

Invention Convention Videos

4.A Extraordinaires Design Studio

- https://www.youtube.com/watch?v=5vUOJ_WmAPy&ab_channel=WeAreHubGames



The Extraordinaires Design Studio

Marbles The Brain Store

Subscribe

1,167 views

- https://www.youtube.com/watch?v=xH-xu5agaJl&ab_channel=MarblesTheBrainStore



Video approved for fadtk12.net

The Extraordinaires Design Studio

Subscribe

2,263 views

4.4a What's the Problem

- https://www.youtube.com/watch?v=XiuU1mlFeEc&ab_channel=TheNewYorker

Video not approved for fadtk12.net



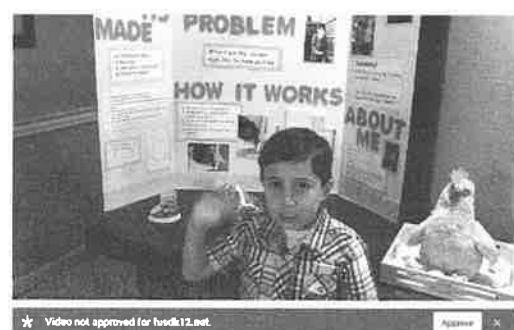
11 Kid Inventors Break Down Their Greatest Inventions | The New Yorker

The New Yorker

Subscribe

19,885 views

- https://www.youtube.com/watch?v=001cIT3k_rKc&ab_channel=HattersTV



Video not approved for fadtk12.net

Invention Convention 2017 State Winners

HattersTV

Subscribe

3,727 views

4.4b What's the Problem

(Parent Experts – USPTO meetings)

- https://www.youtube.com/watch?v=kmvAeCLOIHQ&ab_channel=USPTOvideo



4.1 What is an Invention?

4.2 Brainstorm 101

4.3 What is an Invention (Rubric)

4.4c What's the Problem

- http://nationalinventioncurriculum.org/lesson/3_to_5/identifying/overview



4.4d What's the Problem

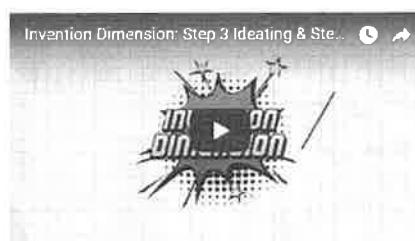
- http://nationalinventioncurriculum.org/lesson/3_to_5/understanding/overview



4.5 Take-Apart Activity

4.6 Ideating/Invention Log

- http://nationalinventioncurriculum.org/lesson/3_to_5/ideating/overview



4.7 Building (Prototype)

Brainstorm 101 (Ask/Improve)

- http://nationalinventioncurriculum.org/lesson/3_to_5/building/overview



4.8 Intent to Invent - Testing

- http://nationalinventioncurriculum.org/lesson/3_to_5/testing/overview



4.9 Egg Drop Challenge

- 1st place Egg Drop project ideas- using SCIENCE - Mark Rober
- https://www.youtube.com/watch?v=nsnyl8llfh4&t=5s&ab_channel=MarkRober



4.10 9 Steps to Inventing

4.11 Mystery Bag

4.12 Communicating

- http://nationalinventioncurriculum.org/lesson/3_to_5/communicating/overview



4.13 Logo

- https://www.youtube.com/watch?v=_n0_FmqttJk&ab_channel=Entrepreneur



Fourth Grade

1. What is an Invention?

School Survey

Rubric

2. Brainstorming 101



S.C.A.M.P.E.R.

Paper Cup

3. What is an Invention

4. What's the Problem

5. Take Apart Workshop



Wind-Up

6. Invention Log/Introduction

7. Brainstorm 101 (Ask/Improve)

8. Intent to Invent

9. Egg Drop Challenge

10. 9 Steps to Inventing

11. Mystery Bag

12. Intent to Present

13. Design a Logo

The Extraordinaires Design Studio

Doodle, design & share your inventions!



