

iC@Rea™



ELEMENTARY SCHOOL
RESOURCE GUIDE

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Teacher's Guide

Recommended learning level: Elementary Grades

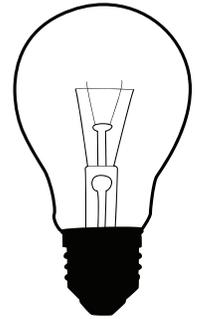
Overview

The i-©®ea™ curriculum provides a unit of lesson plans and activities to enable understanding and actual engagement in the processes of creating and inventing with a focus on the protections of intellectual property provided by patents, trademarks, and copyrights.

The introductory portion of this guide is designed to provide the educator with background information and other relevant material to facilitate the implementation process.

Unit Goal

At the elementary school level students will age-appropriately understand terminology relevant to the topic, the value of U.S. laws and services provided to foster creativity and step-by-step processes to enable organization of the creative process and ensure intellectual property is protected. Additionally, students will explore the digital citizenship and responsibility issues that confront everyone who is engaged in accessing, using and developing intellectual property with the assistance of digital technologies.



Curriculum Format, Scope and Implementation Strategies

Fostering problem-solving skills, exploration and creativity are an integral part of today's educational best practices, and with the advent of digital technologies, intellectual property issues are an increasingly necessary part of all curricula. This material is designed to be flexible and easily implemented by educators as a part of any of the following academic subjects: computer/technology, social studies/history/civics, science, language arts, and library science.

Scope

The following topic sections provide the framework of instruction:

- Patents
- Trademarks
- Copyrights
- Intellectual Property (IP) Theft
- Creative Problem Solving

Each of the topic sections: Patents, Trademarks, Copyrights, and Intellectual Property Theft includes a main lesson plan that addresses the key learning objectives. Each main lesson is supported by a selection of "Curriculum Connections," cross-curricular activities that can be selected appropriate to academic subject matter or interest. At this level Curriculum Connections are inclusive of any or all of the following components:

- Historical Connections
- Be Inspired (true stories of creativity and invention)
- Technology Connections
- Literacy Connections

Creative problem solving provides two sections:

Section 1: A series of teacher-facilitated lessons/activities to demonstrate organized steps in the invention process including:

- Getting an idea
- Make the idea better (brainstorming)
- Follow through on idea (inventor's log)
- Naming the invention
- Protecting the invention

Section 2: A workbook-style resource to enable students to study and engage in the various elements of the creative process and age-appropriately learn the documentation necessary throughout the process for protecting creative works. This option is appropriate for teachers who:

- expect students to work in a more self-directed manner
- work with students who are engaged in working on their own inventions
- want a group-guided experience for special needs students with less-developed reading comprehension skills

CREATE - A Successful Strategy for Implementation

1. Completely read the Teacher's Guide section.
2. Review the lessons, activities, Invention Connection and other resources, and make your selections.
3. [REDACTED] it into your schedule.
4. [REDACTED] access, etc.
5. [REDACTED]
6. [REDACTED] survey assessments at [REDACTED].

Assessment

An integral part of the i-SAFE education program is the maintenance of a database of student survey responses designed to chart student understanding of the concepts presented, as well as the status and evolution of the Internet behaviors of youth. These assessment surveys are completed online and are completely anonymous.

Please have your students complete the pre assessment prior to engagement in this curriculum and the post-assessment upon completion. Instructions:

- If beginning the i-SAFE program with this unit, administer the pre assessment online at <http://www.isafe.org> by clicking on the link, Surveys/Assessments, prior to the lesson, and selecting the appropriate assessment link.
- If ending the i-SAFE program with this unit, administer the post assessment online at <http://www.isafe.org> by clicking on the link, Surveys/Assessments, prior to the lesson, and selecting the appropriate assessment link.

- To verify School ID#, login at <http://www.isafe.org>, go to the “My Info” page and select “Find your school ID.”

Authentic evaluation strategies of specific lesson and/or activity concepts are provided in the lesson plans.

Educator Resources

Relevant Information

Use this section:

- as preparatory materials to confidently teach the curriculum
- to help determine how this curriculum integrates into the subject matter you teach
- to provide direction on how to plan integrated instruction with others in your school

What is the Value of Intellectual Property Rights Education?

Think Science!

Students of all ages engage in creative and inventive projects as part of their science education. They are not always aware however of the potential value of their own work and the steps necessary, to protect their work.



Think Economics!

