

INVENTION

CONVENTION



Page Academy  
2021-2022  
Middle School

# Parent Acknowledgement Form

Dear Parent or Guardian,

We are excited to announce Page Academy's Invention Convention! The Invention Convention is a STEAM (Science, Technology, Engineering, Art, and Mathematics) aligned program that teaches to seek out problems and create solutions, a skill set once learned students will exercise through their lifetime, empowering them to make our world a better place. As we have now implemented new science standards, Invention Convention allows students to use their imaginations and problem-solving ability more efficiently. This is the perfect opportunity for parents and students to work together on a creative, hands-on approach of engineering principles.

Today your student is receiving information concerning the necessary steps, timelines, project guidelines, and other important information regarding the Invention Convention.

Listed below are suggestions on how you might support your student's progress on his/her project:

- Talk to your student about a problem he or she might be interested in solving. Work together to identify a problem and brainstorm possible solutions. Take your student to the library or help them search online for information about the topic.
- Help your student think about an invention that would help solve the problem.
- Your student is required to create **their own inventions that has not already been patented.** (See Patent Search Information)
- Every student is required to have an Inventor's Journal
- Every student will create a Display Board.
- Every student must have 3D printed component.
- Projects should not include anything involving fire, explosives, or anything else that would be a safety hazard to themselves or others.

**Please note that before beginning any invention, your child's project must be approved by Mr. Webster by completing the "Intent to Invent" form.**

Through time management and project planning, your child will take on the responsibility of completing a project over a lengthy time period. Your child will discover his or her creativity by identifying problems and figuring out how to solve them. Creating and inventing, through its challenge to think critically and problem solve, is truly a real-world experience in innovation, similar to what scientists do in their careers.

If you have any questions, please feel free to email Mr. Matuchniak at [amatuchniak@pageacademyca.com](mailto:amatuchniak@pageacademyca.com). Please sign and return the slip below as acknowledgement of receipt of the packet by November 17, 2021.

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I acknowledge that I have received and reviewed the materials and requirements for the Invention Convention and I am aware that my student is required to complete this project. I also understand my student may require that I purchase materials for this project (although not necessary) and may require parental assistance.

Parent Signature: \_\_\_\_\_ Student Name: \_\_\_\_\_

# **STOP!!**

## **SAFETY GUIDELINES**

Before you start inventing, consider these safety guidelines!

1. Anything that would be hazardous to the public, the student, or the school is **PROHIBITED**.
2. You may not use or display any harmful objects. Nothing sharp or pointed, no weapons.
3. If you are using power tools to build your invention, an adult **needs** to help.
4. No hazardous liquids may be displayed in school including: acids, bases, mercury, insecticides, repellents, cleaning products (including bleach). No flammable liquids!
  - a. If these items are used in the invention (use caution at home WITH AN ADULT PRESENT)
  - b. You may display photos on the actual items, but they may not come to school!
5. No electricity will be provided, but students can use batteries.

**The safety of the students, your family,  
and our school community is our # 1  
priority.**

**Use caution when choosing an  
invention!**

## **Invention Convention Tentative Schedule**

Please check in with your student's progress and help keep them on track!  
Initial next to each assignment as they are completed

<b>Date Due:</b>	<b>Assignment/Checkpoint:</b>	<b>Parent:</b>	<b>Teacher:</b>
11/17	Parent Acknowledgement Form	_____	_____
12/3	Intent to Invent Form	_____	_____
12/9	Final Approval	_____	_____
1/5	Invention Progress Report	_____	_____
1/18	Final Invention Display Board Inventor's Journal	_____	_____

\*3D printings will be made in order received. There is no "due date" for when the file needs to be turned in, however, if your student waits too long, their object may not get printed in time. I recommend submitting your 3D design file in late December or early January

\*\*\*Dates are subject to change and additional check-ins may be added. All changes will be communicated to the students.

## Presentation Rubric

You will be scored on the following areas during your presentation of your invention. Please read the rubric carefully while you plan your presentation and Display Board. You can have a parent us this copy as a guide for a practice run through.