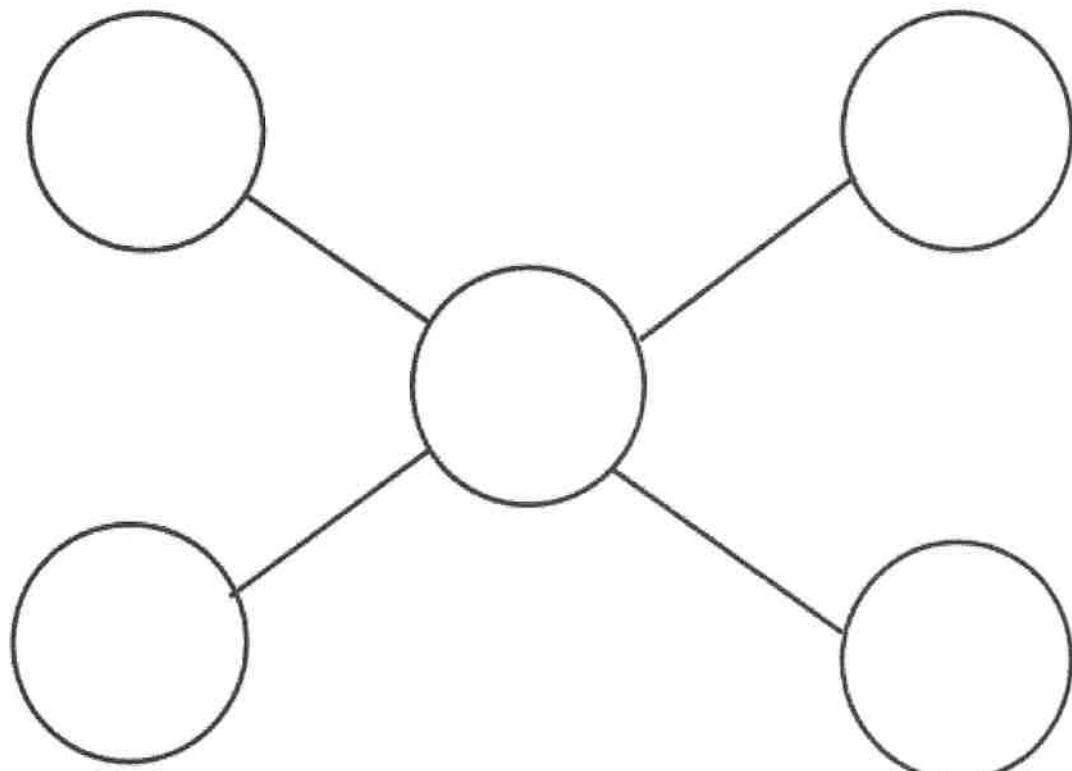
Character: _____

Object: _____

The Extraordinaires® Design Studio is an incredibly educational game that will get you and your kids inventing, thinking of original solutions to problems.

Think Cards - Research:

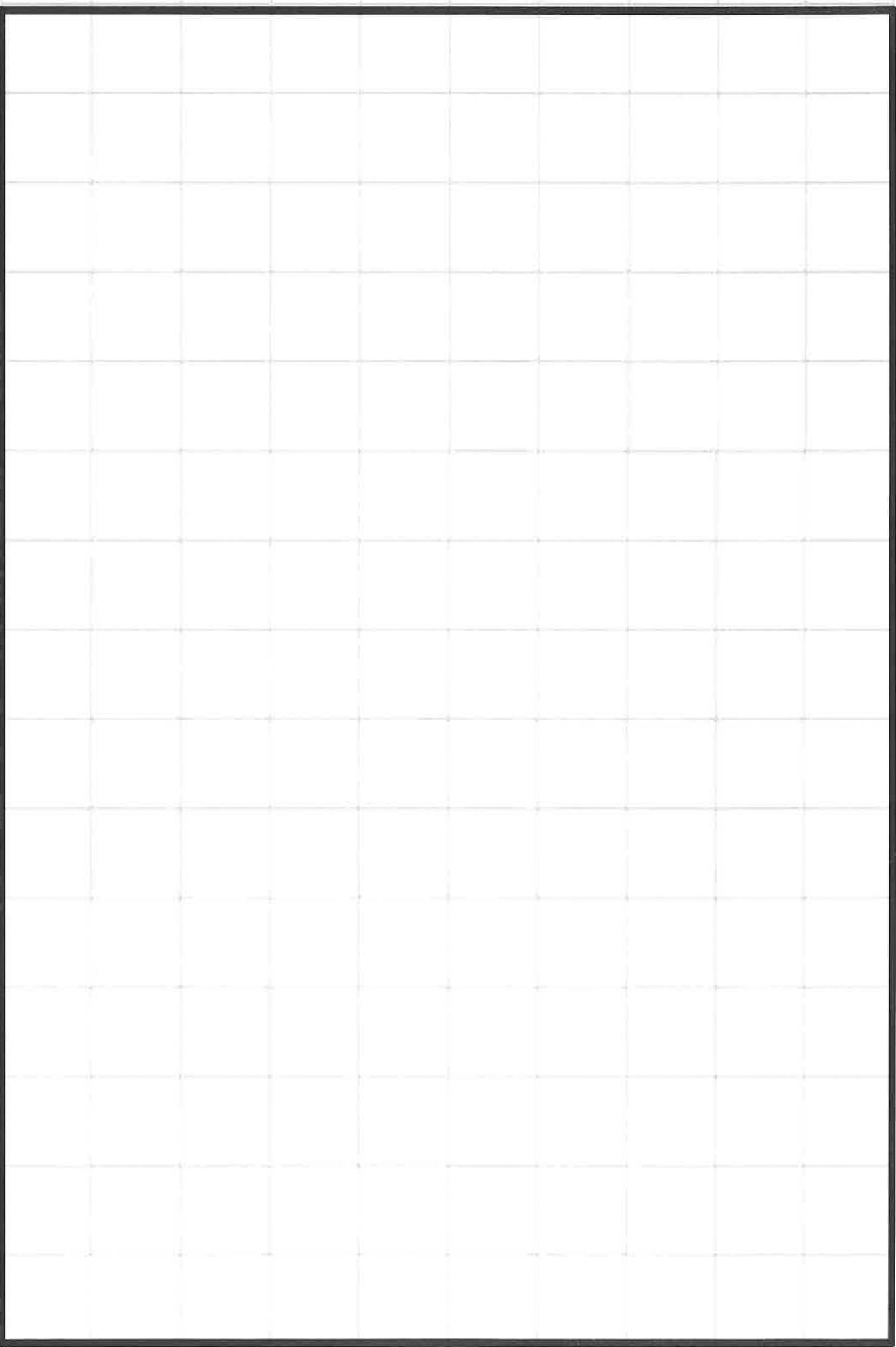
Bubble Map: Describe Things, vocabulary, adjectives or adjective phrases, Characters



Select a Character card and an Object card.