Intellectual property is a vital component of today’s economy. As technologies grow, U.S. copyright-based industries continue to be one of America’s largest and fastest-growing economic assets. The October 2007 report, *The True Cost of Copyright Industry Piracy to the U.S. Economy*, by Stephen E. Siwek, concludes that each year copyright piracy from motion pictures, sound recordings, business and entertainment software, and video games costs the U.S. economy \$58.0 billion in total output, costs American workers 373,375 jobs and \$16.3 billion in earnings, and costs federal, state, and local governments \$2.6 billion in tax revenue. (Resource: *The True Cost of Copyright Industry Piracy to the U.S. Economy*, by Stephen E. Siwek available at http://blog.copyrightalliance.org/files/u227/SiwecCopyrightPiracy_studypdf.pdf)

Effective protection of intellectual property rights is essential to fostering creativity and to supporting our economic and financial infrastructure as these rights create incentives for entrepreneurs, artists, firms, and investors to commit the necessary resources to research, develop and market new technology and creative works.

The Internet has, in a matter of a few short years, enabled market and technological developments to create an instantly accessible global environment in which the distribution of both legitimate and illegitimate goods flourishes as never before. As economic freedom expands to more and more countries, their manufacturers and consumers are increasingly interconnected due to advances in telecommunication networks, integrated financial markets, and global advertising.

This interconnected global economy creates unprecedented business opportunities to market and sell intellectual property worldwide. Geographical borders present no impediment to international distribution channels. Consumers enjoy near-immediate access to almost any product manufactured in the United States or abroad, and they are accustomed to using the international credit card system and online money brokers (such as PayPal) to make payment a virtually seamless process worldwide. If the product can not be immediately downloaded to a home PC, it can be shipped to arrive next day.

Think Social and Civics Education!

Let's face it, Cyberspace is not a separate entity from the physical world; it is a real aspect of our community and social existence, with youth leading the way towards adopting full integration of technology resources in almost everything we do.

Think Digital Literacy and Responsibility! (This means encompassing all academic areas, especially technology, language arts, research, and library science skills.)

In this day and age it is easy to equate ease of access to materials with the concept of free for the taking. And, in fact, it is an age in which the laws surrounding this issue as they pertain to technological usage are still being written. Consequently, it has become more and more apparent that digital literacy and/or computer technology education must keep pace by including integrated education on the responsible usage of technologies.

The loss of \$58 billion per year to copyright piracy, as reported in Sivek's 2007 report, illustrates the fact that the same technology that benefits rights holders and consumers, also benefits intellectual property thieves seeking to make a fast, low-risk buck. As we encourage this generation of tech-savvy students to create and invent, it is incumbent upon us to include as part of digital literacy education, instruction on recognition and coping techniques to deal with the ever-present Internet scamsters hoping to take advantage of those who have creative ideas they wish to share with others.

Think Music and the Creative Arts!

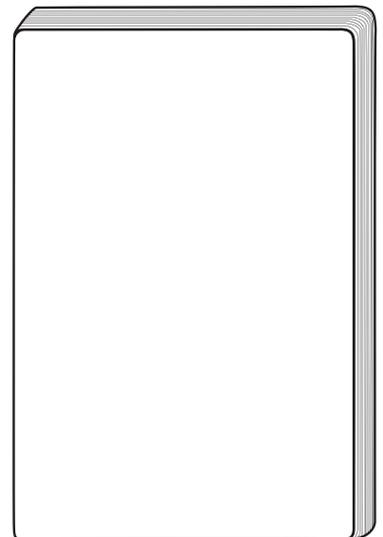
Youth of today can be inspired with the knowledge of how intellectual property rights protect their original creations. Creative artists are enabled to make worthwhile contributions to society because their work is protected by copyrights. These rights allow artists to have control over what happens to their creations, ensuring that they have the ability to market and sell their work.

Today's United States Patent and Trademark Office (USPTO)

In the United States, the concept of protection for property rights is as old as the ideas of the founding fathers, who wrote the U.S. Constitution as the supreme law of the United States of America. When the delegates from various states met in Philadelphia in 1787 to frame the U.S. Constitution, one of the problems before them was to give protection to inventors and authors.

Before the Constitution was adopted, many of the colonies and states granted patents. The colonial and state patents, unlike modern patents, were issued only by special acts of legislature. There were no general laws providing for the granting of patents. On September 11, 1787, the delegates signed the Constitution. Included in Article 1, Section 8 was the provision, Congress shall have the power... to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.

