

gniting

LEARN

WELCOME

PEOPLE OF PLAY

POP

YOUNG INVENTOR
CHALLENGE

Design Guide and Logbook



This logbook belongs to:





Welcome to the Young Inventor's Challenge!

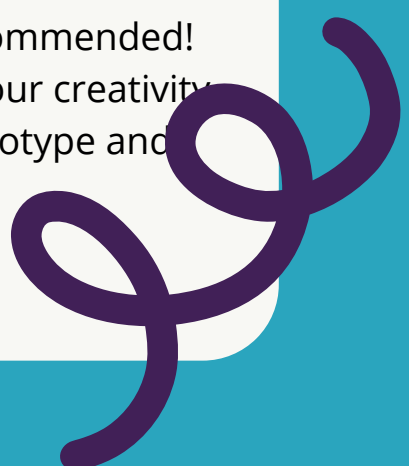
Our mission is to inspire the next generation to use creativity, critical thinking, and STEAM skills in the invention and innovation process and to connect professionals within the toy industry to mentor these young innovators in their design process.

The Annual Young Inventor Challenge, provides an opportunity for children ages 6 to 18 to develop and pitch their original inventions to major toy companies, industry professionals, members of the media and general public.

This unique and educational experience ignites imagination, creativity and presentation skills like no other, providing a means of taking these inventions to greater heights, with professional critiques from our industry experts.

We are the only young inventor program that has sponsorship and mentoring participation from top toy and game manufacturers around the world. Many of the winning inventions have been licensed by these global companies and can be found on store shelves today!

Use this Inventor's Design Guide to create your greatest invention! It is not required to use the Design Guide, but it is recommended! The Inventor's Design Guide is designed to help spur your creativity and give you tips on creating a thoughtful video, prototype and poster display.





The What and How of Invention

What is invention?

Invention is creating something new, something that doesn't exist yet. Invention is also taking something that does exist and making a BIG improvement on it. Often, invention happens when someone is trying to solve a problem or they wish there was a better way to do something.

How is game and toy invention different?

Unlike inventions for new equipment or household products that solve problems, the goal of game and toy invention is to create FUN! Something new that gets people's attention and brings them together to interact, laugh, and connect with each other through play.

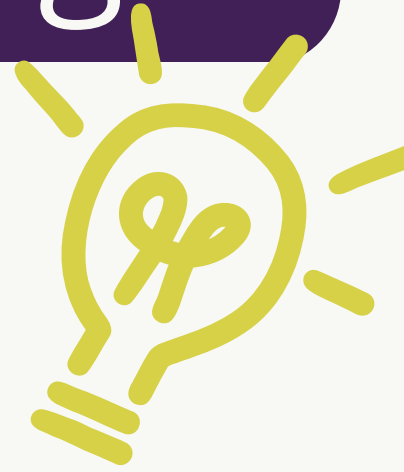
What are some of your favorite toys and games?

Who do you like to play with? Alone? With Friends? With Family?



Brainstorming

It is called Brain Storming because it is meant to get ideas pouring out of your mind as furiously as rain pours down out of thunder clouds in a huge storm! Brainstorming can be done by yourself, but is usually more fun to do in a group – with a couple of your classmates, friends or parents for instance.



The 3 Rules of Brainstorming

1. There are no BAD ideas...only MORE ideas.

In a Brainstorm, an idea is never judged or dismissed – it can only be saved or added onto.

2. The “YES! AND...” rule

The word “NO” is strictly forbidden from a Brainstorm! When you hear an idea from another person, you must always respond with the words “YES! And...” followed by a suggestion to add to the idea pile.

For example:

Susan says “ what if we hid the Rubber Ducks and people gave singing hints?

David responds “ YES! And... what if people had to sing louder the closer you got to the Rubber Ducks?

Jerry responds “YES! And...what if the people had to use a duck quacking sound after they sang?

3. Write down EVERY IDEA. No matter how ridiculous... in fact write it BIGGER if it’s especially ridiculous!

Use the space below to brainstorm some super silly ideas!!





