

## Challenge #1: Kitchen Gadget Re-Engineered

In this activity, you will look for and select one gadget from the Kitchen and re-engineer it to either work better or do something completely different. Have fun being creative while learning how engineers refine and test their ideas.

### Challenge Objective

The objective of this challenge is to select one kitchen gadget and either improve how it works or find a way to use it differently by making some changes on it. Use the chart below to work on your idea.

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### What You'll Need

- A variety of Kitchen gadgets to examine
- A printed version of the worksheet provided
- A pencil
- Markers, crayons, or colored pencils
- Poster board

### Instructions

1. Print the worksheet provided on the next page.
2. Select one kitchen gadget that you want to work with.
3. Complete the chart for that gadget.
4. Use the poster board to draw your new gadget, name it and describe what it does and how it works.
5. How would you make it? What materials would you need?

### DID YOU KNOW?

In the Stone Age, way before the kitchen blender was invented, a set of two simple tools called a mortar and pestle was used to combine ingredients by manually crushing and grinding them into a fine paste or powder.

The mortar is a bowl usually made of hard wood, metal, ceramic or stone. The pestle is a club shaped tool used to do the crushing and grinding.



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**Kitchen Gadget Selected:**

What does it do?

What else could it do? (Maybe it could be used somewhere other than the kitchen...)

Can I combine it with something else? (Another kitchen gadget or maybe a school supply...)

Can I make it larger or smaller?

Can I change the parts of it around to make it do something else?

Could I eliminate a part of it?

**My new gadget is called:**

(be creative with your name – it could be named after you, or for what it does, or what it looks like)

**USING THE POSTERBOARD:**

Draw your new gadget and write about it – what does it do? How does it work? Who will use it?

## Challenge #2: Master Detective

In this activity, you will identify problems around you through detective work. Have fun while observing, asking questions, and taking notes and data to record your findings. This would be a fun activity to do as a team.

### Challenge Objective

The objective of this challenge is to be a master detective. Through observations, asking questions and taking notes on your findings, you will be identifying some of the most common problems people encounter during their day that an invention might solve.

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### What You'll Need

- A camera or cell phone with a camera
- A notebook
- A pencil or pen

### Instructions

1. Using the list below, you will need to find at least one problem you observe completing these tasks.
2. You will need to collect data of what you find.
3. Use your notebook and your camera to record your supporting data. If you take pictures of people, be sure you have their permission to take their photo. (Example: my brother and sister both spilled their milk at breakfast)
4. Create a presentation (you can use powerpoint or google docs) with your detective work – what did you observe? What problems need to be solved?

### SITUATIONS:

1. Breakfast (making it or eating it)
2. Getting dressed
3. Lunch
4. Grabbing something from my school backpack
5. Going to bed
6. Other (this could be anything you want – dance class, sports, watching tv)



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## Challenge #3: Pet Entrepreneur

In this activity, you will not only come up with a new device help care for a pet, but you will also develop a name and a slogan to market your new invention. Along with inventing, you will learn some of the basics of marketing in this activity.

### Challenge Objective

The objective of this challenge is to invent a new technology to help care for a pet and develop a name, logo and slogan for the new device.

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### What You'll Need

- A printed version of the worksheet provided
- Poster board
- A pencil
- Markers, crayons, or colored pencils

### Instructions

1. Fill out the chart below identifying some problems that people have taking care of a pet (if you don't have a pet, you can ask a friend).
2. Pick one problem that you want to solve and develop a solution by brainstorming.
3. Once you have your solution, what will you call it?
4. Once you have a name for your invention – see if you can come up with a slogan. (Example: “The Remote Doggy Bowl” – Feed Your Dog From Your Chair)
5. When you have your product name and slogan, create a poster advertising it! How would you sell it to someone?

### DID YOU KNOW?

The inventor, Darryl Jennus, wanted his cat to be able to “sharpen” its claws without tearing up the house, so he invented the cat scratching post!

Darryl felt that soft scratching surfaces and thistle rope posts were not the best answer. He came up with a post covered with “a heavy-duty carpet-backing type material that will withstand repeated use by any cat” and treated it with catnip for added enticement.