Choose one Extraordinaire to design for and an object to design for that character. Read and review the Extraordinaire's Character card to learn something about him/her, the world he/she lives in and some specific needs (or wants) he/she may have.

Think Cards - Design:





St # _____

Name _____
Date _____

Pirate Shop Scamper



Supplies:

- _____
- _____
- _____
- _____
- _____
- _____

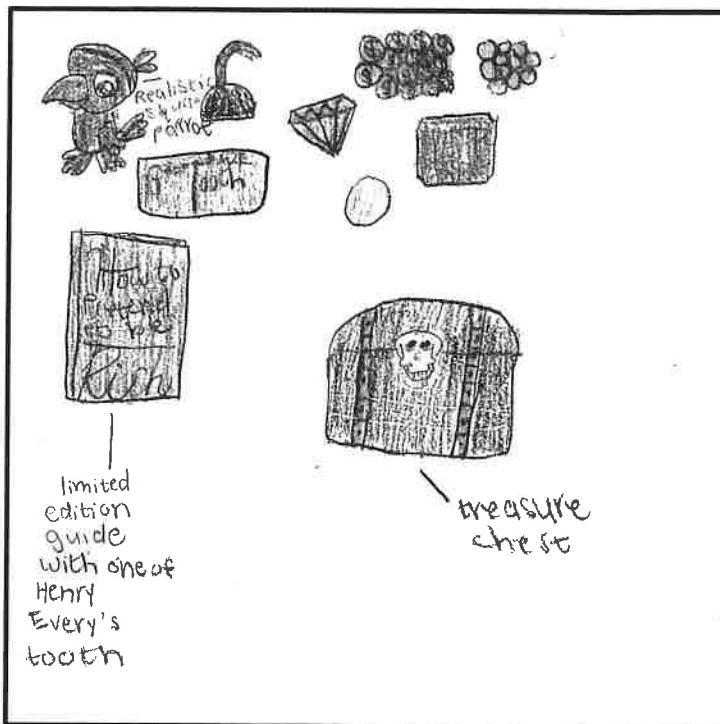
Description:



St # 20

Name Nisha Prakash
Date 9/20/18

Pirate Shop Scamper



Supplies:

- plastic gems/coins
- fake tooth (scam)
- toy parrot that squawks
- treasure chest
- fake 80K gold tooth
- paper + pen (for guide)

Description:

How to Pretend to be Rich Kit

Instead of getting embarrassed in the Pirate Council by having no gold, get this sensational kit for \$800.92! But if you come on a Sunday, there is a special deal for \$400.22! You can assemble the contents in the kit, read a few of our bonus lies, tell it to the president in PC, and people are going to be jealous! But fear not, we have a jealousy removal potion (sold separately)! So, come on and have an amazing time being head of PC!

visit www.piratejunk.com

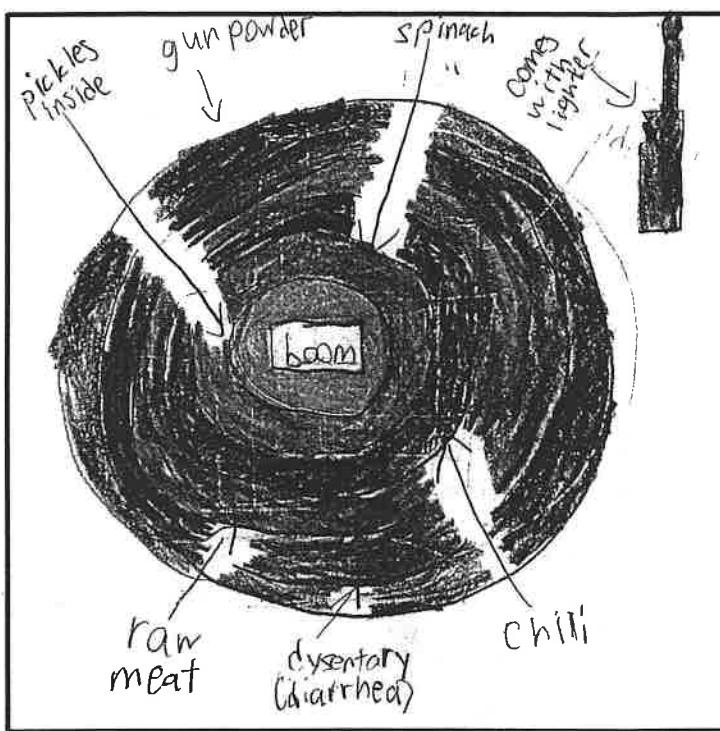
St # 25



Name Terrance

Date 9/20/18

Pirate Shop Scamper



Supplies:

- pickles
- gunpowder
- spinach
- chili
- raw meat
- diarrhea
- lighter
- microwave
- ~~newbreakers~~

Description:

This candy is called the "boom" there is gunpowder on the outside diarrhea, raw meat, chili, spinach, and pickles. The lighter that comes with it allows you to eat it a much better way. You can light it on fire and all of it will explode on your face. We are already out of buy it now! We have a very reasonable priced \$10,000,000,000.00. For more information go to www.cheapcandy.com or call (000)-000-0000 shipping is 4 million dollars so again buy now!