George Washington signed into law the first patent act on April 10, 1790, and the first copyright law on May 31, 1790. The responsibility for administering the patent laws was given to the Department of State, and responsibility for issuing patents was placed upon a three-member board: the Secretary of State Thomas Jefferson; the Secretary of War Henry Knox; and the Attorney General Edmund Randolph. That first year, the patent board issued three patents. Since that time many other revisions to patent laws, processes, and even to the management and title of the governing office have occurred. Nearly 8 million patents have been issued and over 3 million trademarks registered.



In its earlier days the Patent Office had on various occasions the responsibility for administering copyright matters, collecting and publishing agricultural information, and even collecting meteorological data. In 1870, the commissioner of patents was given jurisdiction to register trademarks. In 1975, the U.S. Patent Office became known as the U.S. Patent and Trademark Office (USPTO). Today, this office is a part of the Department of Commerce, and employs about 9,000 people. The Library of Congress' Copyright Office is responsible for registering copyrights.

Due in part to the growth and development of digital technologies, today's USPTO has become a valuable, user-friendly resource for teachers, students, and inventor/creators of all ages. In 2000 it enabled an online filing system for patent applications. The official Web site of the USPTO, www.uspto.gov, is a valuable help to anyone interested in understanding the concepts related to patent and trademark applications and other invention guidelines, and serves to provide a remarkable database of searchable patents and trademarks. By publishing and distributing copies of every U.S. patent, the USPTO has made available to the public the world's greatest scientific and mechanical library.

Under the patent system, American industry has flourished. New products have been invented, new uses for old ones discovered, and employment given to millions. A small, struggling nation has grown into one of the greatest industrial and economic powers on earth.

The Topics – It's All About Intellectual Property

Similar to the way the law recognizes ownership rights in material possessions such as cars and homes, it also grants rights for intangible property, such as the expression of an idea or an invention. The law protects intellectual property in four distinct areas: patents, trademarks, copyrights, and trade secrets.

The following information is covered age-appropriately in the elementary level student reference and activity pages.

Copyright

In this digital age, copyright issues are often in the forefront of the news. The advent of easy file sharing via the Internet and other means of copying digital works put music, video, and game-loving youth in the position of facing the ethical and legal decisions involving copyright on almost a daily basis.

At its basis, copyright is the legal right granted to a creator of an original work of authorship to control publication, production, sale or distribution of it, including literary, dramatic, musical, artistic, and certain other intellectual works,

Copyrights begin upon creation of a work in tangible form (a form that can be seen or touched, such as books or drawings, or seen and heard, such as movies, CDs, or video games). An oral folktale isn't protected by copyright in the United States until it's written down or recorded. Similarly, other creations such as an ice sculpture, or sand castle would be too transient to meet the requirement of tangibility. In addition, for something to be classified as copyrightable it must be inherently creative or "original." A mere collection of facts – such as a telephone directory – would not be copyrightable, but a clever collection of facts or a work accumulating such facts in an original way might be copyrightable.

Copyright laws are based on the concept that someone who creates a work of authorship deserves to be compensated for it, balanced with the rights of the public to the free flow of ideas and information, thus promoting new works of authorship and benefiting society as a whole.

Copyright in a work does not have to be registered, or protected by a notice (although this is recommended to make clear to the public that the author is claiming copyright protection in the work). Works are protected by copyright law even if the copyright notice is not shown.

Students should not only learn the legal restrictions of copyright, but also legal alternatives to using copyrighted materials. Additionally, it is important for youth to understand that copyright automatically applies to their own original work.

Copyright for Young Learners

What is age-appropriate about it?

Understanding the concept of copyright goes hand in hand with knowing about numerous laws and fair use guidelines. The goal in introducing this concept to younger children is not to master understanding of the laws, but to integrate understanding of the concepts of Internet responsibility and online ownership to facilitate digital citizenship development as a part of technology skill development.

The Internet provides an easy resource for students in the elementary grades as they learn to prepare school projects and reports. They should be given simple guidelines for fair use of copyright protected material, and information about how you would like them to cite sources.

Copyright 411

Use the following information as a guide in helping students understand copyright.

What Works Are Protected?

Copyright protects “original works of authorship” that are fixed in a tangible form of expression. Copyrightable works include the following categories:

- literary works
- musical works, including any accompanying words
- dramatic works, including any accompanying music
- pantomimes and choreographic works
- pictorial, graphic, and sculptural works
- motion pictures and other audiovisual works
- sound recordings
- architectural works

These categories should be viewed broadly. For example, computer programs and most “compilations” may be registered as “literary works”; maps and architectural plans may be registered as “pictorial, graphic, and sculptural works.”

What Is Not Protected by Copyright?

