

ENTREPRENEURS AND INVENTIONS

FEDERAL RESERVE BANK of KANSAS CITY

LESSON DESCRIPTION:

Students will be introduced to entrepreneurship and learn how inventing a product can lead to becoming an entrepreneur. The story of Maurice Scales, an American child inventor, will be read. Students will be given categories for possible inventions, brainstorm ideas and create their own invention or innovation. They will complete their product description and diagram for a page in a class' book.

TEACHER NOTE:

An emphasis on entrepreneurship as a way of improving income and opportunities in the future, as well as impacting communities, can be discussed during the lesson. The entrepreneur posters listed in the materials section can be shared as examples of this success in an extension to the lesson.

GRADE LEVEL: 4-6

OBJECTIVES: Students will be able to:

1. Define entrepreneur.
 2. Explain how an inventor can become an entrepreneur.
 3. Create an invention/innovation diagram and description for a book page.
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TIME REQUIRED: 45 minutes

MATERIALS:

- Copy of "Brainstorm! The Stories of Twenty American Kid Inventors"
 - Wire coat hanger
 - Flipchart or board space
 - Copies of Visual 1 "Invention Categories"
 - Copies of Visual 2 "Invention W's"
 - Copies of Activity 1 "My Invention W's" for each student
 - 8½" by 11" white drawing paper, one per student
 - Assorted color markers
 - Optional: Posters of successful entrepreneurs
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PREPARATION (OPTIONAL):

1. Research book self-publishing websites to choose the site for publishing your classroom book. Examples are: www.lulu.com; www.morrispublishing.com; www.diggypod.com/self-publishing.html.
2. Secure a funding source to pay self-publishing costs. Suggestions include PTA funds; writing a grant; business partnership; small business loan from a bank.
3. Read **Brainstorm! The Stories of Twenty American Kid Inventors** and look over economic terms before beginning lesson.



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PROCEDURE:

1. Ask students the following questions:
 - a. Who has ever seen a Disney movie, DVD or cartoon? (*Students should raise their hands.*)
 - b. Who has seen clothing or other products with Disney characters? (*Students should raise their hands.*)
 - c. Who knows the name of the man who had the idea to develop these characters and products? (*Walt Disney*)
2. Tell students that Walt Disney is an example of an **entrepreneur**, or someone who takes the risk of producing a product or starting a new business. Discuss that taking a risk means taking a chance on whether the product or business will be successful. This risk comes when the entrepreneur brings the product or business to the marketplace, where others can buy his/her goods or services. If it is successful at the marketplace, the entrepreneur may make a lot of money selling his/her product or service. If it is unsuccessful at the marketplace, the entrepreneur may lose a lot of money on the product or service.
3. Explain to students that one way to become an entrepreneur is through inventing or creating a new product for the marketplace, like a new type of game or household product. Tell them you will read a short story about Maurice Scales, a seven-year-old boy who created a product for an invention competition at his school. Ask them to listen to the story to find out whether Maurice was successful.
4. Ask the following questions after reading the story:
 - a. How did Maurice get the idea for his invention? (*He watched and heard his little sister close an open door and pinch her fingers.*)
 - b. What was the name of Maurice's invention? (*Baby-No-Mash*)
 - c. How did the invention work? (*When hooked over the top of the door, it would leave the door open a bit so his sister's fingers wouldn't get pinched.*)
 - d. Do you think Maurice was successful? (*Answers will vary. Many students will say he was successful because he won the school and state invention competitions. He also received a trip to Washington, D.C., a \$500 savings bond, and shook hands with an astronaut. Some may say he wasn't successful, since he didn't win the national competition or market his product.*)
5. Tell students that they will get a chance to create an invention. They will each think of a new invention or innovation, which is a change to an existing invention by improving it in some way. They will then write a description and draw a picture of their product. The best ideas will be published in a book for students to keep.
6. To get students thinking, hold up a wire coat hanger and ask what this invention is generally used for. (*Students will say it is used to hang up clothing, etc.*) Now turn the hanger upside down and ask students to think of a new use. (*Answers will vary. Students may suggest a picture hook or hanger, a back scratcher, etc.*) Next bend the hanger out into the shape of an oval or circle and ask for a new use. (*Answers will vary. Students may suggest it could be used to make a wreath, picture frame, etc.*) Now bend then hanger into a straight line with the hook on the end, and ask for a new use. (*Answer will vary. Students may suggest a grabber hook for high places or a fishing rod, etc.*) Tell students that all of these ideas were innovations, or changes to the original coat hanger. Innovations are often easier to create than inventions.



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PROCEDURE: (CONTINUED)

7. Distribute Visual 1 “Invention Categories.” Tell students that these categories may help them decide what invention/innovation to create. Read through the categories and examples. Ask students for additional category ideas. (*Answers will vary. Accept any reasonable category.*) Remind them that an important part of creating their invention is that it should help solve a problem, like Maurice’s Baby-No-Mash.
8. Distribute Activity 1 “My Inventions W’s.” Read through the example description with answers to the “W” questions. Discuss that the “WHO” question is the entrepreneurship connection, where the inventor brings the invention to the marketplace. Tell them that they should answer these “W” questions in complete sentences once they decide on their invention. When they have completed their sentences, they should name their invention, using a clever title that gives a visual picture (such as Noodle Grabber), shows alliteration (such as Neater Noodler), or is named after the inventor (such as Milan’s Noodler). When finished, they should get their description approved **before** drawing their picture. Once approved, they will be given a sheet of 8 1/2 inch by 11 inch white drawing paper to create their final page.
9. As students complete Activity 1, check their work and approve it for the final page. Hand out the white drawing paper and ask students to draw their invention on the top half of the page, labeling the parts if appropriate. Remind them that the “Invention W’s” should be printed neatly across the bottom half of the page. The picture should be drawn in pencil first, and then colored with markers.