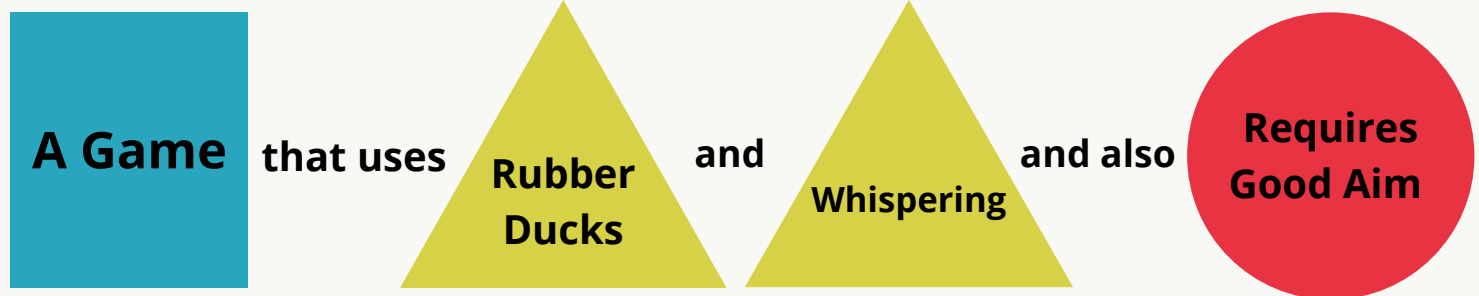
Brainstorm Starter

This Brainstorm Starter uses a process called **Lateral Thinking** - because by trying to fit random attributes together it takes your brain "sideways" instead of in a straight logical line of thought.

Instructions:

1. Combine one blue rectangle item, with 2 green triangle items, and then add one circle.
2. Write down the sentence you create in your Log Book and try to imagine the sentence coming to life

Example:



One idea for a toy that uses whispering and rubber ducks could be called "The Duck Whisperer." It is a game where players take turns drawing a vocabulary card, whispering the secret word to the next player and that player then attempts to throw a rubber duck into a target depending on if the word is a noun, verb or adjective.

The game includes a target board with different sections designated for nouns, verbs, and adjectives, a set of rubber ducks and a set of whisper vocabulary cards. Each round, one player whispers a secret message or word to the next player, who must then try to throw a bean bag into the target board, trying to land it on the section corresponding to the whispered word.

For example, if the whispered message is "dog," the player would try to throw the bean bag into the section labeled "noun" on the target board. If they succeed, they get the corresponding points. If they don't, they get no points and the next player takes their turn. The player with the most points at the end of the game wins.

This toy not only provides an entertaining game, but also encourages children to develop their vocabulary and grammatical skills and improve their focus and concentration as they try to accurately throw the rubber duck into the correct section of the target.

Now You Try!

Pick 1 square + 2 triangles + 1 circle and write the sentence in your logbook. Imagine, discuss, and sketch pictures of your ideas for your sentence quickly

A Sensory
Toy

A Game

A Craft
Activity

A Stuffed
Animal

A Building
Toy

Balloons

Popsicle
Sticks

Crayons

Yarn

Rubber
Ducks

Singing

Hopping

Skipping

Tip-
toeing

Drawing

Disguises

Slime

Dolls

Books

Blocks

Helps You
Learn

Is Played In
a Car

You Can Play
Alone

Helps You
Learn Math
Facts

Is About
Another
Culture

Teaches a
Skill

Is About
Animals

You Wear or
Eat It



Lateral Thinking Ideas



Provocative Propositions

Provocative Propositions are a type of statement or challenge that makes us think about existing things from a brand new perspective.

Try the same Brainstorm techniques using these to come up with more ideas for your Log Book.

1. Opposite and Upside Down. Choose a popular toy or game. What if you turn it upside down or make it do the opposite of what it is supposed to do (for example, an Upside Down Skate Board, or change Monopoly rules to try to lose the most money)

Now use the “YES! And..” brainstorm process and write down the new ideas that pop out.