Several categories of material are generally not eligible for federal copyright protection. These include among others:

- Works that have not been fixed in a tangible form of expression (for example, choreographic works that have not been notated or recorded, or improvisational speeches or performances that have not been written or recorded)
- Titles, names, short phrases, and slogans; familiar symbols or designs; mere variations of typographic ornamentation, lettering, or coloring; mere listings of ingredients or contents
- Ideas, procedures, methods, systems, processes, concepts, principles, discoveries, or devices, as distinguished from a description, explanation, or illustration
- Works consisting entirely of information that is common property and containing no original authorship (for example: standard calendars, height and weight charts, tape measures and rulers, and lists or tables taken from public documents or other common sources)

Patents

A patent issued by the United States Patent and Trademark Office protects and enables the creative process by granting a property right to the inventor. U.S. patents only protect property in the United States, United States Territories, and United States Possessions. A patent gives inventors “the right to exclude others from making, using, offering for sale, or selling” the invention in the United States or “importing” the invention into the United States.



There are three different types of patents in the United States.

- **Utility patents:** These patents protect processes, machines, manufactured items, or compositions of matter. Some examples include medicine, electronics, and sports equipment. This is the most common form of patents.
- **Design patents:** These patents protect new, original, and ornamental designs for manufactured items. For example, the design of athletic shoes or an automobile body.
- **Plant patents:** These patents cover asexually reproduced and distinct plant varieties; for example, hybrid tea roses, as well as Better Boy tomatoes.

Who Can Obtain a Patent and How?

Anyone can apply for a patent, and this is one reason why it’s important to provide students with this knowledge. “Empowerment” is a key term in today’s educative process; and if you think about it, what can be more empowering than enabling youth with the understanding that their ideas have value, their intellectual property may be protected and their ideas may really take them somewhere—to fame, fortune or more discoveries!

A patent is obtained through the process of applying to the U.S. Patent and Trademark Office. Detailed instructions and a supporting activity can be found in the main lesson plan on Patents.

Trade Secrets

A trade secret is confidential business information. We include the topic of trade secrets with patent protection as well as when talking about intellectual property theft because trade secret protection works as an alternative to patent protection. Trade secrets are broader in scope than patents, and include scientific and business information (e.g., market strategies). One interesting aspect of the concept of trade secrets is that the information can be freely used (loses its legal protection) if it is obtained or learned through legitimate means, such as reverse engineering or public disclosure.

Trademarks and Service Marks

The federal and state laws of trademarks and service marks protects a commercial identity or brand used to identify a product or service to consumers. The federal Lanham Act prohibits the unauthorized use of a trademark, which is defined as, “any word, name, symbol, or device” used by a person “to identify and distinguish his or her goods, including a unique product, from those manufactured or sold by others and to indicate the source of the goods.” (Resource: U.S. Trademark law: 15 U.S.C. § 1127 available at <http://www.uspto.gov/web/offices/tac/tmlaw2.html>.)

A service mark is a trademark that identifies and distinguishes the **services** of one provider from services provided by others, and indicates the source of the services.

Any time you claim rights in a mark, you may use the TM (trademark) or SM (service mark) designation to alert the public to your claim, regardless or whether you have filed an application with the USPTO. However,

you may use the federal registration symbol ® only after the USPTO actually registers a mark, and not while an application is pending. Also, you may use the registration symbol with the mark only on or in connection with the goods and/or services listed in the federal trademark registration.

By registering trademarks and service marks with the U.S. Patent and Trademark Office, the owner is granted the exclusive right to use the marks in commerce in the United States. Registered trademark owners can exclude others from using the mark, or a comparable mark, in a way likely to cause confusion in the marketplace.

Web Resources

Use this section to supplement materials, lessons and activities in this curriculum.

The official website of the USPTO at <http://www.uspto.gov/> provides extensive information on all of the topics covered in this curriculum. Guided exploration of this site can be especially helpful in teaching high school level students.

Additional Suggestions:

Inventor Resources at <http://www.uspto.gov/web/offices/com/iip/index.htm> provides links to specific topic information, frequently asked questions and downloadable brochures.

Twinkle Lights for grades K-6 (Kids' Pages) at

<http://www.uspto.gov/web/offices/ac/ahrpa/opa/kids/special/kidtwink.html> provides online activities to reinforce concepts taught in this curriculum. Specific suggestions are offered in individual Curriculum Connections activities.

Special Resources; Guiding Lights: Parents, Teachers and Coaches at <http://www.uspto.gov/web/offices/ac/ahrpa/opa/kids/special/guide1.htm> provides links to the following helpful resources:

- Patent and Trademark Depository Library program
- Small Business Administration Business Plan Tutorial
- InventNow.org

How-to information and online patent search at:

<http://www.uspto.gov/patft/index.html>

How-to information and Trademark Electronic Search System (TESS) at:

<http://www.uspto.gov/patft/index.html>

Lesson/Activity Resources

Use this section as a resource to obtain additional information on stories and facts presented in the lessons and activities.

