Extraordinary Innovations Student Video Guide

View the “Extraordinary Innovations” video on the landing page of the USPTO website: www.uspto.gov/kids

UNITED STATES
PATENT AND TRADEMARK OFFICE
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Extraordinary Innovations

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Vocabulary

* **Invention:** a new useful product or method that did not exist previously and was created by the mind or imagination
* **Inventor:** a person or group who discovers or develops an invention
* **Property:** something to which a person or business has a legal title; something owned
* **Marketplace:** place where products are bought and sold
* **Consumer:** one that buys or gains possession of products for personal use or ownership

As you watch the Extraordinary Innovations video, you will hear these words

A patent is a property right granted by the government to an inventor for a new, useful, and non-obvious invention. **Patents** describe an invention with words and drawings. **Patents** allow inventors to prevent others from making, using, or selling their inventions without permission for a limited time in exchange for sharing the details and instructions of their inventions with the public. This way, the public can use that information to make new, different, and improved inventions. The United States Patent and Trademark Office is the federal agency responsible for the issuance of U.S. **patents**.

A trademark can be anything that can identify, distinguish, and indicate the source of a product or service and distinguish that source from other sources. Symbols, words, designs, scents, and even colors can function as trademarks so long as they are capable of identifying and distinguishing source. Trademarks help prevent consumer confusion and provide assurance of a product's quality in the marketplace. The United States Patent and Trademark Office is the agency responsible for the issuance of federal registrations for trademarks.

Introduction

Have you ever thought to yourself, "This would be better, if only... "

Thoughts like this have led to inventions that now make our lives easier and better, from the microwave to prosthetic limbs. Turning ideas into inventions has helped humans to survive and our world to evolve. Think about it, would the world be the same without the wheel, the light bulb, or the telephone?

The "Extraordinary Innovations" video uses the X-Games® competition as an example to show how **patents** and **trademarks** relate to every aspect of our society – even extreme sports and fashion. The X-Games competitions are held in the winter and summer and feature events such as skiing, snowboarding, snowmobiling, skateboarding, motocross, and stunt biking.

The X-Games competition requires athletes to push their limits and think outside the box. Inventing requires the same!

While Viewing The Video, Think About The Following Questions

* **Why** do people invent?
* **What** do inventors look like?
* **Why** are patents important?
* **Can** you think of any reasons why someone might not want to get a patent?
* **Why** are trademarks important?
* **What** would happen if we didn't have trademarks?
* **How** do you know if a word or symbol is a trademark?

Extraordinary Innovation Article - Patents

You learned about inventions, innovations, **patents**, and **trademarks** in the video. Now, it is time to learn more about **patents** and work on your own ideas!

Design It – Patents

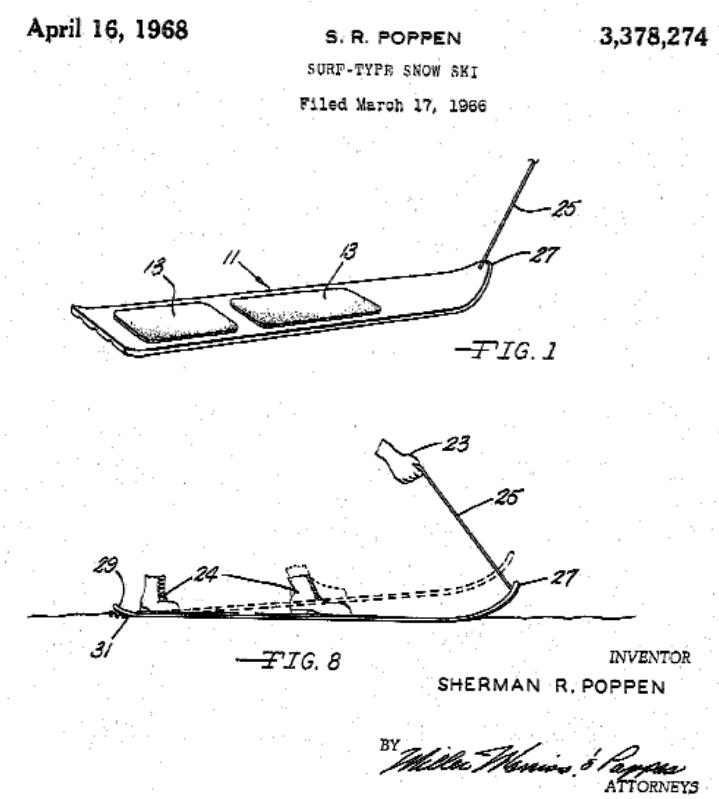
An invention must be a novel, useful, and non-obvious, machine, tool, composition of matter or any improvement thereof to be granted a patent in the United States.