Brainstorms



Evolve It. Starting with a game or toy that already exists, brainstorm 5 ways it would change if you used different materials or by changing the form (EX: What if the cards were fabric or what if this flat board game was now a sphere?)



I wish I could... Write down 5 things you wish you and your friends or family could do in real life. They could be fantasy "Living On Jupiter" or more aspirational "Saving the Polar Bears". Write these into the Ovals on the Brainstorm Starter and make sentences that get your imagination in gear



Picking Your Invention Direction

With so many ideas generated from Brainstorming, how do you pick which one to develop as your invention? Picking which of your incredible ideas to work on can be very challenging. To help with this important decision we are going to use a combination of intuition and analytics to narrow it down.

Step 1: Read through your Log Book and circle your favorite 5 ideas. Maybe you just love the name, a special feature, or the excitement you feel when you think about the idea. The ideas don't have to be fully thought through at all –that is the next phase. Think of it as just an Invention direction you want to explore further.

Step 2: Give each of your 5 ideas a rating using the **I.D.E.A Rating System** below. I=Innovativeness, D= Desirability, E=Educate-ability, and A=Amazing-ness. Look at each of you 5 favorites and put 1,2, or 3 stars next to each one for EACH ofthe I.D.E.A rating categories

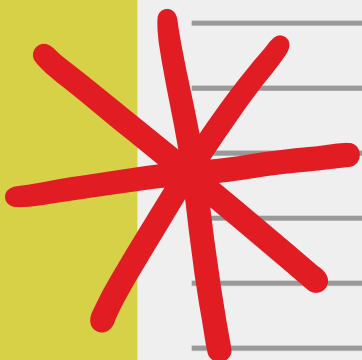
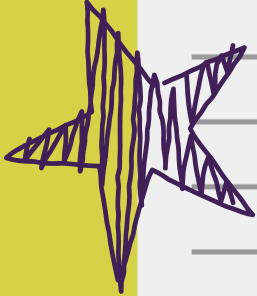
I.D.E.A Rating System



I.D.E.A Rating System	★	★★	★★★
Innovativeness	I have seen an idea SIMILAR to this before but my idea is different	I have seen an idea KIND OF LIKE THIS before but my idea has a BIG difference	I have NEVER SEEN ANYTHING like this in my whole life even when I Google it!
Desirability	I can imagine SOME people wanting to play this game or toy	I can imagine A LOT of people wanting to play this game or toy	I can imagine EVERYONE wanting to play with this game or toy
Educate-ability	People MAY LEARN something when they play	People WILL LEARN something when they play	People WILL EASILY LEARN something important when they play
Amazing-ness	I can imagine people SMILING when they play with this	I can imagine people saying "WOW!" when they play with this	I can imagine people BEING COMPLETELY AMAZED when they play with this

Step 3: Now add the total stars next to each idea. Is there a clear winner?

This will be the Invention Direction you will begin with. If you don't like the idea after you have developed it, you can always set it aside and try working on one of your other favorites, or come back and try brainstorming again to see if you get something even better!



Now It's Time to
Develop Your
Idea



Name It

Now that you have picked your Invention Direction it's time to name it! Try to come up with 5 or 6 names that communicate the idea instantly, is fun to say, and is original. Write all the names you think of in your Log Book and find some friends to try them out on. When you settle on one you love, write it in **GIANT LETTERS** in your Log Book!

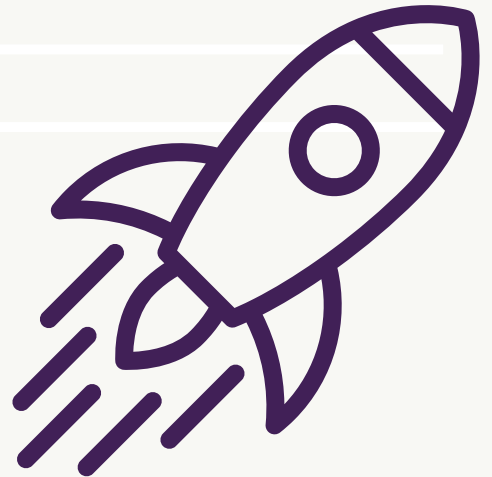


Invention Statement

Now come up with one sentence that explains what it is.