Patents

- Main lesson: General information Concerning Patents at:
<http://www.uspto.gov/main/patents.htm>
- Patent pages for earmuffs <http://www.google.com/patents?id=hXcbAAAAEBAJ&dq= earmuffs>
- Information on Chester Greenwood at:
<http://inventors.about.com/library/inventors/blgreenwood.htm>
<http://www.ideafinder.com/history/inventions/ earmuff.htm>

Trademarks

- Main Lesson: trademark comparison resources at:
http://en.wikipedia.org/wiki/List_of_generic_and_genericized_trademarks and <http://www.uspto.gov/main/trademarks.htm>
- Information on developing names
<http://www.best-business-skills-training-info.com/trademarking/Play-The-Business-Game-With-A-Trademarked-Name.html>
- Curriculum Connections:
 - Information about the Toll House Cookie at
<http://www.verybestbaking.com/products/tollhouse/history.aspx> and
<http://www.ideafinder.com/history/inventions/tollhouse.htm>

Copyrights

- Main Lesson: www.loc.gov/copyright
<http://www.uspto.gov/main/profiles/copyright.htm>

Intellectual Property Theft

- Main Lesson: <http://www.cybercrime.gov/ip.html> and www.uspto.gov
- Curriculum Connections:
Plagiarism <http://www.plagiarism.org/>

Creative Problem Solving and Invention Connection

- Brainstorming:
<http://olc.spsd.sk.ca/DE/PD/instr/strats/brainstorming/index.html>
- The Pencil and the Eraser – Hyman Lipman:
<http://inventors.about.com/library/inventors/blpen.htm>
- Young Inventors:
<http://www.factmonster.com/ipka/A0768091.html>
- The History of the Telephone:
<http://inventors.about.com/library/inventors/bltelephone.htm>

- The Library of Congress Research Center: Who is Credited with Inventing the Telephone? at: <http://www.loc.gov/rr/scitech/mysteries/telephone.html>
- The Inventor’s Log: <http://www.inventionconvention.com/ncio/inventing101/001.html>
- How to Keep an Inventor’s Log Book at: http://inventors.about.com/cs/logbook/ht/Log_book.htm
- Invent Help: How to Begin an Inventor’s Log or Journal at: <http://www.inventhelp.com/inventors-log-or-journal.asp>
- Patent Searches: <http://www.uspto.gov/main/profiles/acadres.htm> and www.google.com/patents
- Patent Scams: http://www.nydailynews.com/money/2007/09/27/2007-09-27_firm_invented_60m_scam_say_feds.html?print=1 and <http://www.ftc.gov/bcp/menus/consumer/invest/schemes.shtml>
- USPTO: Top Ten Scam Warning Signs at: <http://www.uspto.gov/web/offices/com/iip/documents/scamprevent.pdf>
- The American Inventor’s Act: <http://www.uspto.gov/web/offices/dcom/olia/aipa/index.htm>

Educational Standards

All lessons are designed to meet accepted educational standards and best practices in teaching. The following chart defines basic alignment to relevant national educational standards. Access specific standards documents for information on performance indicators and benchmarks.

Lesson Topic: Patents

National Science Standards K-5	American Library Association (ALA/ACRL) Information Literacy Standards	National Council for the Social Studies (NCSS) Curriculum Standards for Social Studies: II	National Language Arts Standards K-12
NS.K-4.1: Science as Inquiry	ALA Category I: Information Literacy Standard 1, 2, 3	Strand II: Time, Continuity and Change	NL-ENG.K-12.1 Reading for Perspective
NS.K-4.5: Science and Technology	ALA Category II: Independent Learning Standard 6	Strand V: Individuals, Groups, and Institutions	NL-ENG.K-12.4 Communication Skills
NS.K-4.7: History and Nature of Science	ALA Category III: Social Responsibility Standard 8, 9	Strand VI: Power, Authority, and Governance	NL-ENG.K-12.7 Evaluating Data
		Strand VII: Production, Distribution, and Consumption	NL-ENG. K-12. 8 Developing Research Skills
		Strand VIII: Science, Technology, and Society	NL-ENG.K-12.12 Applying Language Skills

