Inventive Products

The Girl Scout Junior Product Designer badge showed that inventions can improve lives. While earning the IP patch, you’ll learn about basic concepts of intellectual property protection and how it protects owners and inspires others to improve and invent.

What does IP mean? It means Intellectual Property, but it also means Inventive Products.

Steps:
1. Product Innovation
2. Make-it-Yourself: Recreate an invention
3. Design a Trademark: Avoid the generic
4. Copyrights: Don’t be a copycat

Purpose: When you’ve completed the Inventive Products patch you will know how to protect the products you made while earning the Product Designer badge.
Creative Thinkers

Inventors think of old things in new ways.

Sometimes inventors combine two well-known invention concepts to form a brand new invention!

Can you think of two things you use every day and a new way to combine them that makes them work even better or in a completely different way?

STEP 1: Product Innovation

How do inventors come up with ideas? As you saw in the Product Designer badge, inventors sometimes look at current products and find ways to improve them to solve a particular problem.

Read more below about one kind of innovation by kid inventor Becky Schroeder.

Becky Schroeder, age 10

Have you tried to do your homework in the dark and found it too hard to see?

Becky invented a glow-in-the-dark paper after growing tired of not being able to work on her homework in the car while her mom ran errands when it was dark outside.

She went to the hardware store with her dad and tested many glow-in-the-dark paints, called phosphorescent paints. After shining light on these paints, they glow in the dark!

She found that painting lines with phosphorescent paint on a hard surface would let her put a blank piece of paper on top and let her write with the glowing lines to guide her. No more crooked lines while trying to write in the dark!

Becky applied for and received a patent on her invention. She was 12 when the patent was granted.

Becky called her invention “Glo-Sheet” and started her own company. Doctors and even NASA came to her asking to use her invention!

Check out her patent on the next page.

What is Intellectual Property?

Intellectual property (IP) refers to creations of the mind: inventions, books, art, and symbols used to promote products or services.

A US patent is a property right granted by the United States Patent and Trademark Office (USPTO) to an individual or individuals for their invention. A patent gives the owner the right to stop others from making, using, or selling their invention without their permission for a certain period of time.
Becky got a patent on her invention which means that she had a tool to stop others from making her invention without her permission. This gave Becky time to start her own company and sell her invention.

Can you find the parts of this patent?

- Who is the Inventor?  
- What is the Invention?  

Inventor  
Name of person or people who came up with invention

Patent Number  
Each patent gets its own number

Patent Date  
Date when invention becomes patented

Abstract  
Paragraph that explains briefly what the invention is and how it works

Title  
Name of invention

Drawings  
Pictures that help show how the invention works

What federal agency issues patents?  
The United States Patent and Trademark Office, an agency of the U.S. Department of Commerce
STEP 2: Make-it-Yourself: Recreate an invention*

*Recreating or “making” a patented invention without permission is called “patent infringement.” Becky’s patent has expired so there is no infringement. The knowledge of her invention now belongs to the world so we can all learn from it and improve upon it.

Can you figure out how Becky made her invention?

Supplies:
- Cardboard stock
- Glow-in-the-dark paint pen
- Blank paper
- Ruler

Steps:
1. Lay cardboard on table.
2. Measure out six lines to draw across your cardboard with a ruler.
3. Draw the lines in pencil across the cardboard.
4. Go over your pencil lines with the glow-in-the-dark paint pen.
5. Let dry.
7. Take it to a dark place and see if it glows (if not, you may need to go over it again with your paint pen).
8. Lay your blank piece of paper over your cardboard stock, sit in the dark, and try to write in straight lines.

Congratulations! You made your own version of Becky’s invention.

Time to Innovate!
Think about how you made your glow-in-the-dark sheets. Can you think of other ways to use glow-in-the-dark paint that can help you in every day life?

Write some of these ideas below:
**STEP 3: Design a Trademark – Avoid the generic**

What is a trademark? Trademarks help you tell the difference between the source of one person’s product or service and someone else’s product or service. Most trademarks are words, designs, or a combination of words and designs. But, trademarks can take many other forms. Sounds, scents, and colors can also function as trademarks.

Trademarks cannot be generic.

But what does that mean?

Generic terms do not help you associate a product or service with the maker of that product or service. They are the actual name or mere description of the goods, not a source identifier.

For example, you can’t use the word “Phone” as a trademark for your newly invented awesome cell phone, since that only tells people what the product is and doesn’t identify that particular phone or distinguish it from anyone else’s phone.

Can you name some trademarks for the items listed by their generic names below?

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast-food Restaurant</td>
<td></td>
</tr>
<tr>
<td>Chocolate bar or Candy</td>
<td></td>
</tr>
<tr>
<td>Cereal</td>
<td></td>
</tr>
<tr>
<td>Car</td>
<td></td>
</tr>
<tr>
<td>Cosmetics/Makeup</td>
<td></td>
</tr>
<tr>
<td>Shoes</td>
<td></td>
</tr>
<tr>
<td>Car Insurance</td>
<td></td>
</tr>
<tr>
<td>Soda</td>
<td></td>
</tr>
<tr>
<td>Airline</td>
<td></td>
</tr>
</tbody>
</table>
Designing Your Trademark

Can you come up with a unique trademark for your version of the glow-in-the-dark sheet that will help people distinguish your product from some other maker of glow-in-the-dark sheets?

Draw a word, design or both as your trademark below.

**How do you know if your trademark is unique?**

When you come up with a trademark for your product or service, you have to make sure no one else is using it.

**Put on your detective hat, we are going to do some research!**

How do you find out if someone else has already come up with your trademark? One place to start is to search the trademark database at the USPTO.

- Go to www.uspto.gov.
- Click on “Trademarks” in the menu bar.
- Click on “Tools/TESS.”
- Click on Basic Word Mark Search under “Select a Search Option.”
- Type in the words that are in your trademark and click “Submit Query.” Note that designs can also be searched on the USPTO site.

Has anyone come up with a trademark similar to yours? Please note, your search may not pull up all trademarks that are similar to yours, but it will give you a very general idea of how to start a search.
**STEP 4: Copyrights: Don’t be a copycat**

Copyrights are a type of legal protection for “original works of authorship,” including literary, dramatic, musical, artistic, and certain other works. Yes, look at the words again—“copy” and “right.” A copyright gives the creator the right to control if, when, and how others may copy their original work.

Did you know that you automatically have a copyright anytime you write, draw, or record an original work? By putting your work in a fixed form, you automatically have a copyright in your original work.

If you want to put others on notice of your copyright, and gain some other advantages, you can register it at the United States Copyright Office.

**How long do copyrights last?**

Copyright protection lasts the lifetime of the author or artist plus 70 years. That’s a long time!

Learn more at the US Copyright Office’s website: [www.copyright.gov](http://www.copyright.gov)
Your Copyrighted Work!

Remember Becky’s Glo-Sheet invention? Additionally, she had a copyright in her website, wording on the packaging, and many other aspects of her product. If she wanted, she could have registered these copyrights. Now it’s your turn to develop a copyright! Write a short poem or song or create a drawing in the space below and place the copyright symbol © next to it. Share your new copyrighted material with a friend and explain to them why it is protected.

Thank you to our partners