* **Novel** means that the invention is different from all other inventions.
* **Useful** means that the invention works and has a purpose.
* **Non-obvious** means that the invention is different enough from all other inventions that it would take more than common sense to combine ideas to make the invention.

The first snowboard (or Snurfer™ board as it was named) is an example of an invention that was novel, useful, and non-obvious. First, the Snurfer board was novel and useful because you could travel down-hill standing on a single device rather than separated skis. Also, the device was non-obvious because although skis, surfboards and sleds existed, there were no inventions at the time that suggested the idea to combine them all together into a stand-upon single-piece snowboard.

Extension Activity at home

Make a timeline showing the history of snowboards. Search for dates that have something to do with snowboards. Your timeline should include the patent for Poppen's Snurfer board, Jack Burton and the Winter Olympics.



Your Turn

Now that you have some inspiration- choose your favorite toy or sports item and think of ways that you can change the toy or item to make it new, different, and better. Just like Poppen above used ideas from skiing and surfing, new ideas are usually improvements upon the old. Try to think of unusual and different elements that can be added to the toy or item to make the toy or item function in unexpected ways, for example a toy train with a propeller that will help the train to fly.

Give your invention a title, make a drawing, and describe your invention on the **Design It – Patents sheet.**

Want to know more about patents, trademarks, invention, & intellectual property? Visit www.uspto.gov

Search It – Patents

Before making an invention, a search should be performed to make sure that the invention is new. You can use the Internet or library to find articles and **patents** that describe inventions that are similar to your invention. You can also use the patent full text and image database at www.uspto.gov, a free search engine, or the USPTO public search facility in Alexandria, Virginia, and at any of the Patent and Trademark Resource Centers located throughout the US. Searching for an invention may not be easy in the beginning, but with time and practice, it becomes easier.

Activity

Look over the front page of the Quicksilver patent U.S. Patent # 7,823,892 and locate identifying information (title, inventor, date the application for the patent was filed). Fill out the **Search It- Patents sheet** with the information.

* **The** word "snowboard" was typed into the box of a patent search engine, and U.S. Patent # 7,484,738 by Deuce Snowboards LLC was selected. Use the attached sheet to compare the Quicksilver board with the Deuce board. Fill in the Compare It- Patents sheet.
* **Patents** often use different phrases to describe the same things. It is the job of a patent examiner to determine if inventions are the same, even if they go by different names. If you were searching for a snowboard, the word "snowboard" would give you a lot of results, however maybe not all of them. Especially earlier patents when the word "snowboard" was not yet well established. Can you brainstorm some other words that might be used to describe a snowboard? What are some other names an inventor might call it? Brainstorm other words to use to search for a snowboard below (Hint: think of what it is used for and other objects that it resembles).

Try It At Home

* **You** can use the USPTO Website or another free patent search engine search for the new toy or item you developed in the Design It section. You may have to work with an adult to help come up with key words or terms that describe your invention. Then, you can use those key words or terms to search for patents that may be similar to your invention.
* **If** you can, try to make a prototype for your invention. A prototype is a sample model of your invention. Decide on the materials you would need and gather them with the help of an adult. Build and test your prototype. Does it work or will you need to improve your design?

DESIGN IT – PATENTS

Directions

Come up with a new, different, and better toy or sports item. Try to make the invention both useful and non-obvious. Give the invention a title, sketch the invention in the box, and write a description below.

* **Title** _____
* **Inventor** Name
* **Draw** your invention

* **Description** (be sure to include: how it works, what it used for and how to make it):

SEARCH IT – PATENTS

Directions

Look over the front page of the Quicksilver Snowboard patent and answer the following questions:

* **What** is the patent number and date?

* **Does** the patent have a drawing? If so, how many drawings are there?
* **What** problem is this invention trying to solve?

* **Why** is this invention useful?

* **Why** is this invention novel and non-obvious? Novel means that the invention is different from all other inventions. Non-obvious means that the invention uses more than common sense to combine other objects.