EX: "Green Destiny—the magical game that turns you into a house plant". You may need to write down several and try it out on friends and family before you find one that best describes your idea in one sentence. Once you decide, write it under your invention name. You may change this later but for now, this is your Invention Statement.

Note :



DEVELOPMENT

Ask yourself these questions:

Is this toy or game for younger kids, older kids, senior citizens, or all ages?

Theme: Will this game be about something like Dogs or American History, or will it be without a theme at all like Chess or a Ball?

Will it be played inside or outside? Standing up or sitting down?

If this is played on a table, can you do a version that you hold?

What parts does it need?

Describe how people play with it?

How many people can play? Will it work better with more people or less people?

When does it end? Do players have to reach a specific goal? Do they have to score a certain number of points or be the first to collect something?

What will it be made out from? Wood, plastic, metal? Which parts?

Do any of the parts move? How?

How safe is it to play with?

How big is it? What happens if you make it smaller or bigger?

• What colors do you imagine it being?





Create Your Prototype

A prototype is a model of your idea. It is the very first one of its kind! The goal of a prototype is to demonstrate what the toy or game will look and play like.

You want to be as complete as possible when making a prototype but, sometimes what you want to create is outside of your skills or budget. You can use **ANY MATERIAL** to make your prototype that demonstrates your concept. You can even take apart other toys to use mechanisms or pieces that are hard to make yourself, as long as they are used in a new way. You can even use 3-D printing if you know how.

Please make sure to give credit in your logbook if you had help with any part of the development of your prototype. Use your poster display and your log book to help describe the parts of your invention that you can't make. The most important part is being able to communicate your idea.

What can't be done today might be possible tomorrow. Remember, a prototype is not a final product. It doesn't need to be pretty or polished. It's good for the prototype to resemble the finished product as much as possible but you should avoid spending a lot of money on parts until you are more experienced as an inventor.

STEP 1: INVENTION DIAGRAM

Draw a diagram sketch of your invention. • Draw the whole toy or game... think about what it looks like from the front, back, top... • Draw arrows to the important parts with notes about what they are and how they are used. • What are the important details?



Not everyone is a terrific artist or makes good diagrams. That's OK! The most important thing is for you to understand what you need, and tell/show others how it works.

STEP 2: MATERIALS NEEDED

Now make a list of all the materials you will need.

What physical parts do you need?

For example:

- 1 Sheet of Cardboard
- 4 dice
- 6 rubber chickens
- 1 can of slime
- 2 Pairs of sunglasses
- 3 small round mirrors
- 4 old car keys

Include this list in your Log Book



STEP 3: BUILD IT!

Gather your materials to assemble your first rough prototype to test out your idea. It's a good idea to spend time testing your game or toy before making a final prototype.

It's not uncommon for a prototype to undergo several changes or even be rebuilt completely. You make changes based on feedback or comments received from the people that play with your invention to either improve on the things they like or remove things they don't like.

STEP 4: RULES AND INSTRUCTIONS

You must write instructions and/or rules so people know how to use it. The instructions don't need to be long but they do need to be clear. Make sure to number your instructions.

Written instructions **MUST** be included as part of your entry in the Young InventorChallenge

Remember, people will read them! Make them using a computer your best handwriting. Consider drawing illustrations or using photos to show how to play with it. Edit your written instructions for proper grammar and punctuation so people understand your instructions clearly. Check out this video to see examples of past prototypes and poster



PLAY TEST YOUR PROTOTYPE

You must test your prototype. Gather your family and friends to help you test your game or toy. Play with it several times, then ask them to tell you what they think.

