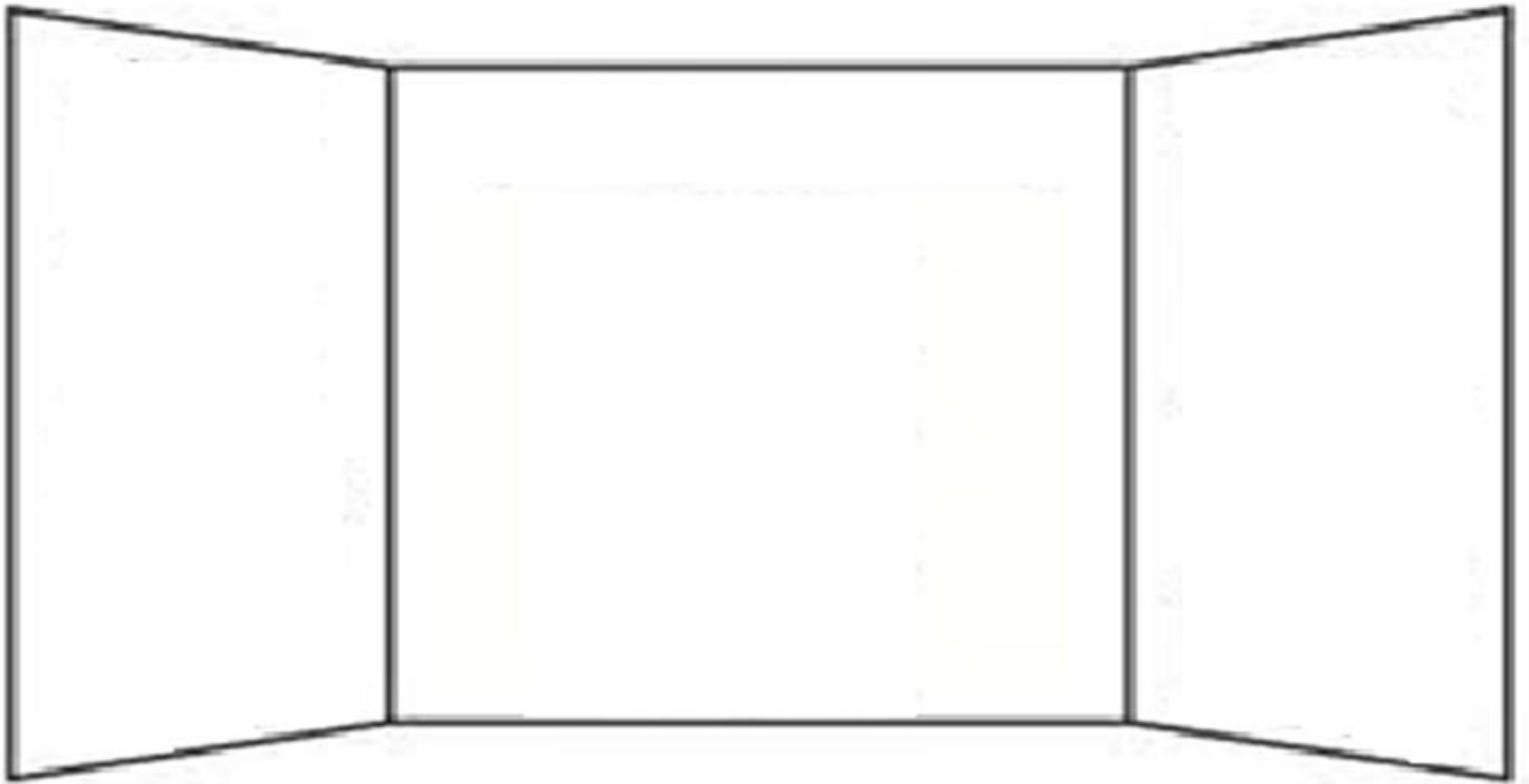
3. Select your favorite name.

**My invention is called the**

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# INVENTION DISPLAY TEMPLATE

Draw ideas for your 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:** \_\_\_\_\_

# 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:** \_\_\_\_\_

# 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 COMPETITION REQUIREMENTS

## All projects must have the following components



### **YIP Inventors Journal or invention logbook (hardcopy or electronic version)**

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. The journal/logbook should include the following:

- Title Page with Student(s) name(s), grade, school, city and state
- Statement of Originality
- At least one labeled design/sketch/diagram of invention
- Intent to Invent (statement of the problem and your invention solution)
- Materials List



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

Displays are a visual aid to communicate significant aspects 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.) No oversize displays will be allowed. Display boards must have the following:

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



### **Project Presentation/Pitch**

YIP inventors are asked to speak about their invention project for 3-6 minutes during the invention convention. Inventors should share their idea and how it was developed as they talk about the steps they took to design and build their model, their tests and results, changes made to the model and challenges they faced throughout the process. Inventors may show models and use their display board as a visual prop as they speak. Young inventors (grades K-2) may use notecards or be prompted by nearby adult; inventors in grades 3-4 may use notecards; and inventors in grades 5-12 may not use notecards. All presentations should include the following:

- Student's name(s)
- Student(s) Grade
- School Name, City and State
- Name of Invention



## Video Presentation

All inventors must submit a pre-recorded video presentation for competition. Videos will be used to evaluate originality of the idea and may be used for competition if the format of the competition is changed last minute as deemed necessary by the Young Inventors' Program. Videos should be a recorded version of the project presentation/pitch (or similar). Inventors are encouraged to stand in front of their display and show their model/prototype during the video. All video presentations should include the following:

- Student's name(s)
- Student(s) Grade
- School Name, City and State
- Name of Invention



## Model/Prototype/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. A detailed, labeled drawing of the design is sufficient for the display and presentation.***

Inventors are encouraged to build models that are “materials neutral”, meaning they can be made of reused and recycled materials and the overall product should not require money to buy materials. Any materials that are used, whether purchased or found/borrowed, should be listed in the Materials List in the inventor's journal/logbook.

## 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.**



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<https://www.unh.edu/leitzel-center/young-inventors-program>