Lesson Topic: Trademarks

National Science Standards K-5	American Library Association (ALA/ACRL) Information Literacy Standards	National Council for the Social Studies (NCSS) Curriculum Standards for Social Studies: II	National Language Arts Standards K-12
NS.K-4.1: Science as Inquiry	ALA Category I: Information Literacy Standard 1, 2, 3	Strand V: Individuals, Groups, and Institutions	NL-ENG.K-12.1 Reading for Perspective
NS.K-4.5: Science and Technology	ALA Category II: Independent Learning Standard 6	Strand VI: Power, Authority, and Governance	NL-ENG.K-12.4 Communication Skills
	ALA Category III: Social Responsibility Standard 8, 9	Strand VII: Production, Distribution, and Consumption	
		Strand VIII: Science, Technology, and Society	

Lesson Topic: Copyright

National Educational Technology Standards (NETS-S)	American Library Association (ALA/ACRL) Information Literacy Standards	National Council for the Social Studies (NCSS) Curriculum Standards for Social Studies: II	National Language Arts Standards K-12
Standard 3: Research and Information Fluency	ALA Category I: Information Literacy Standard 1, 2, 3	Strand IV: Individual Development and Identity	NL-ENG.K-12.1 Reading for Perspective
Standard 5: Digital Citizenship	ALA Category II: Independent Learning Standard 6	Strand V: Individuals, Groups, and Institutions	NL-ENG.K-12.4 Communication Skills
	ALA Category III: Social Responsibility Standard 8, 9	Strand VI: Power, Authority, and Governance	
		Strand VII: Production, Distribution, and Consumption	
		Strand X: Civic Ideals and Practices	

Lesson Topic: Intellectual Property theft and Other IP Protections

National Educational Technology Standards (NETS-S)	American Library Association (ALA/ACRL) Information Literacy Standards	National Council for the Social Studies (NCSS) Curriculum Standards for Social Studies: II	National Language Arts Standards K-12
Standard 3: Research and Information Fluency	ALA Category I: Information Literacy Standard 1, 2, 3	Strand IV: Individual Development and Identity	NL-ENG.K-12.1 Reading for Perspective
Standard 5: Digital Citizenship	ALA Category II: Independent Learning Standard 6	Strand V: Individuals, Groups, and Institutions	
	ALA Category III: Social Responsibility Standard 8, 9	Strand VI: Power, Authority, and Governance	
		Strand VII: Production, Distribution, and Consumption	
		Strand X: Civic Ideals and Practices	

Lesson Topic Creative Problem Solving and the Invention Connection

National Educational Technology Standards (NETS-S)	National Science Standards K-5	American Library Association (ALA/ACRL) Information Literacy Standards	National Council for the Social Studies (NCSS) Curriculum Standards for Social Studies: II	National Language Arts Standards K-12
Standard 1. Creativity and Innovation	NS.K-4.1: Science as Inquiry	ALA Category I: Information Literacy Standard 1, 2, 3	Strand IV: Individual Development and Identity	NL-ENG.K-12.1 Reading for Perspective
Standard 2. Communication and Collaboration	NS.K-4.5: Science and Technology	ALA Category II: Independent Learning Standard 6	Strand V: Individuals, Groups, and Institutions	NL-ENG.K-12.4 Communication Skills
Standard 3. Research and Information Fluency	NS.K-4.7: History and Nature of science	ALA Category III: Social Responsibility Standard 8, 9	Strand VI: Power, Authority, and Governance	NL-ENG.K-12.7 Evaluating Data
Standard 4. Critical Thinking, Problem-Solving & Decision-Making			Strand VII: Production, Distribution, and Consumption	NL-ENG.K-12.12 Applying Language Skills
			Strand X: Civic Ideals and Practices	

LESSON PLAN—Intellectual Property and Patents

Recommended learning level: Mid – Upper Elementary



Learning Objectives

Students will:

- describe the attributes of an invention
- age-appropriately describe how a U.S. patent is obtained
- give examples of the types of things that can be patented
- age-appropriately define the value of a patent to an inventor
- understand that children can be successful at inventing and obtaining patents



Materials

- a copy of the reference page for each student
- a copy of the activity page for each student
- materials for drawing or coloring
- optional: a copy of the selected pages from patent #5,038,412 (provided on pages 15-16) or of the complete patent, available at <http://www.uspto.gov/patft/index.html>, as an example of a real patent



Procedures Discussion

Pass out the reference page.

Use the following open-ended questions and prompts to guide a brief discussion.

- Think about what you have learned about copyright protections. What kinds of things does copyright protect?
- Other kinds of created items are protected by patents.
- Have students read the first half of the reference page silently. Pause for questions; Clarify key vocabulary words and discuss concepts. Have students read the second half of the reference page silently. Pause for questions, discussion. Clarify key vocabulary words and discuss concepts.