✓

St # 17



Name Aditya
Date 9/20/18

Pirate Shop Scamper



Supplies:

- Giant oreo filled with ice cream
- MnMs
- snicker bars
- chocolate syrup
- crushed Kit Kat

Description:

My item is a storm. Normally storms are really bad. This one is tasty! The oreo is a cloud. Frozen chocolate makes lightning. Kit kats look like hail about to fall. MnMs for rain. And a snicker bar to add some more taste!

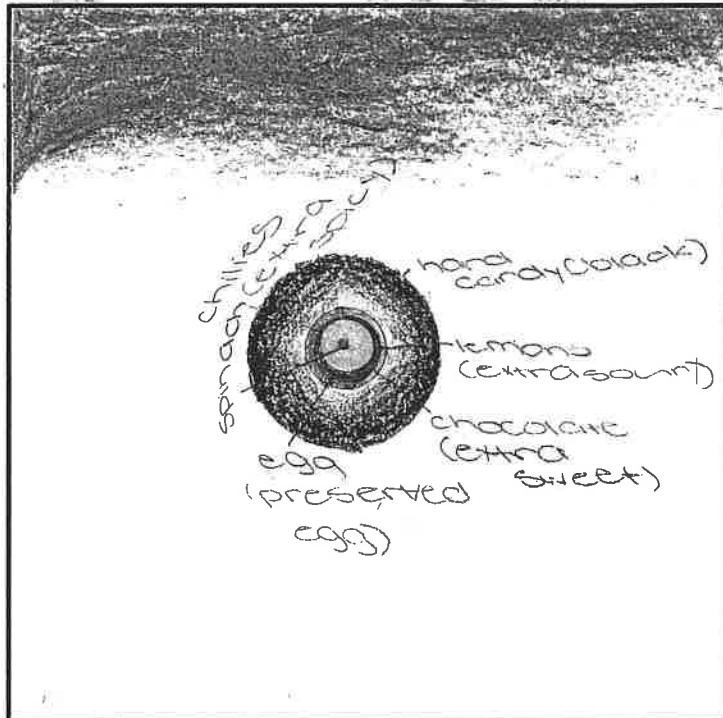
Never start a sentence with "And."



St # 24

Name Kaylin
Date 9/20/18

Pirate Shop Scamper



- Supplies: (outside)
- hard black candy
 - ankles (inside)
 - lemons
 - chocolate (white)
 - egg
 - spinach

Description:

My item is called "The Evil Cannonball Candy". You get 200 cannonballs per pack. It looks like a cannonball and you won't imagine what flavors are inside until you actually eat it. It also has many different flavors, such as, spicy, sour, sweet, and etc. It's delicious and a great deal. So for unlimited time, you get 0% off. Buy now!!! 300\$ with 0% off!! For more information, visit www.cheapcandy.com or call now for \$500. Call (000)000-0000. Shipping is 3 million dollars.

#3

Younga
10/9/18

Simple Invention	Complex Invention	Not an Invention
trash can	backpack	water
benches	school	fire
poles	water fountain	trees
ball	fountain	bush
bookshelf	binder	wood
lunch table	lunchbox	hills
door	bathroom	
handle	cars	
paper	motorcycles	
paint	computer	
clipboard	alarm clock	
hula hoop	watch	
jacket	playstructure	
pot	plane	
jump rope	mechanical pencil	
pencil	glasses	
eraser		

- an original creation no one has created before

Name: Soumya
Class: 3C

Date: 10/9/18



What is an Invention?

My idea of an invention is: an original creation no one has created before

Invention	Problem it Solves
trashcan	to not leave trash scattered
backpack	to not hold stuff
benches	don't have to stand
school	place to learn
poles	a thing to put a balloon
water fountain	don't have to use a pump
ball	so you don't have to be
binder	so you don't have to leave your paper scatter

What does it mean for an invention to be “*simple*” vs. “*complex*”?

A simple invention is easy to build and understand.
A complex invention is hard to build and to understand how it is built.

What does it mean for an invention to be “*old*” vs. “*new*”? Why do you think some inventions stay old and why we have new ones?

Some old inventions stay because, some people like to use them and want them. New inventions are made, because people want more time to do other stuff, and to look rich.

An invention is: a creation built or thought of by no one else

#3

Connecticut Invention Convention

What is an Invention: Student Self-Assessment

Soumya
10/9/18

NAME: Soumya 10/9/18

Directions: Read the statements below. Circle a number 1-4 to rate whether or not you agree with the statement or rate your performance on the task:

- 1-DO NOT AGREE or EMERGING, I could have done a lot better
- 2-SOMEWHAT AGREE or BEGINNER, I think I did okay
- 3-AGREE or PROFICIENT, I did everything well
- 4-STRONGLY AGREE or SKILLFUL, I did awesome

Understanding of Invention				Rating
I know how to define 'invention'	1	2	3	4
I know 'invention' is a term that can be used for many things	1	2	3	4
Finding Inventions in the School				
I found MANY inventions throughout the school	1	2	3	4
I thought of the problem those inventions solved	1	2	3	4
I understand that someone developed those inventions	1	2	3	4
I use the inventions from my list every day	1	2	3	4
Categorizing Inventions				Rating
I thought of different characteristics for the inventions	1	2	3	4
I understand what IS an invention	1	2	3	4
I understand what is NOT an invention	1	2	3	4
I can categorize my own list of inventions based on similarities and differences	1	2	3	4
Participation				Rating
I contributed to my group's discussion	1	2	3	4
I supported and listened to my peers' ideas	1	2	3	4
Average Total Score	2.8333			

SCAMPER Worksheet

Name: Emma

Science

Date: 11/27/17

Instructions: SCAMPER techniques are best used to improve and test an idea during the invention process. To learn how to SCAMPER, use a common object such as a paper bag, paper clip, comb, etc. Close your eyes and listen as someone reads each strategy aloud. Imagine in your "minds eye" what changes might happen if you perform each strategy to it. Record your ideas and be prepared to discuss your best changes.