OPTIONAL:

10. Tell student that their final invention pages will be judged for creativity, correct spelling and grammar, and eye-catching artwork for inclusion in the book. If their page is chosen, their name and grade will be listed in the final book. All students in the school will receive a copy of the published book.
11. Once pages are ready for publishing, a cover and back could be designed by interested students and a vote could be taken to decide on winners.

ADDITIONAL RESOURCES:

The following children’s literature addresses the topic of entrepreneurship. Each book has a related lesson plan located at www.stlouisfed.org/education_resources/elementary-school/lessons/

- *A Basket of Bangles: How a Business Begins* by Ginger Howard and Cheryl Kirk Noll
- *One Hen: How One Small Loan Made a Big Difference* by Kate Smith Milway
- *Uncle Jed’s Barbershop* by Margaree King Mitchell



VISUAL 1 - INVENTION CATEGORIES

Look at the different categories of products below to help you create an invention or innovation. Try to think of examples of each category. Remember to think about solving problems as you give ideas!

New toy ideas - games; balls; dolls; cars; learning toys for young kids; electronic toys

Example: a new kind of ball that is shaped like a pyramid and can be used in a new game of "pyramid ball."

New school supply ideas - pens, pencils or crayons; backpack; notebooks; lunchbox

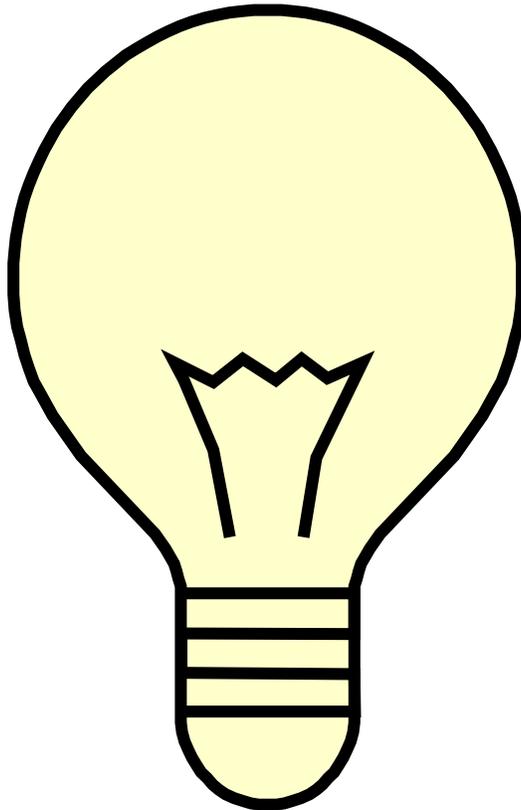
Example: a new type of crayon that has colored wax on one end and marker on the other.

New household helper ideas - cleaners; organizers; remote controls; kitchen utensils; tools

Example: a new type of silverware that connects a spoon and fork into one utensil that can grab and hold spaghetti to make it easier to eat.

New environmental helper ideas - inventions to fight air or water pollution; keep garbage from smelling; help with recycling

Example: a new garbage deodorant that can be tossed in the trash to make it smell like your favorite food.



VISUAL 2 - INVENTION W'S

INVENTION W'S FOR THE NEATER NOODLER

WHAT does it do? This invention connects spoon and fork handles together to make one utensil that can grab, hold and pick up noodles.

WHEN would you use it? I would use this invention anytime I ate spaghetti or other hard-to-grab foods.

WHY is it helpful or WHAT problem does it solve? It solves the problem of noodles slipping off my fork before they get to my mouth.

WHO would you sell it to? I would sell my invention to families and restaurants that serve noodles.

HOW much would you sell it for? I would sell it for \$2.00.



ACTIVITY 1 - MY INVENTION W'S

Look at the example description of an invention. Then answer the W's in complete sentences to describe your own invention.

When you are finished, think of a clever name for your product.

Invention W's for: _____

WHAT does it do? _____

WHEN would you use it? _____

WHY is it helpful or WHAT problem does it solve? _____

WHO would you sell it to? _____

HOW much would you sell it for? _____

Written by: _____



Inventors Become Entrepreneurs

AT CONESTOGA MAGNET



Inventors Become Entrepreneurs AT CONESTOGA MAGNET

The Federal Reserve Bank of Kansas City-Omaha Branch has been a partner with Conestoga Magnet School, a K-6 school with a focus on economics and mathematics, since the magnet's establishment in 2001. The Federal Reserve Bank believes that students who learn about economics and personal finance at a young age will become better consumers, making wiser decisions that benefit our economy. The Federal Reserve Bank's mission is to provide economic resources and programs that are easy to understand and implement for educators and students.

Federal Reserve Bank employees have worked with Conestoga on a variety of academic projects in the economic and personal finance areas. "It Makes Good Cents," a book of personal finance tips, was the first book written by fourth, fifth and sixth graders and published by the Federal Reserve Bank in 2011. The second book, "Econ Superheroes Save the Day," focused on economic problems and solutions and was published in 2012. In this third book, "Inventors Become Entrepreneurs," students created original inventions and told how they would market their unique products. Economic concepts related to entrepreneurship were added and the book was published in 2013.

The Federal Reserve Bank would like to acknowledge Conestoga's principal, David Milan, and economics specialist, Erin Ruis, for their continuing partnership with the Omaha Branch in the area of economic education.