Note: Resource link for invention stories: http://inventors.about.com/od/kidinventions/Inventions_Made_By_Kids.html.

Activity

Pass out the activity page and have students follow the instructions. Allow about 15 minutes to complete the activity and meet back as a class to share ideas.

Refer back to the reference page, and for each idea, have the students identify which type of patent would be applied for, if invented, and how it would be best for them to proceed (Have an adult help with a patent application from the USPTO.)

Complete the activity by going around the class and having students identify why it would be great to invent something that everyone would use.

Extension Option

- Access the copy of pages from patent #5,038,412 (provided) or of the complete patent, available at <http://www.uspto.gov/patft/index.html>, as an example of a real patent.

LESSON EXTENSIONS

Use activities found in the Curriculum Connections to reinforce concepts of the main lesson with cross-curricular activities that enable critical thinking.

Selected Page Sample

from Patent #5,038,412

United States Patent [19]
Cionni

[11] **Patent Number:** **5,038,412**
[45] **Date of Patent:** **Aug. 13, 1991**

[54] **HEADBAND WITH EARMUFFS**
[75] **Inventor:** Jean Cionni, Cincinnati, Ohio
[73] **Assignee:** 'totes', Incorporated, Loveland, Ohio
[21] **Appl. No.:** 569,557
[22] **Filed:** Aug. 20, 1990
[51] **Int. Cl.:** A42B 1/06
[52] **U.S. Cl.:** 2/209; 2/171;
2/181; 2/DIG. 11
[58] **Field of Search** 2/209, 171, 181, 454,
2/452, 410, DIG. 11

4,646,367	3/1987	El Hassen	2/171
4,675,915	6/1987	Siciliano	2/181
4,712,254	12/1987	Daigle	2/454
4,802,245	2/1989	Miano	2/209
4,805,239	2/1989	Ciango	2/209
4,811,430	3/1989	Janusz	2/452
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Primary Examiner—Werner H. Schroeder
Assistant Examiner—Gloria Hale
Attorney, Agent, or Firm—Wood, Herron & Evans

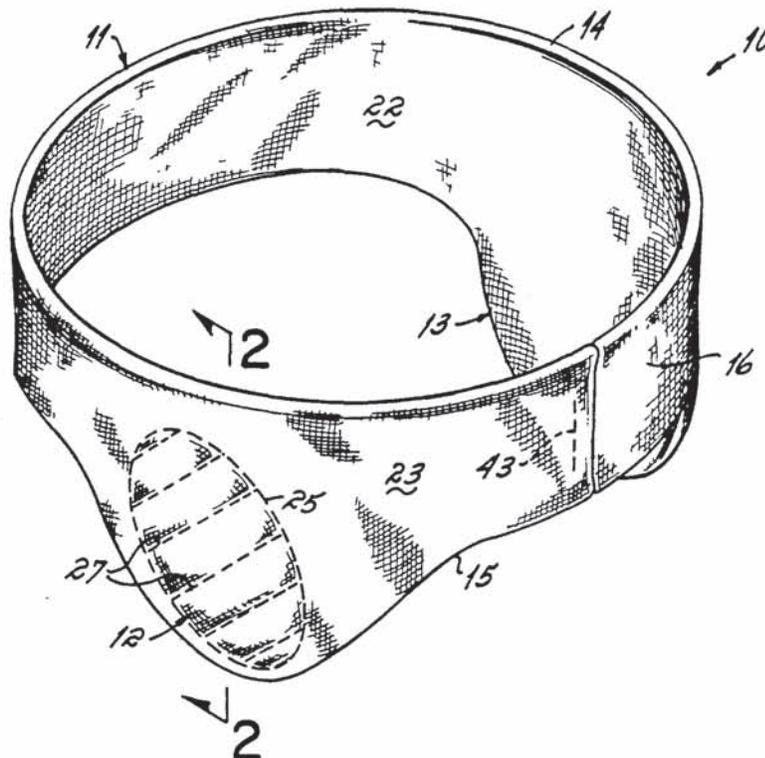
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[57] **ABSTRACT**

A headband with earmuffs where, in preferred form, the headband is fabricated from a stretchable material configured to incorporate a generally flat insulative pad interiorly of that band for each of the wearer's ears. Preferably the headband is fabricated from a one piece fabric blank folded upon itself to establish a generally tubular cross-sectional configuration with the insulative pads stitched to that blank interiorly of the tubular headband.

