



FOR YOUTH DEVELOPMENT®
FOR HEALTHY LIVING
FOR SOCIAL RESPONSIBILITY

IT'S IN THE BAG

GRADE LEVEL: 3-8

OBJECTIVES:

- Encourage youth to question and determine a plan
- Increase youths' ability to work as a group to design
- Increase youths' ability to develop a product
- Increase youths' ability to communicate benefits of a product

TIME: 40 minutes

MATERIALS:

- Lunch bags – 1 for each group of 3-4 youth
- Pipe Cleaners – 4-5 for each participant
- Paper Clips – 5- 6 for each participant
- Tape or sticky dots – 4 pieces per team
- Straws – 2 for each participant

IMPLEMENTATION NOTES:

- In this activity the youth are using their investigation and design abilities to design something based on the challenge presented to them. It should be a new invention ready to sell –something they could use at school, use for their pet, or something that they could use at home.
- Science learning can be very effective when it's grounded in a task that supports multiple predictions, explanations, or positions. In such a setting, youth have reasons to "argue" (agree or disagree) and to back up their positions with evidence.
- The skills learned here— observations, questioning, planning an investigation, sharing results and having a reflective discussion—are all important pieces of inquiry.

PREPARATION:

Organize the materials based on the number of youth who will be participating by filling each lunch bag with the other supplies. Groups should consist of 3-4 youth.



At the Y, we believe in a holistic approach to youth development so that all children reach their full potential and become competent and healthy adults. **Find more activities at yexchange.org/STEM**

PROCEDURE:



1. ENGAGE AND CONNECT

 2 MINUTES

Begin by asking:

- What are some of the things you use each day you find most useful?
- What are some of the things you use with your pet that they really like?
- What do you think inventors do when they want to create a new product?



2. INTRODUCTION AND SET UP

 5 MINUTES

Give the following information:

- Today, you are going to be inventors and work in groups of 3-4 with a bag full of supplies to create something you would like to take to market and sell. Supplies are all in the bag and you can determine as a team how you are going to solve the design challenge.

(Share the materials they will be using and arrange them in groups of 3-4.)

Share the following instructions:

- Once you get in your groups, take a look at the supplies and determine what you will be making to sell.
- Make sure each group member is contributing!
- You will have about 15 minutes to determine your design, create your product, and determine what you will be saying to “sell” it. For instance, share what it is, what people will like about it, how much it will cost, and where they can buy it.



3. QUESTIONING/REASONING

 23 MINUTES

Make sure each group has materials.

Walk around asking questions as needed to further their design or investigation:

- How did you decide how to use these materials in your product?
- Who did you decide would be the best audience for this product?
- How did you determine the cost?
- What else do you think you might have created with these materials?
- What other materials would you have liked to have?

Check on each group’s progress and how they are working through issues to figure out how to determine the product and sales as a group. Be sure to make an announcement that they only have five minutes left before uniting as a large group.



3. QUESTIONING/REASONING, CONTINUED

 23 MINUTES

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Bring the group back together and have each small group explain and “sell” and their products. Use the following questions to guide their presentation:

- How did you determine your product?
- What was easy or challenging about creating a new product?
- What roles did different group members have?
- What is one thing your group learned from developing a product together?

Once each group has shared their product, ask the entire group:

- What were the similarities and differences of the products?
- What is one thing you might want to try in creating a new product or redesigning the one you have created?
- People are always creating new inventions and today you were an inventor as well! Think about some of the inventions you like and how people came up with the products...



4. REFLECTION

 10 MINUTES

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Process the activity by asking:

- How many times do you think the iPad was tested before it was sold in stores?
- What do you think is the strength of working as a team to develop a product?
- What are the different careers and expertise people had to develop a mouthwash? How about a cell phone?
- What did you enjoy most about inventing and or selling your product?
- What new invention would you like to see in the next year?