We are pleased to recognize the following students for their contributions to the book:

GRADE 4: Haruun

TEACHER: Mr. Hendrix

Aden; Joshua

TEACHER: Ms. Cotton

Adjelle

TEACHER: Mrs. Minshall

GRADE 5: QaShataya

TEACHER: Ms. Broomfield

Sarah; DaNas; Dae'Zhawn

TEACHER: Ms. Gaul

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Angelo; Kayahna

TEACHER: Ms. Smith

GRADE 6: Sundaye

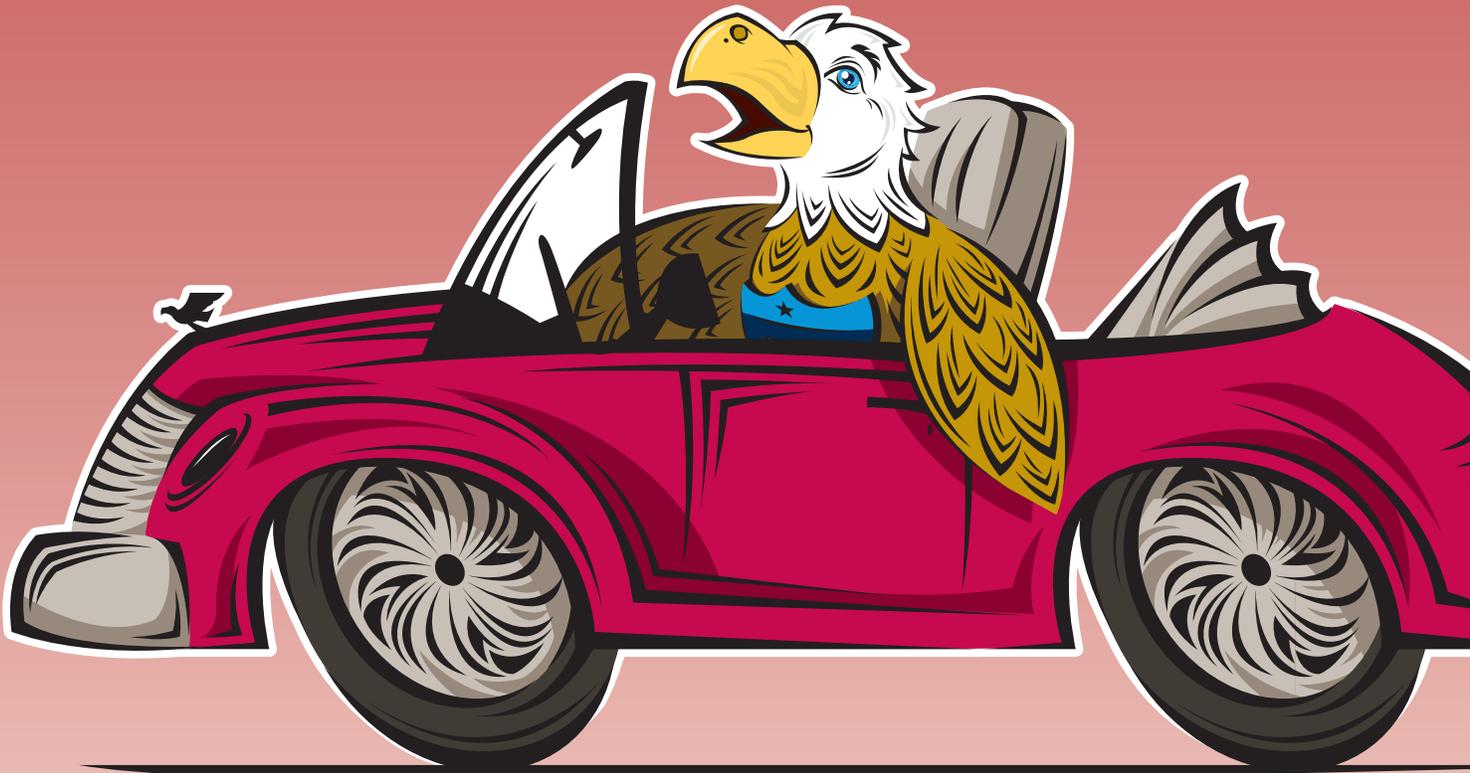
TEACHER: Mrs. Pouncil

Jacob; Phadziana; Angel; Alexander

TEACHER: Ms. Madsen

Travel and Transportation

ENTREPRENEUR - someone who takes the risk of producing a product or starting a new business





INVENTION'S NAME:

Mini Buggie

WHAT DOES IT DO?

My car drives by itself for little kids 11 and under.

WHEN WOULD YOU USE IT?

Kids would use it at the park or at the mall.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

