

Junior Product Designer

A product is anything developed by one person for another. Can anyone give an example of a product they used today? (toothbrush, toothpaste, shampoo, blow dryer, pencil sharpener, notebook, and handbag.) An innovative product is one that improves other people's lives. Can you think of examples for innovative products? (smart phone, waterproof fabric for a tent, lightweight running shoes.)

Step One: Word Associations

Innovators often have to think "outside of the box" to come up with solutions to problems or ways to make products better. Use this word association exercise to get your brain ready to think creatively and see connections between items:

(One word connects the three others in the list)

- | | | |
|-------------|--------|----------|
| 1. Picnic | Card | Pool |
| 2. Earth | Book | Inch |
| 3. Car | Tree | Elephant |
| 4. Box | Green | Sea |
| 5. Greeting | Credit | Library |
| 6. Wagon | Cart | Steering |
| 7. Storm | Needle | Potato |
| 8. Yard | Pogo | Chop |
| 9. Blue | Goose | Black |
| 10. Gas | Police | Train |

(answers revealed at the bottom of this sheet)

Step Two: Innovation Interview

Read the story below about how the chocolate chip cookie was invented:



Who Invented the Chocolate Chip Cookie?

Ruth Wakefield owned an inn in Massachusetts where she would cook meals for her guests. In 1930, Ruth wanted to make a batch of chocolate cookies from a recipe that called for baker's chocolate—but she didn't have any. So she cut up a bar of semisweet chocolate and added it to the batter instead. She thought it would melt like baker's chocolate and blend entirely into the cookies. But it didn't! When the cookies came out of the oven, the chocolate bits had softened, but weren't completely melted. Ruth served them anyway, and the delicious chocolate chip cookie was born.

Now pair up with a partner and interview them about them about one of their favorite products. Ask each other:

What is your favorite product?

What do you like about it?

What do you like least about it?

Have you ever used another product that does the same thing?

If you have the product, share it or use it in front of each other.

Then take a minute to brainstorm how you might make the other person's product better. You can write down your ideas or even draw them.

Step Three: Product for a Penguin

Pretend you are a product designer and your customers are all penguins! Use this link to learn about your customers so that you can design a product to help them:

<https://zoo.sandiegozoo.org/animals/penguin>

There is also a penguin cam so you can watch your “customers” and observe their behavior:

<https://zoo.sandiegozoo.org/cams/penguin-cam>

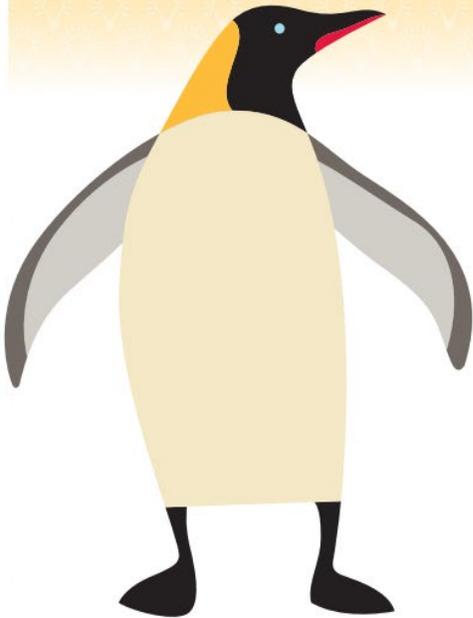
Now that you have done your “market research” you are able to brainstorm ideas for products that would make their lives better.

girl scouts  Junior

Product for a Penguin

Penguin Problems

- Most penguins can't fly.
- They live where it is very cold.
- They have webbed feet that are good for swimming, but not great on land.
- The birds have to lean on each other because of the cold weather.
- Emperor penguins are the fifth heaviest birds on the planet.



Possible Products

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Step Four: Product Prototype

For this activity, find a teammate and brainstorm ideas for a household product. Decide which one you want to work on -- and then together show what your improved product might look like. You can draw how your idea solves the problem. Or you can create a prototype or model of what your idea would look like and how it would work using cardboard, paper, or other craft supplies.

When you are finished, make a 30 second commercial to tell about your product and how it will help make the world a better place for people who buy it. Make sure to share your commercial using the hashtag **#GSJSChallenge**.

Step Five: Troubleshooting.

Coming up with ideas is only the first step. Innovators aren't worried when their ideas aren't perfect, because the best products are developed over time, with lots of feedback from people who use them. Just think of all the commercials that say "New and Improved" to let you know that they are making their product better! Using the product you created in step 4, discuss with your family reasons why your product may not work, or ways you can make it better. When you search for the cause to a problem and find ways to solve it, that is called Troubleshooting. List at least 5 problems you can solve to make your prototype even better.