* **Can** you think of a different solution to the problem that is addressed in the patent? What would you do?

COMPARE IT – PATENTS

Compare the snowboard **patents** in the chart below. Look at the figures and read the specification (description) to understand the invention. Be careful to notice which figures are indicated as "Prior Art" which means that those figures illustrate what is old, not their new invention.

Compare the following characteristics	Snowboard U.S. Patent #7,823,892	Multi-edge Snowboard U.S. Patent #7,484,738
Inventor Name and Filing Date		
Profile of the board (shape viewed from side)		
Number of section/parts		
Benefits		
Additional Observations		

Extraordinary Innovation Activities - Trademarks

You learned about inventions, innovations, **patents**, and **trademarks** in the video. Now, it is time to learn more about **Trademarks** and work on your own ideas!

Design It – Trademarks

A good trademark has several characteristics. First, a good trademark is unique, not a generic name like bookstore, cell phone, or pants. Second, a good trademark does more than simply describe a product or service, like FlyMe2theMoon instead of "Red Ball" for a red, bouncy ball.

Symbols such as TM, SM, or ® are used to identify **trademarks** and notify the public that the trademark belongs to someone. The ® may only be used with **trademarks** that have been registered with the USPTO. The ® symbol gives notice to makers of similar products or services that they cannot use the same or similar trademark to identify their own products or services. **Trademarks** do not have to be registered with the USPTO for the owner to enforce their trademark rights. However, an owner has greater protection if the mark has been registered. For a detailed listing of the benefits of federal registration visit http://www.uspto.gov/**trademarks**/index.jsp.

Activity

Look around the room. Can you see any logos, phrases or shapes that help you identify what company a product or service is associated with? For example, do you see shoes, drinks, or cell phones that immediately indicate who made them?

List some of them here:

_____

_____

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Your Turn

Think about a design, word (other than your own name), color, or sound combination that could be used by others to uniquely identify you as the maker of your invention from the Design It- Patent activity. Make sure to avoid words that just describe the invention, for example "Red Ball" for a ball that is red since you don't want your ball to be confused with someone else's "red ball". **On the Design It – Trademarks sheet**, create your trademark and write a brief explanation of how the trademark distinguishes the source or maker of your toy or item.

Create It - Trademarks

Come up with a trademark for your invention from the **Design It- Patents activity**. Try to make sure that your trademark is truly different from any other **trademarks** that you may know. Remember the purpose of the trademark is to uniquely identify and distinguish the maker or source of a product. Create your trademark in the box below and write a brief explanation of how the trademark identifies and distinguishes your toy or item.

Explanation of Trademark (what does it represent? why did you choose the colors/shapes/words? what motion should it cause? does it mean something special?):

Search It – Trademarks

You should perform a search before using your trademark to see if something like it is already in use by another. Trademark rights exist when they are used in commerce with goods or services. To conduct your search, first use the trademark database at www.uspto.gov, the USPTO public search facility in Alexandria, Virginia, or the Patent and Trademark Resource Centers throughout the US to search for confusingly similar registered marks. It is also a wise idea to use the Internet, go to the store, or look through magazines and newspapers to find **trademarks** that are similar to your trademark—especially if you actually plan to use the trademark in commerce. Searching for a trademark may not be easy in the beginning, but with time and practice, you will become better at it.

Activity

Look around your classroom and/or neighborhood to find **trademarks** and complete the Search It – **Trademarks** activity.

Try it at Home

* **Use** the USPTO TESS database, the Internet or the library to search for trademarks that may be similar to your trademark. Select a different trademark, if necessary, to avoid infringing (making your mark to close to someone else's mark) on someone else's mark.
* **Create** packaging and a print or television advertisement for your invention. Experiment with colors and shapes in your packaging and be sure to include your trademark. Try to make your advertisement convince consumers to buy your product as opposed to another brand. The purpose of a trademark is to identify and distinguish the source of your product from someone else's product. Remember, trademarks are not limited to just words and logos. Packaging colors and shapes, sounds and even smells can be trademarks.

Search It - Trademarks

Directions

Look around your classroom or neighborhood to find **trademarks**. **Trademarks** may be labeled with a TM, SM, or ®. Also, look for the word "trademark" on the product. Write a brief description of the trademark, the type of product, and tell why you think that the trademark was selected for this product.

Trademark Description	Type of Product	Why do you think that the trademark was chosen for this product?