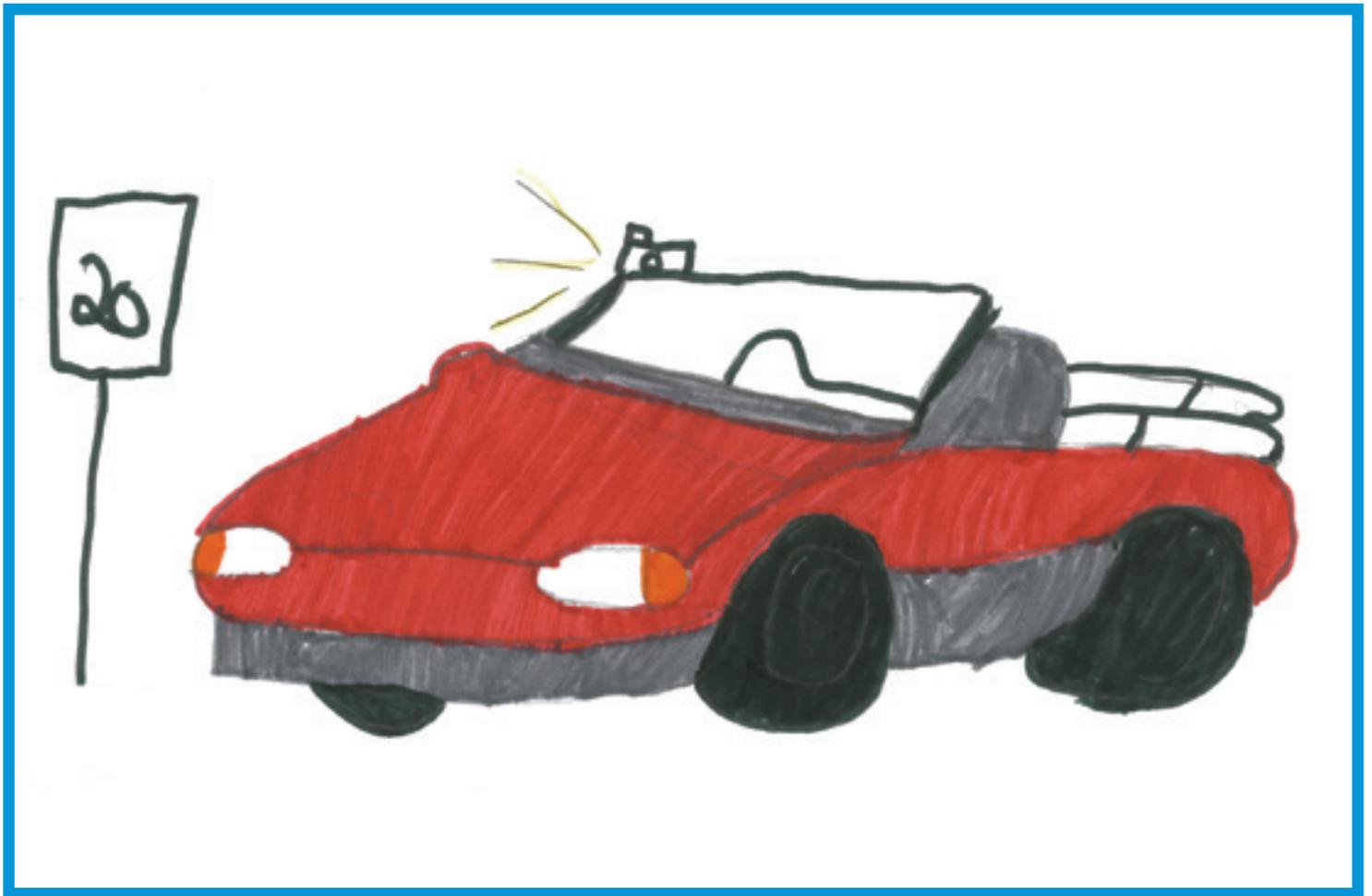
It solves problems for children who don't know how to pedal or don't like to.

WHO WOULD YOU SELL IT TO?

I would sell it to moms and dads with children or grandkids.

HOW MUCH WOULD YOU SELL IT FOR?

\$50.00



INVENTION'S NAME:
Speeding Monitor

WHAT DOES IT DO?
It makes you drive the speed limit.

WHEN WOULD YOU USE IT?
It can be used when you're driving.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?
You won't get a speeding ticket.

WHO WOULD YOU SELL IT TO?
I would sell it to people that speed.

HOW MUCH WOULD YOU SELL IT FOR?
\$150.00



INVENTION'S NAME:

Hover Car

WHAT DOES IT DO?

My idea can use hover technology to fly.

WHEN WOULD YOU USE IT?

You could use it when driving.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

It can decrease traffic and save you time.

WHO WOULD YOU SELL IT TO?

I would sell it to anyone who has car problems.

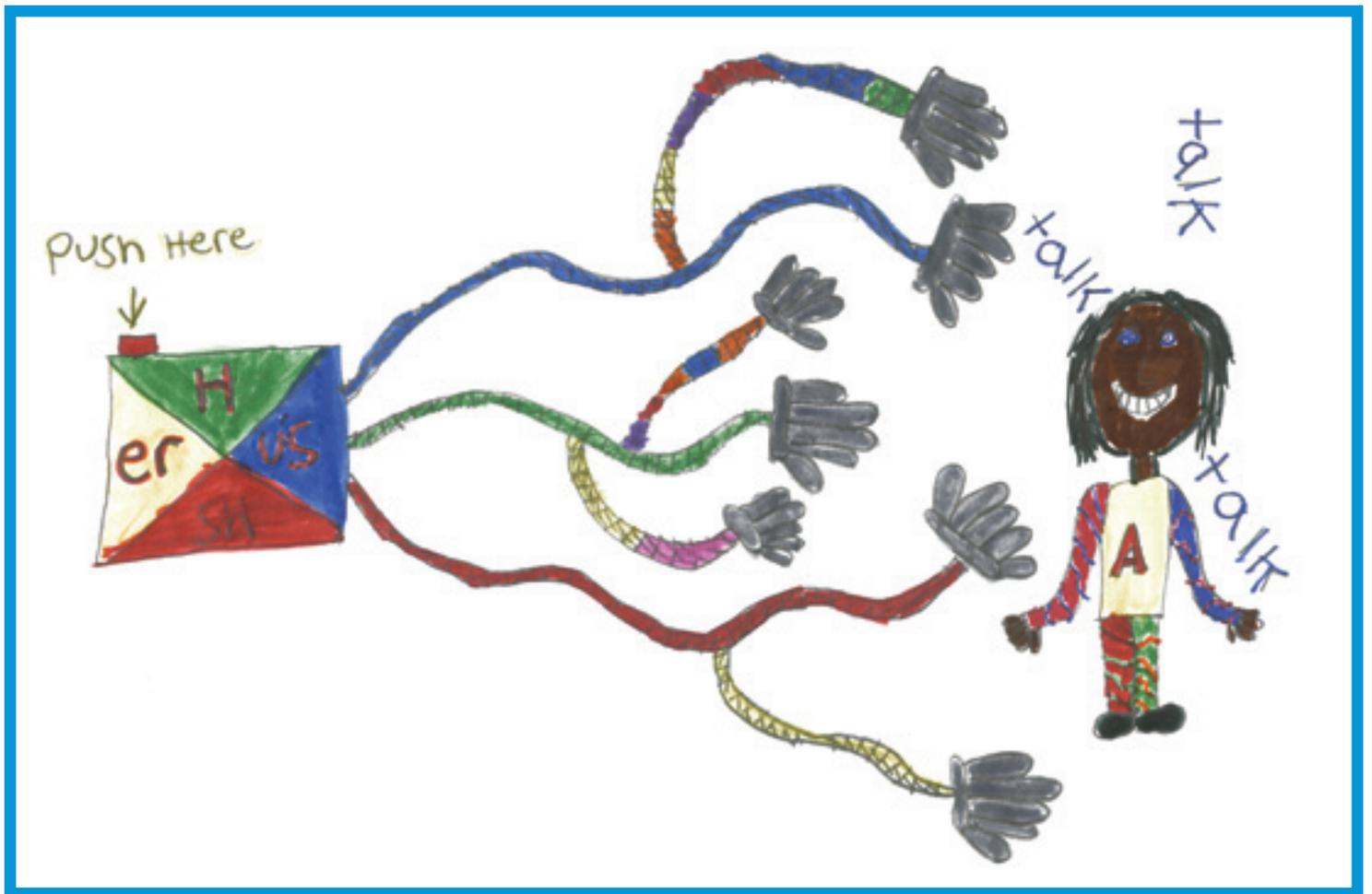
HOW MUCH WOULD YOU SELL IT FOR?