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**Problem (Example: smelly cat food)**

1.

2.

3.

4.

5.

**Selected Problem:**

**Possible Solutions:**

1.

2.

3.

**New Product Name (try a few out)**

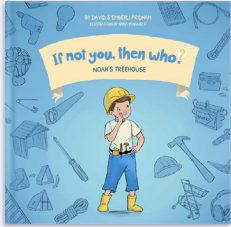
**HINT:** You can name it after yourself, or maybe after what it does, or something that rhymes

**Solgan**

1.

2.

3.



## Challenge #4: Design Your 3-D Dream Bedroom

Inspired by Book 2 - "Noah's Treehouse"

In this activity, you will have fun using your creativity to design your dream bedroom. Have fun creating the room of your dreams while learning about planning, design and spatial awareness.

### Challenge Objective

The objective of this challenge is to design your dream bedroom. What would it look like? What would be in it? What color would it be? You are the architect, inventor, and interior designer. Have fun!

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### What You'll Need

- Poster board or large sheet of paper
- Construction paper
- A pencil
- Markers, crayons, or colored pencils
- Glue

### Instructions

1. With your ruler, draw the perimeter of your room (is it a square, a triangle or maybe it has a different shape with cutout corners and angles).
2. Now use your creativity to design your room (HINT: lightly plan out using a pencil first before you use the markers etc. to be sure you get everything in that you want in your room).
3. Use the construction paper to make your design 3-D. Your bed and desk etc. can be built to stand up in your drawing.
4. If it helps, you can label different items in the room so people know what they are when they look at your drawing.
5. Have fun and be creative! You can even add an invention in your room that no one has yet!

### COMMON THINGS FOUND IN BEDROOMS:

- Beds (different types of beds include waterbeds, hammocks, futons, bunkbeds)
- Bedside Table or Nightstand
- Convenient Sockets and Electronic Plug-Ins
- Lamps and other light sources
- Wall decorations
- Dressers or armoires
- Mirrors
- Desks
- Armchairs
- Rugs



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## Challenge #5:

### Invention Scavenger Hunt

In this activity, you will search your home and/or school to locate the items on the list. This activity will help you understand how inventions fill your everyday life.

#### Challenge Objective

The objective of this challenge is to locate every item on the list and mark down where you found it. Each item on the list has a point value. Keep count of your points as you find the items.

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#### What You'll Need

- A printed version of the worksheet provided
- A pencil

#### Instructions

1. With the worksheet provided, find the items listed.
2. When you find an item write down where you found it.
3. Keep track of your score as you go.
4. Have fun searching!

#### DID YOU KNOW?

The name came scavenger hunt came from the crazed search for strange objects called scavenging. Scavengers — such as vultures, raccoons, crows and termites — search out dead animal or plant material to feed on.



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Item:	What it is and where you found it	Points
1. Something to use to solve math problems (6.5 points)		
2. Something to measure weight of items (8 points)		
3. An item you use to draw with (7.5 points)		
4. Something used to organize your work (9 points)		
5. Something you can throw outside (10.5 points)		
6. Something that helps you get from one place to another (11.5 points)		
7. Something that has a touchscreen (9 points)		
8. Something made of steel (13 points)		
9. Something you use to tell time (9 points)		
10. Something that you can use to carry things in (10 points)		
<b>BONUS:</b> One item that makes your day easier (6 points)		
<b>TOTAL:</b>		





## Challenge #6: Dance Break!

Inspired by Book 3 - "Let The Games Begin!"

In this activity, you will have fun being creative coming up with your own dance. Not everyone likes to play sports and not everyone likes to go to dance class but everyone loves to move to the music! With this activity you will learn that creativity comes in all forms - from drawing, to singing, to dancing, to experimenting with science.

### Challenge Objective

The objective of this challenge is to be creative, have fun and create your own dance break. Take all those dances that you do with your friends and put them together into your own dance. Write it down or... have a friend or family member record it on their phone or video camera. Challenge your friends to do your dance.