What you would do	How it would change and what can you do with it now
Substitute What else? Who else? Other materials? Other approaches?	bucket, container, bowl, glass, holder, new - invention, can, (trash, food), watering can, spoon, box (plastic), Shaving holder sharpener, bottle, desk, vase, cabinet, tape dispenser
Combine Combined units? Combined ideas?	tape, glue, dough, clay, yarn, string, foil, staples, paint, paper, wire, chips, fabric, jewels, twine, twigs, beads, glitter, sticks
Adapt Other ideas? What else is like this? New uses?	patching, entertainment, containing, holding, pouring, crafts, massaging, breaking, comfort, decoration, drinking shelter, building, playing, painting
Modify New form? Add to? Take away?	make smaller, bowl is a modified cup, containers, shelters made from cups.
Magnify Greater frequency? Stronger? Higher? Longer?	tape cups together; double cups, apply a fair of tape around cut, (to make smaller)
Minimize Condensed? Omit? Subtract?	
Put to Other Use New uses? If modified, how would you use it?	as transportation, holding, massaging, and entertainment
Eliminate Remove parts of it	top, bottom, middle
Rearrange Interchange components? New pattern or layout? Sequence? Transpose cause and effect	If I "melt" the cup in the microwave, the wax would melt and form a chunk at the bottom
Reverse Positive to negative? Opposites? Reverse roles?	If you cut the bottom off, the cup wouldn't be able to hold anything

St # _____

Name _____
Date _____

SCAMPER a CUP



Supplies:

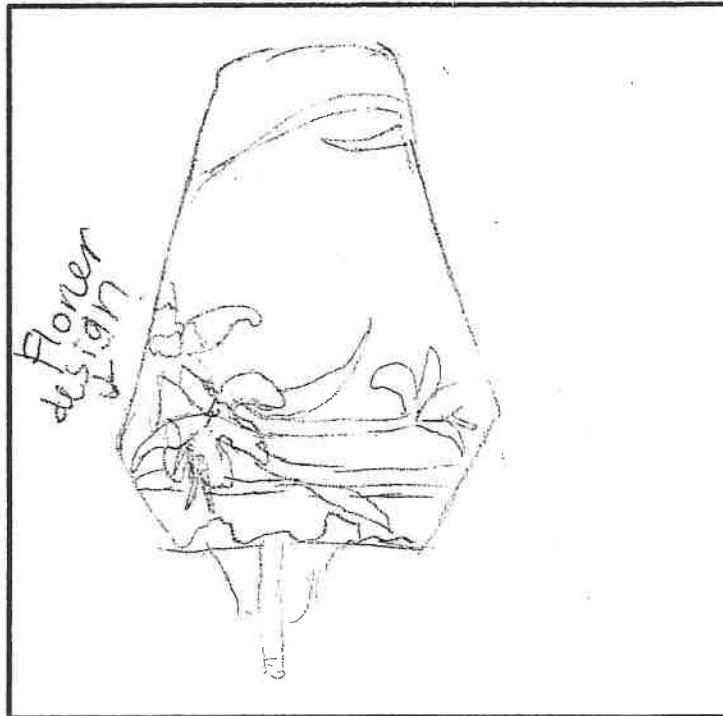
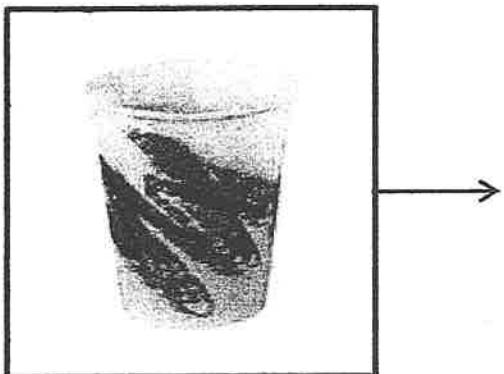
- _____
- _____
- _____
- _____
- _____
- _____

Description:

St # 13

Name Theodore
Date 12/11/17

SCAMPER a CUP

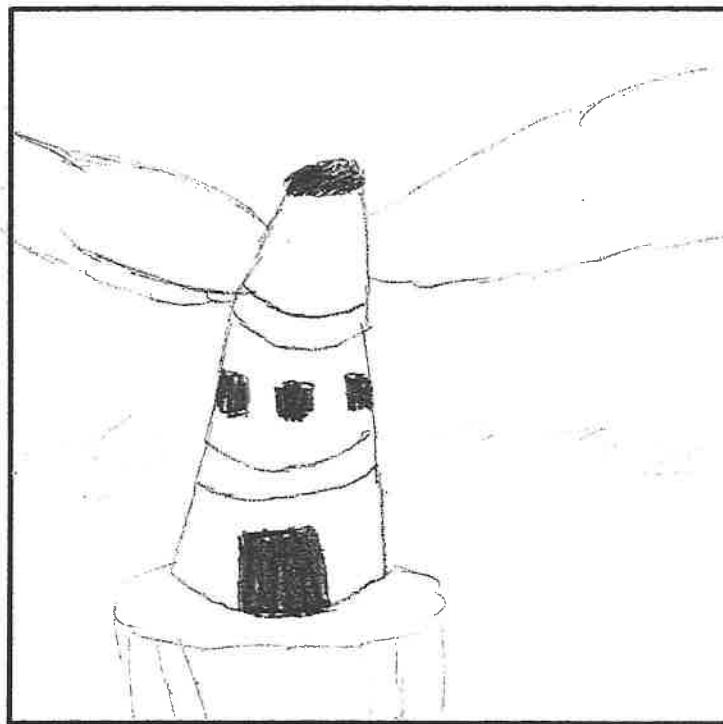


Supplies:

- 1 cup
- handful of beans
- 1 pencil
- aluminum foil
- tape
- _____

Description:

This invention is a shaking instrument. I used 1 cup, a handful of beans, 1 pencil, some aluminum foil, and tape to make this. This shaking instrument is used for entertainment and to let people know where you are by shaking it so they can find you. You can hold the instrument by any side of it. Since you can use plain cups for anything, then you can use this as anything. You can throw it around like a torpedo, and so much more! There are a lot of inventions to make with cups, or with anything!

SCAMPER a CUP

Supplies:

- 2 cups
- marker/construction
- glitter tape (optional)
- + light
-
-

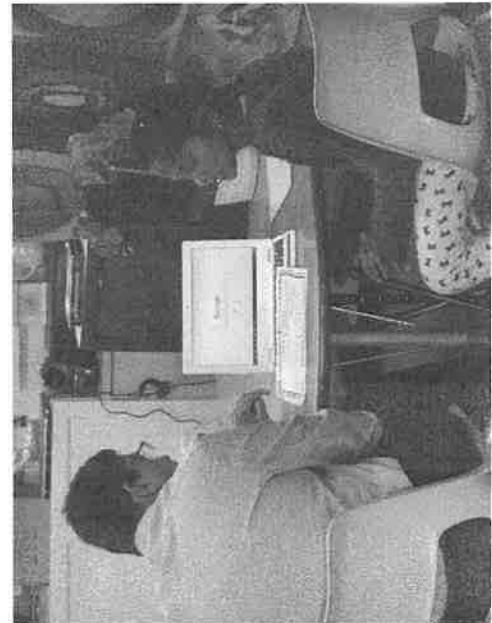
Description:

My invention is a lighthouse. A lighthouse is a tall building with a light on top. The lighthouse helps from ships to crash into the shore. The light goes in circles so, the sailor knows where to go. This is how I made this, first, I took one cup and taped green glitter tape and I also taped it on the bottom of the 2^d cup. Next, I took a black marker and make a door and four windows. Then, I took a + light and put it on a bigger cup and put a smaller cup. This is my lighthous invention.

USPTO

United States Patent and Trademark Office

Meetings with Parents





2018 Mead Room 30

Sign-Up Sheets**Invention Fact Checking****When:** Oct 17, 2018 8:30am to 9:30am

Date/Time	Shift Volunteers	Name	Comments
8:30am - 9:30am	Invention Fact Checking	Prashant C	
8:30am - 9:30am	Invention Fact Checking	Vineet K	
8:30am - 9:30am	Invention Fact Checking	Neelima g	Simrith mom

My invention

A sketch of my invention

The purpose of my invention

Name of invention

How my invention
works

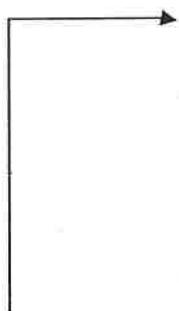
How my invention
will help others

St # _____

Name _____

Date _____

1. Ask: What are the problems? What isn't working?



5. Improve: (Repeat 1-5 times)

What can work better?

2. Imagine:

Brainstorming/Choose best idea

4. Create: Follow your plan/Test

Observations

3. Plan: Draw a diagram/Gather materials

Materials:

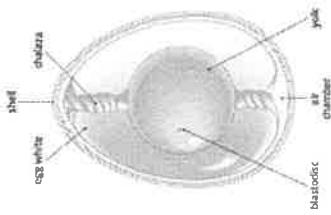


Egg Drop Challenge

Supplies

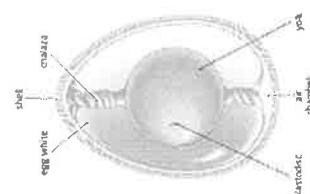


Egg Drop Challenge



Egg Drop Challenge

- Experiment Objective:** The aim of this project is to design a carrier that will prevent an egg from breaking when dropped from a certain height. Follow the rules on the next page to make sure your egg carrier will not be disqualified.



Egg Drop Challenge

Background Information:

Scientists and engineers have been working for many years to reduce the effect of impacts, primarily in the automobile industry. Efforts to reduce the primary impact (energy absorbing bumpers) and efforts to reduce the secondary impact (airbags, padded dashboards, collapsing steering wheels, and seatbelts) are commonplace.

In building the container, you should think about how the energy is converted from potential energy to kinetic energy, and the work done on the container and the work done on the eggs.