I would sell it for \$581,745.

School Suggestions

MARKET- a place where buyers and sellers
exchange goods and services for money





INVENTION'S NAME:

Husher

WHAT DOES IT DO?

It makes people be quiet.

WHEN WOULD YOU USE IT?

When there are a lot of people talking, it hushes certain people.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

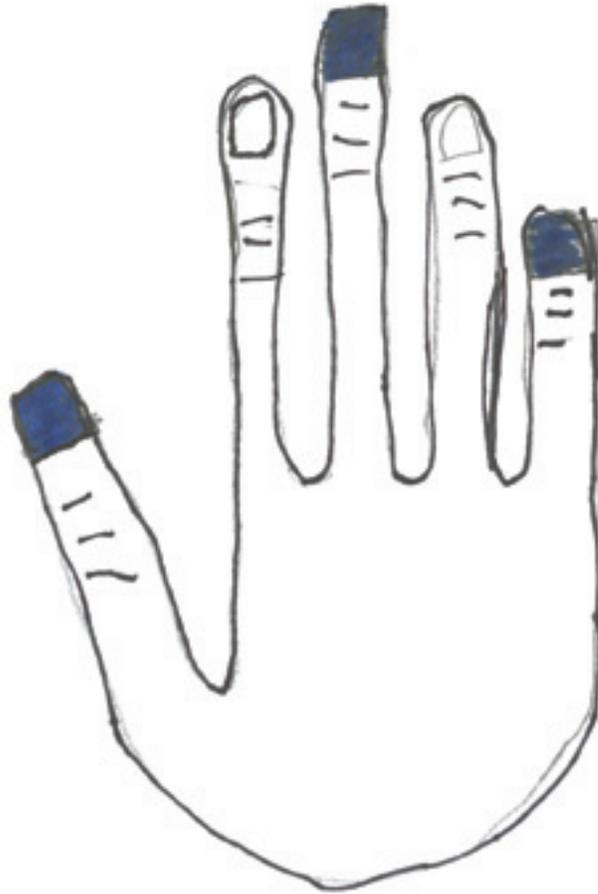
You can get stuff done and hear yourself talking.

WHO WOULD YOU SELL IT TO?

I would sell it to teachers who have talkative students.

HOW MUCH WOULD YOU SELL IT FOR?

\$500.00



INVENTION'S NAME:

The Finger Saver

WHAT DOES IT DO?

It helps people prevent paper cuts.

WHEN WOULD YOU USE IT?

I would use it when I'm using paper.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

It will keep you from getting paper cuts.

WHO WOULD YOU SELL IT TO?

I would sell it to a journalist, artist, principal, and secretary.

HOW MUCH WOULD YOU SELL IT FOR?

\$1.00 a pack



INVENTION'S NAME:

No Scan

WHAT DOES IT DO?

It scans your hand to open the notebook.

WHEN WOULD YOU USE IT?

I would use it in my school or at home to keep people out of my notes.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