•

Would they play with your invention again?

•

What did they like the most?

•

What didn't they like?

•

Was it too long?

•

Were the instructions clear?

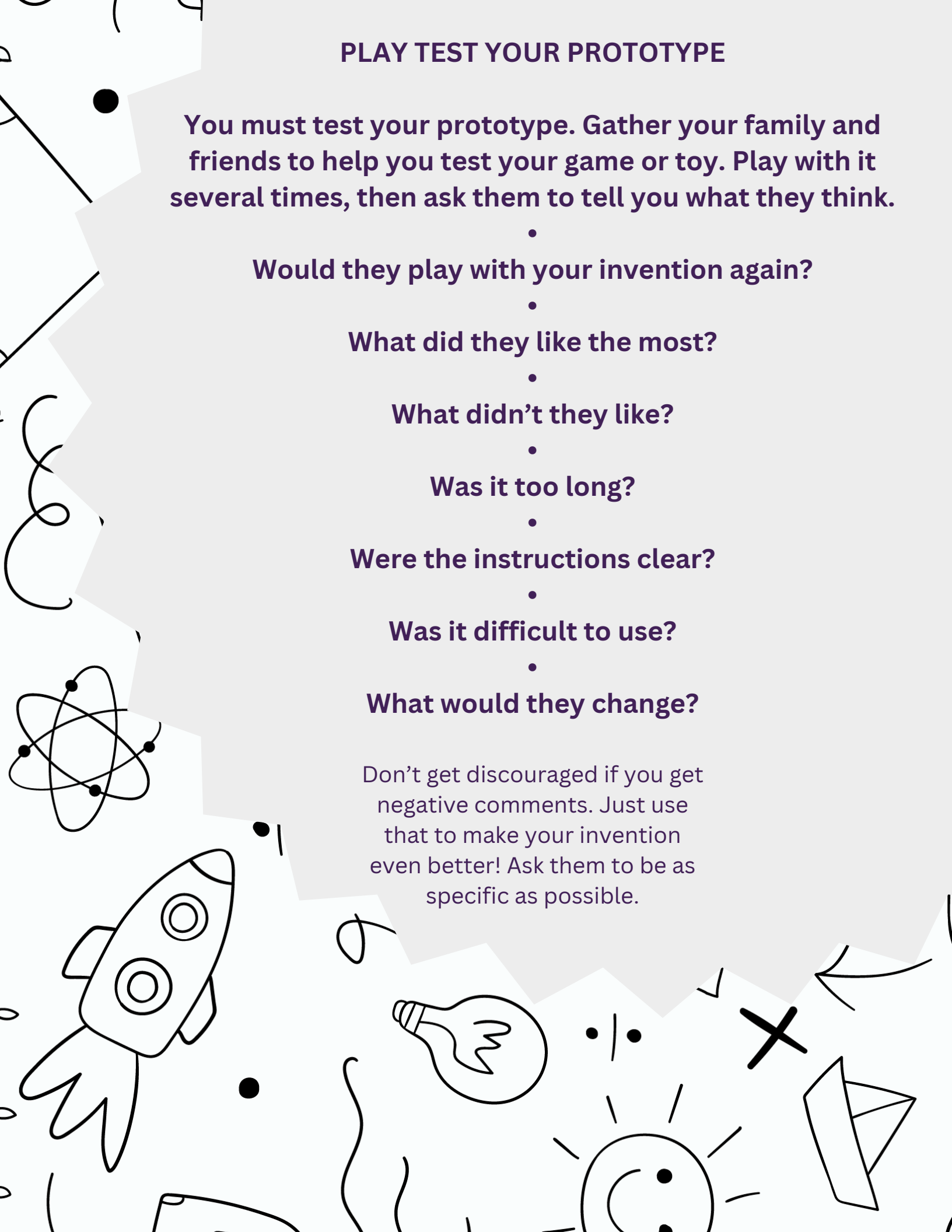
•

Was it difficult to use?