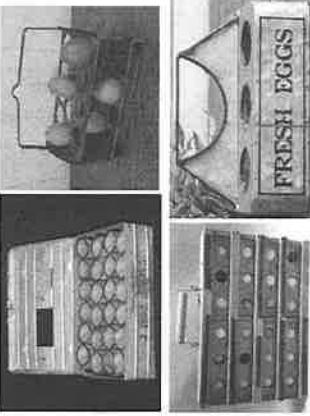
Egg Drop Challenge

Rules:

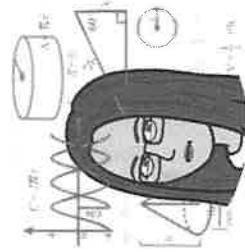
1. Your egg carrier must be able to be opened between drops to see if it has cracked. Do not tape it completely closed, instead make an access door.
2. You may not coat your egg in anything. The egg must be in its original form.

Egg Drop Challenge

Egg Drop Challenge



Video - Kinetic and Potential Energy



Egg Drop Challenge

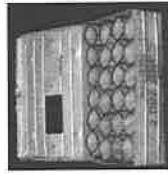
Specifications/ Details:

1. You may use any materials you have been given to create your carrier.
2. We will drop the eggs 3 times. First from my height (5'5"), secondly with my arm raised high above my head and thirdly from a ladder.
3. If we have a tie we will throw the eggs high in the air and see which one wins.

Egg Drop Challenge

Mark Rober

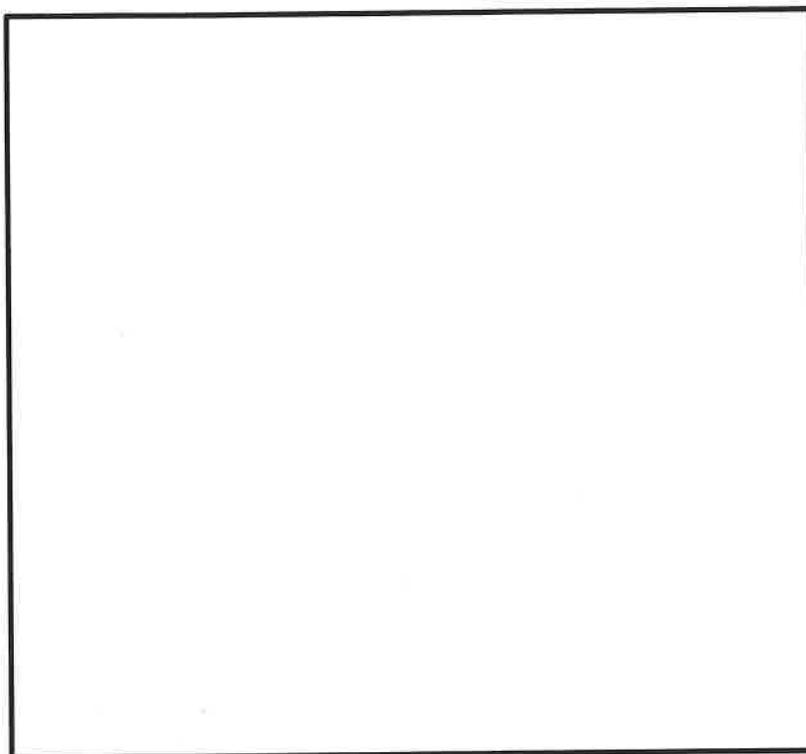
https://www.youtube.com/watch?v=nrzr7yJIII4&t=0m5s&_channel=MarksRober



St # _____

Name _____

Logo Sketch



Your INVENTION needs a company name and a logo. Create a design that shows the kind of product you have created.

Include/Think about:

- Name of the Company
- Simple graphic
- No more than 4 colors
- Consider the shape of the logo
- The logo is easy to understand, even at a distance
- **MAKE IT MEMORABLE!!**

Create a thumbnail sketch. Your work MUST be presented NEATLY or it will be RE-DONE! Be sure to clean up your pencil lines, outline your work to finalize it, color in neatly using ONLY colored pencils, you MAY outline in marker if you wish.

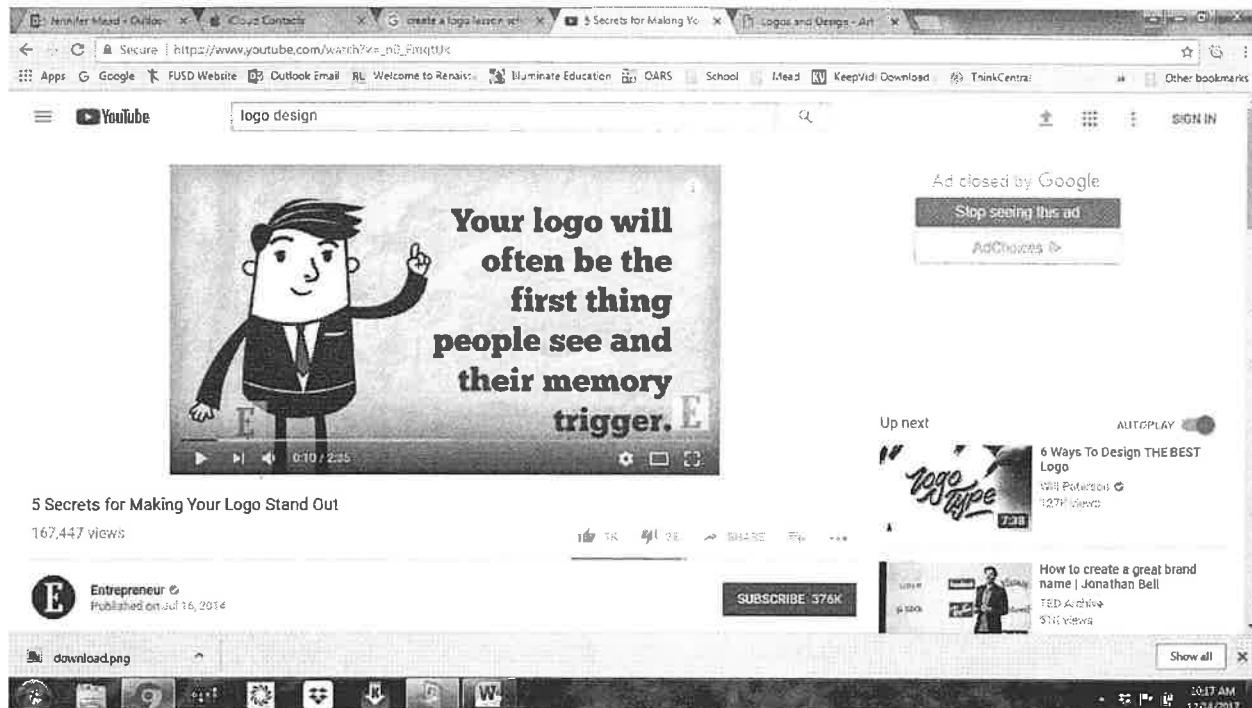
Judging Sheet:

Graphic Design

Entry Level:	Years 1-2	Years 3-4	Years 5-6	Years 7-8	
Entry Title:	School:			Name:	
Criteria:	Beginner	Apprentice	Expert	Master	Score:
Visual Impact	1-5 points Little visual impact.	6-10 points Parts of the design have visual impact.	11-15 points Good visual impact, Attractive and eye catching.	16-20 points Has the wow! factor, Extremely attractive and eye catching.	
Message	The design imparts some information but has no real purpose.	The design imparts a point of view or information but purpose is difficult to understand.	The design imparts a very clear point of view or information. Purpose is clear.	The design imparts a powerful point of view or information. Purpose is immediately understood.	
Use of text, images, symbols and graphs.	Shows very little use of applicable text, images and symbols.	Shows use of applicable text, images and symbols.	Shows good use of applicable text, images and symbols.	Shows excellent use of applicable text, images and symbols.	
Relationship and flow between elements.	Little relationship and flow between the elements of the design.	Some relationship and flow between the elements of the design.	Good relationship and flow between the elements of the design.	Excellent relationship and flow between the elements of the design.	
Comments:				Total Score:	

Logo Lesson (4.6)

https://www.youtube.com/watch?v=n0_FmqttJk



LINE
A line is a mark between two points. There are various types of lines, from straight to squiggly and more. Lines can be used for a wide range of purposes: stressing a word or phrase, connecting content to one another, creating patterns and much more.

COLOR
Color is used to generate emotion, define importance, create visual interest and more. CMYK (cyan/magenta/yellow/black) is subtractive; RGB (red/green/blue) is additive. Some colors are warm and active (orange, red); some are cool and passive (blue, purple). These are various color types (primary to analogous) and relationships (monochromatic to triad) worth learning more about as well.

TEXTURE
Texture relates the to surface of an object; the look or feel of it. Concrete has a rough texture; drywall has a smooth and subtle texture. Using texture in design is a great way to add depth and visual interest. Printed material has actual texture; while screen material has implied texture.

SHAPE
Shapes & white space. We all learned basic shapes in grade school – triangles, squares, circles and rectangles. But other, more complex shapes can be used to attract attention.

ELEMENTS OF DESIGN
quick reference sheet

SIZE
Size is how small or large something is. A small shirt vs. an extra large shirt, for example. Use size to define importance, create visual interest in a design (e.g. contrasting sizes), attract attention and more.

VALUE
Value is how light or how dark an area looks. A gradient, shown above, is a great way to visualize value – everything from dark to white, all the shades in-between, has a value. Use value to create depth and light, to create a pattern, to lead the eye, or to emphasize.

SPACE
Space is the area around or between elements in a design. It can be used to separate or group information. It's effectively to give the eye a rest during importance; lead the eye through a design and more.

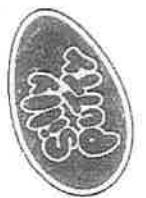


Velcro

- Yellow light
 - Scavenging
 - 2 different types
 - Micro flora & fauna
 - Tie Antigens
 - Bactericidal antibodies
 - Used for antigen
 - Used for antibody
 - Organ specific antibodies
 - No common antigen
 - Bind to antigen in blood
 - Capillaries
 - Last synthesis



Chocolate Chip Cookie



Silly putty

- | | |
|--------------------|--------------------------|
| • stretchy | <u>can be stretched</u> |
| • drink | <u>can be drunk</u> |
| • washable | <u>can be washed</u> |
| • something | <u>can be shaped</u> |
| • message | <u>can be sent</u> |
| • drinkable | <u>can be drunk</u> |
| • holds things | <u>can be held</u> |
| • sticky | <u>can be stuck</u> |
| • white board | <u>can be written on</u> |
| • something smelly | <u>smells</u> |



Ivory Soap



Post-it Notes



Ivory Soap

- can be many
 - can be few
 - different stages
 - mistakes
 - ignorance
 - unwillingness
 - in storage
 - some