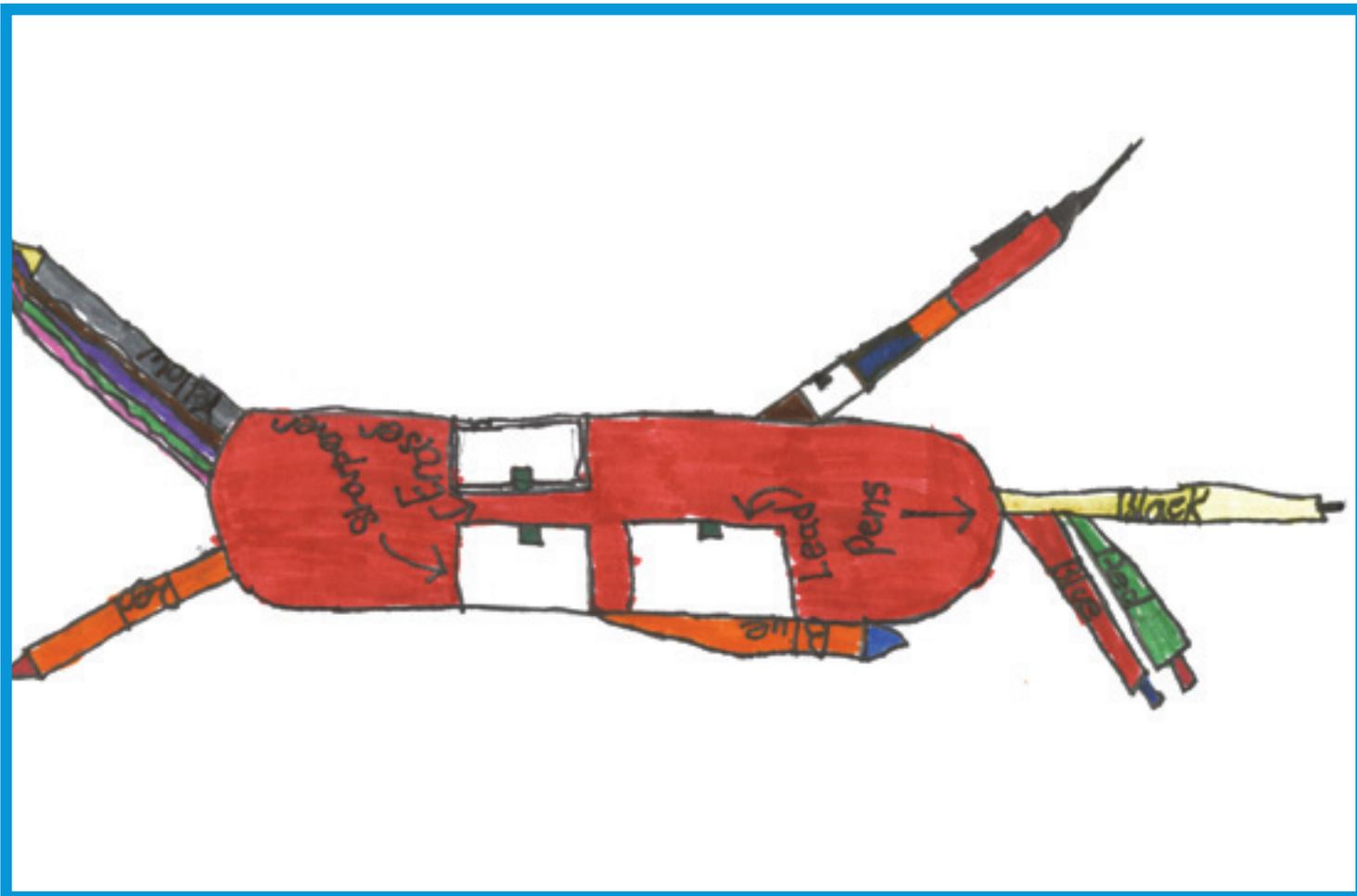
It can keep people from reading my notes.

WHO WOULD YOU SELL IT TO?

I would sell it to colleges, Target, and Walmart.

HOW MUCH WOULD YOU SELL IT FOR?

\$20.00



INVENTION'S NAME:

Cool Kitty Crayon

WHAT DOES IT DO?

It is a crayon with multiple colors and it has pens in it.

WHEN WOULD YOU USE IT?

You use it when you write and color.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

It is helpful when you have to buy a lot of supplies.

WHO WOULD YOU SELL IT TO?

I would sell it to schools and families.

HOW MUCH WOULD YOU SELL IT FOR?

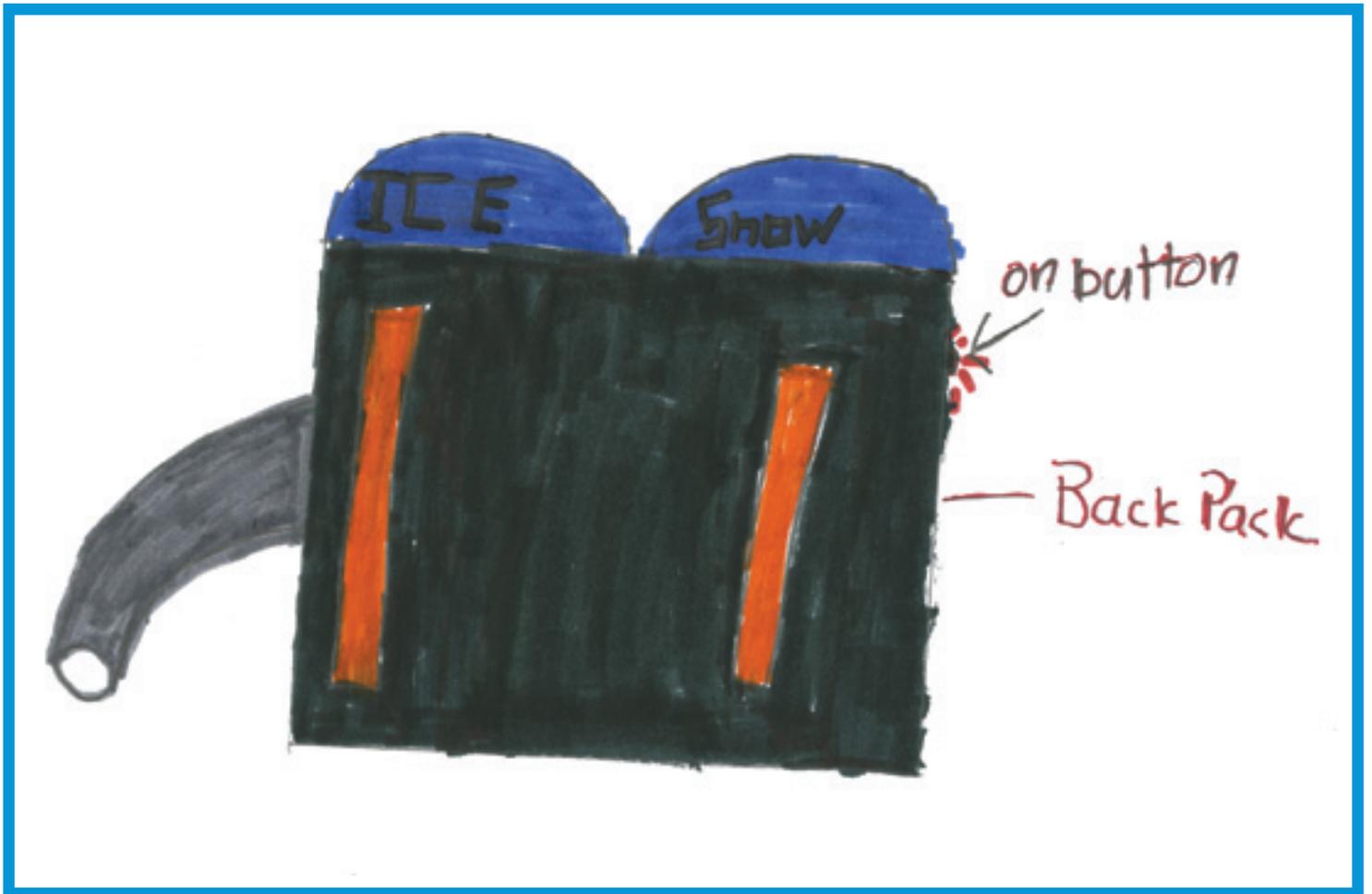
I would sell it for \$4.99.