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### What You'll Need

- Your favorite music and a lot of creativity.
- Paper, pencil and/or a video camera/phone

### Instructions

1. Pick your music.
2. Practice your moves and then put them together into your own dance break.
3. Challenge your friends or family to follow your moves.

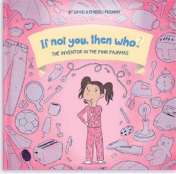
### FUN DANCE FACTS:

- Bharata Natyam is a traditional Indian dance that has been passed down for centuries. Women perform the dance in tribute to the gods.
- The polka is a lively dance that originated in Central Europe.
- Ballet originated in Italy during the 1500s. This beautiful dance form is used to tell stories, such as "The Nutcracker" or "Swan Lake."
- Capoeira is an exciting, athletic Brazilian dance that combines dance with martial arts.
- Traditional Irish stepdancing involves fast, high steps and bright costumes.



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## Challenge #7: Cool School Tool & Prototype

Inspired by Book 1 - "The Inventor In The Pink Pajamas"

In this activity, you will invent a new tool to use at school to make your day easier and build a prototype. Like Brooke in "The Inventor In the Pink Pajamas", imagine how you can make your day easier by coming up with a new tool and build a model of that tool.

### Challenge Objective

The objective of this challenge is to invent a new cool school tool to make your day easier and to build a model of that new invention (a prototype). All those tools you use in school were invented at some point. The ruler, the stapler, the tape dispenser, the pen...to name a few. Use your creativity and imagination to come up with your own new tool.

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### What You'll Need

- Printed version of provided worksheet
- Various materials to build a prototype
- A pencil
- Paper

### Instructions

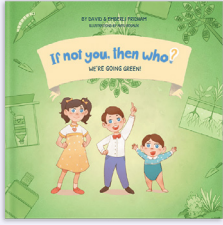
1. Think of your desk at school or the place you do your homework at home. What are some of the objects you use each day to help you do your work? What tools are there in your classroom?
2. Use the worksheet to help you come up with your new "cool school tool" to make your day a little easier.
3. Don't forget to give it a name!
4. Then use materials available to build a model or prototype of your invention. You can use discarded materials like cardboard, newspaper, boxes, plastic, paper etc. Use glue, tape and string/rope as needed. Plan out your design and how you will build it.

### DID YOU KNOW?



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## Challenge #8: Trash To Treasure

Inspired by Book 4 - "We're Going Green!"

In this activity, you will be challenged to reimagine trash to create something that is useful and will help the environment.

### Challenge Objective

The objective of this challenge is to make something useful out of discarded items that will help the environment. You have learned about recycling, reducing, and reusing trash to help our environment. In this challenge, you need to reimagine your trash and create something new and useful that can be used to help the environment. It might be a way to collect rainwater to reuse it or maybe a new recycle bin for school made out of trash.

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### What You'll Need

- Markers, crayons, or colored pencils
- Any other craft supplies available
- Scissors
- Glue
- String

### Instructions

1. Find 2-3 items in your home that are being thrown away. Be sure that they don't have any sharp edges. Suggestions: empty paper towel or Toilet paper rolls, aluminum foil, cardboard box, newspapers, bag from bread (no crumbs) etc.
2. Make a list of some of the environmental issues in and around your community. (garbage on the sides of the roads, polluted water, using too much electricity, air pollution etc.)
3. Using craft items that you have (glue, string, markers/ crayons, scissors, construction paper etc.) make something new from your 2-3 items that will help to solve one of the environmental issues you listed above. All ideas are good ones! Use your imagination and be creative. Use crayons and markers to make them colorful. Use other craft items you may have on hand to enhance the designs. The only requirement is it must help the environment. Not just for decoration.

### DID YOU KNOW?

The average person throws away 4 pounds of trash every day and makes about 1.5 tons of solid waste a year.

What's ironic about it is that 75% of our trash can be recycled. Recycling is when used waste and materials are converted into new products, so that it can be used again. This practice ensures that we don't waste perfectly reusable materials.



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