•

What would they change?

Don't get discouraged if you get negative comments. Just use that to make your invention even better! Ask them to be as specific as possible.



Make Your Pitch Video

Here are some useful links to help you with your Pitch Video: •“How To”makea Pitch Video: <https://www.youtube.com/watch?v=0Anwzc3XLXw> |

•Example of a Pitch Video for the game Loot:
<https://www.youtube.com/watch?v=yiKLWWoo7fo>

•Example of a Pitch Video for the Basset Bowl:
<https://www.youtube.com/watch?v=A4L85d0BwNwRequirements:>

- Your pitch video must be between 2 and 4 minutes long.
- SHOW US how your game or toy works! Don't just tell us about it. This is your chance to demonstrate your amazing invention.
- Your video MUST be filmed horizontally (in landscape mode)
- Parents or friends may prompt you with questions on the video
- Upload your video to YouTube, Vimeo or other online storage space.

Add the link for your video into the registration form when you are ready!

- It is VERY IMPORTANT to set your video privacy settings to “Public” or “Unlisted” in YouTube or Vimeo, or share it from Google Drive so that “Anyone with the link can view”.

If you do not do this the Mentors cannot see your video and your project will not be considered for prizes, and you will not receive feedback from the Mentors

•See the StudentResources tab on our website for pitch video examples and more information and about making a GREAT PITCH videos!

Make Your Poster Display

Check out this video to see examples of past prototypes and poster boards:
<https://vimeo.com/204351118>

Design Tips:

•
Plan your display before gluing or taping anything. Draw a sketch on a piece of paper first.

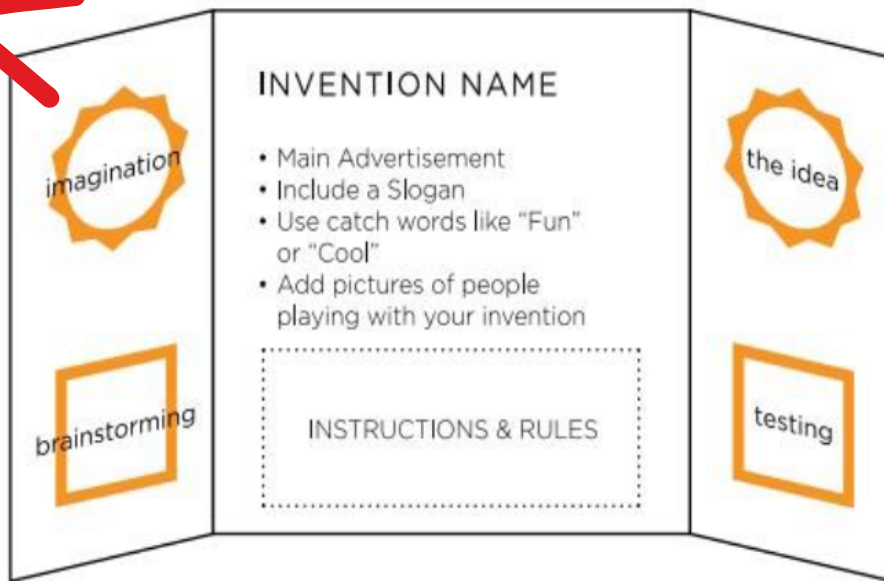
•
Use appropriate fonts. If you want it to look fun and creative, use a more unusual font with swirls or offset letters. Just make sure it is readable.

•
Use colored paper to create a background behind white materials.

•
Think about including arrows or numbers to guide the reader through the sequence if it's complicated.

•
Place your advertisement and/or slogan in a prominent position on your poster board.

•
Pictures of people playing with your toy/game can brighten up your display.



This design is an example only. You may use your imagination and creativity to make your own display that:

- A) demonstrates the process you went through to invent your game or toy
- B) Contains a marketing message to persuade customers to buy your invention
- C) Include Rules and Instructions on the Poster or on the table