Winter Wonders

PRICE - the amount that people pay
when they buy a good or service





INVENTION'S NAME:

The A Zone

WHAT DOES IT DO?

It makes snowballs fast, and launches them. It can make ice cream cones.

WHEN WOULD YOU USE IT?

You can use it anytime you want to use it, summer and winter.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

It keeps your hands from freezing and you do not spend your money on ice cream.

WHO WOULD YOU SELL IT TO?

I would sell it to kids and adults.

HOW MUCH WOULD YOU SELL IT FOR?

I will sell it for \$3.50.



INVENTION'S NAME:

Cozy Earrings

WHAT DOES IT DO?

They keep your ears warm.

WHEN WOULD YOU USE IT?

You would use them on a cold winter day.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

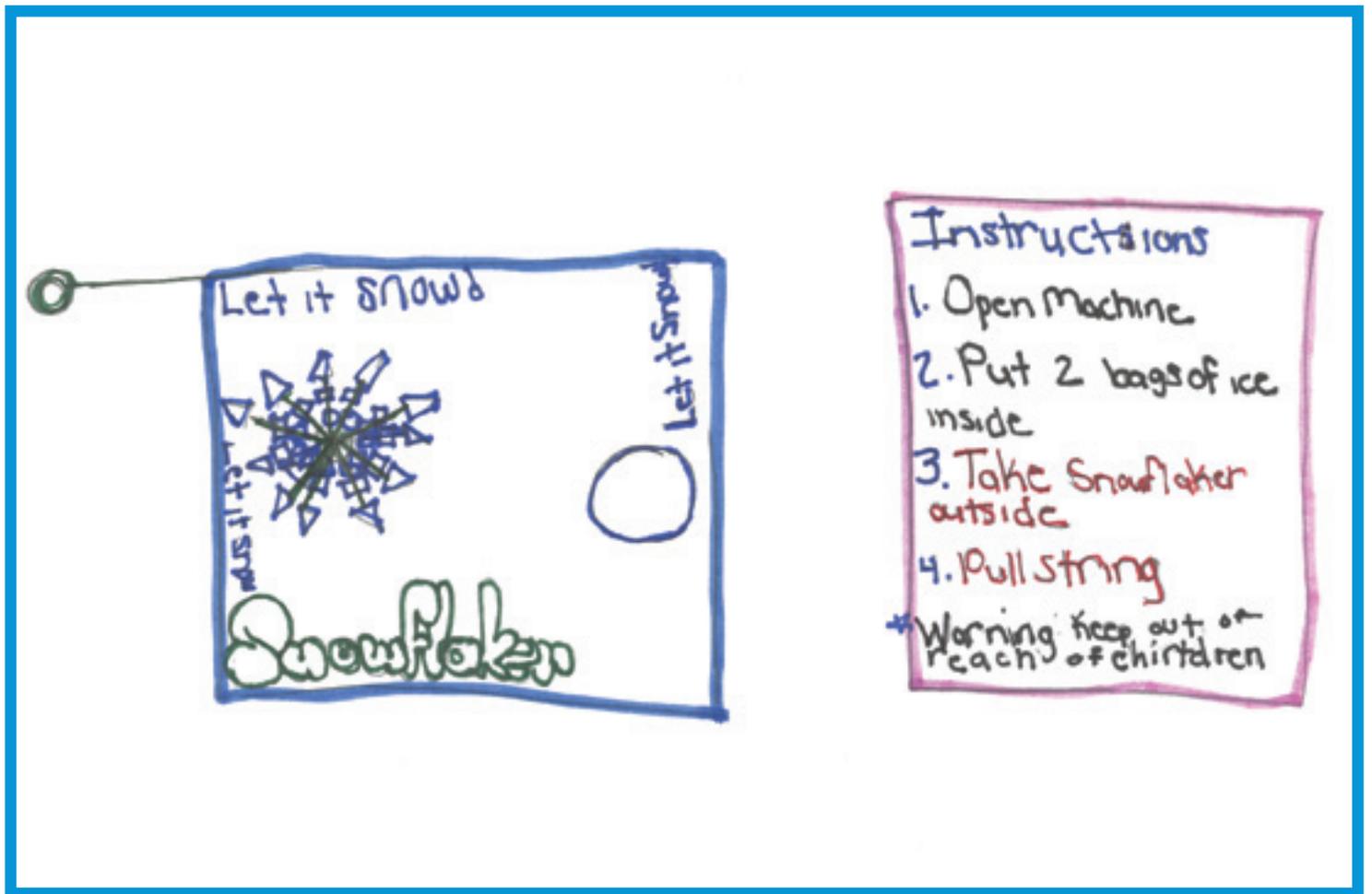
It saves you from getting your ears cold.