**Scale:**                    **0 = No Evidence**                    **2 = Fair**                    **4 = Very Good**  
                                   **1 = Minimal**                    **3 = Good**                    **5 = Exceptional**

	Points	Comments
<b>Problem Solving</b>		
There is evidence that thought, study, and effort went into this project.	0 1 2 3 4 5	
The inventor suggested a realistic solution to their problem.	0 1 2 3 4 5	
The inventor researched the problem thoroughly and includes important information about this topic and problem on their board.	0 1 2 3 4 5	
The inventor explains AND demonstrates thoroughly how the invention solves the problem.	0 1 2 3 4 5	
<b>Creative Effort</b>		
There are elements of originality in the project.	0 1 2 3 4 5	
There was an imaginative use of materials, and materials are listed.	0 1 2 3 4 5	
The display is logically organized and includes photos, diagrams, and charts.	0 1 2 3 4 5	
The display board has a clearly labeled diagram of the invention.	0 1 2 3 4 5	

<b>Level of Completion</b>		
The inventor was informative about their product. I learned something new.	0 1 2 3 4 5	
There is a functioning 3D element.	0 1 2 3 4 5	
The 3D element had the correct format/specs for printing, and the sign-off sheet is on display board.	0 1 2 3 4 5	
A completed inventor's journal is displayed.	0 1 2 3 4 5	
An advertisement is completed with a catchy name and slogan/jingle		
<b>Set-up and Display</b>		
The display is neat, attractive, easy-to-read, and understandable.	0 1 2 3 4 5	
There is a logical sequence and organization to the display.	0 1 2 3 4 5	
The purpose of the project is visually clear.	0 1 2 3 4 5	
All elements of the Display Board are present (Title, Name, Problem, Hypothesis, Solution, Diagram, Procedure, Pictures, Advertisement, Materials + Cost, Research, Conclusion)	0 1 2 3 4 5	
<b>Knowledge of the Subject</b>		
The inventor appears to have learned something new by engineering their invention.	0 1 2 3 4 5	
The inventor is able to describe their invention confidently and knowledgeably.	0 1 2 3 4 5	

The inventor is able to answer questions about their invention.	0 1 2 3 4 5	
<b>Oral Presentation Skills</b>		
The inventor describes the invention in a logical sequence.	0 1 2 3 4 5	
The inventor sustains eye contact throughout presentation.	0 1 2 3 4 5	
The inventor speaks clearly with appropriate tone and volume.	0 1 2 3 4 5	
<b>Total</b>		
		/115

## Display Board Instructions

**\*\*\*Displays should be made using a large scientific tri-fold display board\*\*\***

### YOU NEED TO INCLUDE:

(Check the boxes as they are added to your board)

- An attractive title or heading
- Your name
- Your inventor's journal should be displayed on the table
- Subtitles to be included:
  - The Problem
  - Your Hypothesis
  - The Solution
  - Materials + Cost
    - How it's made
    - How it works
- A Labeled Diagram
- Procedure
- Photographs
- Advertisement
- Conclusion (including research and observations)

### Tips for a Quality Display

- Design your display board so that it represents your invention clearly and attractively.
- Titles and subtitles should be large and clear.
- If possible, all information for the board should be typed and printed from a computer.
  - Alternatively, you can use stencils, stickers, or other easy-to-read, creative titles/subtitles ONLY – not for main text.
- Use colorful paper to make borders and frames for your titles and information.
- Do not leave large empty spaces on the display board.



- Include photos and drawings.
- Balance the arrangement of materials on the board.
- Rubber cement, glue dots, or double-sided tape is neater than white school glue.
- BE CREATIVE

## Invention Convention Progress Report


Please fill out this document and return to school by: \_\_\_\_\_

Directions: Check “yes” or “no” for each item. If you check “no” for any item, please provide an explanation in the comment field.

	yes	no	Comments
Have you gathered all your materials you will need for your invention?			
Have you begun creating your invention?			
Are you taking photos of your invention progress?			
Have you been writing in your Inventor’s Journal?			
Have you begun assembling your presentation board?			
Are there any issues or problems your teacher should know about?			(if yes, explain)

Material List:

Simple sketch of the Invention



\*I certify this progress report is true and is an accurate representation of my progress.

Inventor's Signature: \_\_\_\_\_

Parent Signature: \_\_\_\_\_

Teacher Signature: \_\_\_\_\_

# Intent to Invent

## Application for Approval of Invention

Inventor's Name: \_\_\_\_\_

Date of Application: \_\_\_\_\_

Working Name of Invention: \_\_\_\_\_

Brief description of my Invention (including your 3D printer element):

The problem that my invention will solve:

Materials I will be using in my invention:

I have determined to the best of my ability that my invention will be original. \_\_\_\_\_ (initial)

I will practice safety at all times. \_\_\_\_\_ (initial)

Student Signature: \_\_\_\_\_

Parent Signature: \_\_\_\_\_

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To be filled out by Mr. Matuchniak ONLY

Approved \_\_\_\_\_

Declined \_\_\_\_\_

Teacher Signature: \_\_\_\_\_

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