WHO WOULD YOU SELL IT TO?

People whose ears are cold during the winter.

HOW MUCH WOULD YOU SELL IT FOR?

\$20.00



INVENTION'S NAME:

Snowflaker

WHAT DOES IT DO?

Its job is to make big, medium or small snowflakes.

WHEN WOULD YOU USE IT?

You will use it on Christmas Eve night.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

It always gives us a white Christmas.

WHO WOULD YOU SELL IT TO?

I would sell it to people that don't have a white Christmas.

HOW MUCH WOULD YOU SELL IT FOR?

\$55.00

Fashion Finds

PROFIT- the money a business makes
after it pays its production costs





INVENTION'S NAME:

Unlock & Twist

WHAT DOES IT DO?

It unlocks your dreds so you are able to twist them.

WHEN WOULD YOU USE IT?

I would use it when I have dreds and don't want them in my hair anymore.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

When people have dreds and they want to take them down, then can use Unlock & Twist.

WHO WOULD YOU SELL IT TO?

I would sell it to hair care shops.

HOW MUCH WOULD YOU SELL IT FOR?

\$8.99



INVENTION'S NAME:

Juicy

WHAT DOES IT DO?

It's a shoe that changes colors when your mood changes.

WHEN WOULD YOU USE IT?

It could make you have swag.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

It helps by letting people know what mood you're in.

WHO WOULD YOU SELL IT TO?

I would sell it to Champs, Finish Line and Shoe Carnival.

HOW MUCH WOULD YOU SELL IT FOR?

\$150.00



INVENTION'S NAME:

Bully Cam

WHAT DOES IT DO?

It protects you from any size of bullies.

WHEN WOULD YOU USE IT?

I would use it when bullies mess with me.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

It solves the problem of bullying.

WHO WOULD YOU SELL IT TO?

I would sell it to anybody that's getting bullied.

HOW MUCH WOULD YOU SELL IT FOR?

\$15.00



INVENTION'S NAME:

Liar, Liar, Hair on Fire!

WHAT DOES IT DO?

It makes your hair turn red when you lie.

WHEN WOULD YOU USE IT?

To tell if a person is lying.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

If you really want to know if a person is lying, it can help.

WHO WOULD YOU SELL IT TO?

Liars, curious people, and parents.

HOW MUCH WOULD YOU SELL IT FOR?

\$5.00

Pet Product Proposals

PRODUCER - someone who uses resources
to make a good or service





INVENTION'S NAME:

Cozy-4-Ever

WHAT DOES IT DO?

The Cozy-4-Ever keeps animals cozy when they travel.

WHEN WOULD YOU USE IT?

I will use it when I travel and want to bring a pet.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

Whenever a pet has to use the bathroom or gets hungry on the go, they can eat or use the bathroom.

WHO WOULD YOU SELL IT TO?

I would sell it to animal shelters, and owners of pets.

HOW MUCH WOULD YOU SELL IT FOR?

I would sell it for \$15.00.



INVENTION'S NAME:

Bird Mansion

WHAT DOES IT DO?

It makes a better home for birds and bats.

WHEN WOULD YOU USE IT?

The best time to use it is in the morning or evening.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

It gives birds and bats homes.

WHO WOULD YOU SELL IT TO?

I would sell it to anyone who has a tree in their yard.

HOW MUCH WOULD YOU SELL IT FOR?

I would sell them for \$300.00.

Fun in the Future

CONSUMER - someone who buys or uses
goods and services to satisfy wants





INVENTION'S NAME:

Robot Friend

WHAT DOES IT DO?

It plays with you when you're bored.

WHEN WOULD YOU USE IT?

I would use it when I have no friends and feel left out.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

It's helpful if you have no friends. It will play with you if you're an outcast.

WHO WOULD YOU SELL IT TO?

I will sell it to people who get lonely.

HOW MUCH WOULD YOU SELL IT FOR?

\$25.00



INVENTION'S NAME:

The Auto Hoop

WHAT DOES IT DO?

It makes the hoop shrink or grow.

WHEN WOULD YOU USE IT?

I would use it anytime I want to shoot hoops.

WHY IS IT HELPFUL OR WHAT PROBLEM DOES IT SOLVE?

If a person isn't good at basketball, you can make it easier.

WHO WOULD YOU SELL IT TO?

I would sell it to a park founder.

HOW MUCH WOULD YOU SELL IT FOR?

I would sell it for \$10.00.

FUN FAMILY ACTIVITIES

Try these activities after reading the book with your child:

- Ask your child to choose his/her favorite invention and explain why.
- Discuss which inventions would be helpful in your child's everyday life.
- Compare and contrast two similar inventions. How are they alike or different?
- Write a short story about one of the inventions becoming a successful product and its inventor becoming a famous entrepreneur.
- Research inventions that you use at home or at school to find out how they were developed.
- Create an invention of your own following these steps:
 - Think of a problem that could be solved by a new invention.
 - Describe what this invention does, how you would use it, and why it's helpful.
 - Decide who you would sell your invention to and its selling price.
 - Think of a clever name for your invention.
 - Draw a picture or diagram of your invention, labeling any parts.
 - Share your invention with others!
- Develop a prototype (model) of your invention, using materials you can find around the house for parts.
- Organize an "Invention Convention" in your neighborhood, inviting your friends to create and display inventions in your yard on convention day.
- Visit our website at www.kansascityfed.org/education for more activities, or our national educational website at www.federalreserveeducation.org for additional economic and financial resources and information.



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