8 Claims, 3 Drawing Sheets



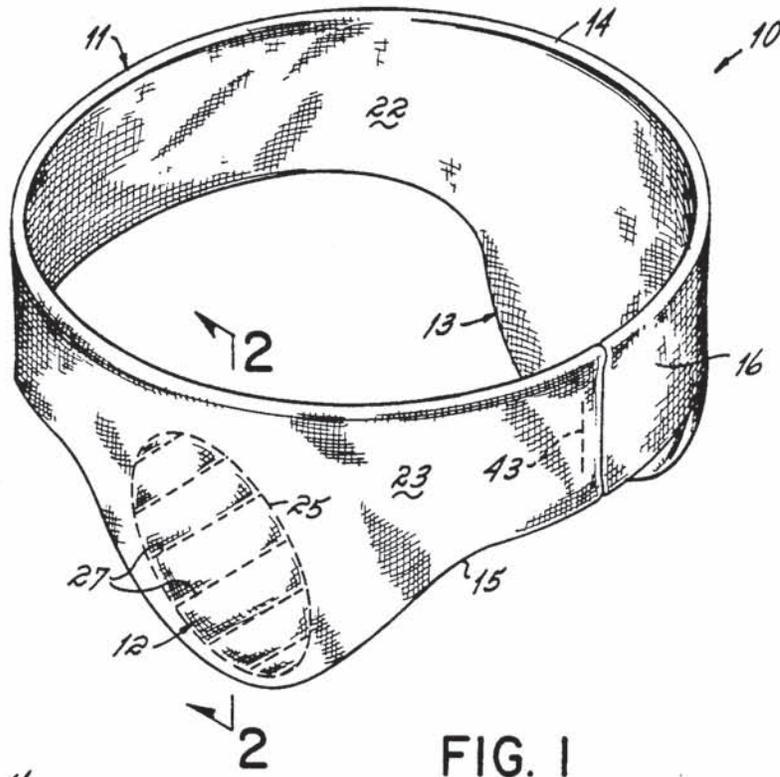


FIG. 1

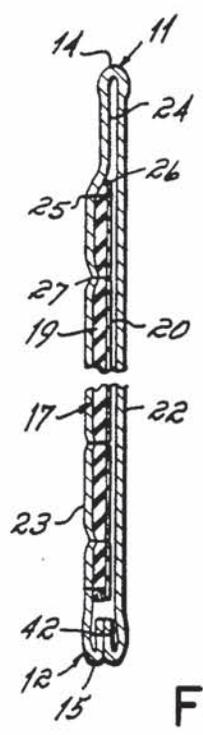


FIG. 2

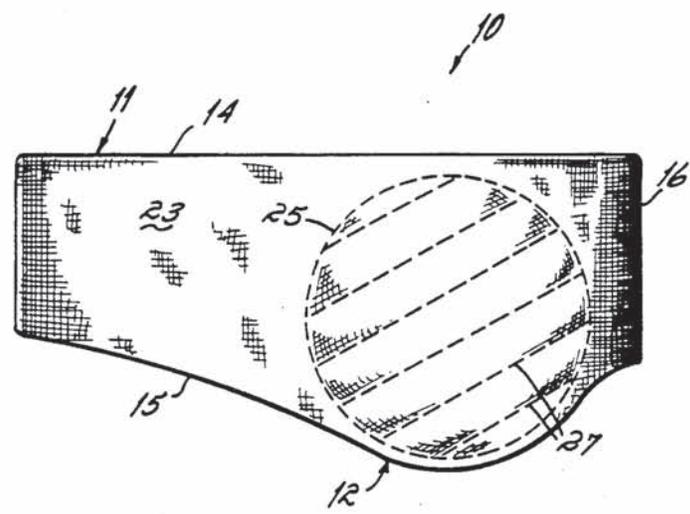


FIG. 3

You Can Patent an Invention!



An invention can be a new product or a new method of doing something. It can also be an improvement to something that is already invented. Anyone can be an inventor. You could invent something that changes everyone's lives. But once you invent something, what is to keep others from stealing your idea and selling your invention? How would you make money from it or be known as the inventor then?

The Patent

A patent is for protection.

The patent is a right, granted by the United States, to an inventor to exclude others (telling others NO) from making, using, or selling an invention in the United States without the inventor saying it is alright.

Patents are pretty amazing. Without a patent anyone could sell YOUR invention. In the United States, there are nearly 8 million patents. That's mind boggling – but let's think about it. Look around the room – everything in the room is an invention of some sort! That stapler, that pencil sharpener, that zipper on your jeans all are, or were, protected by patents.

Eight-year-old Chelsea Lannon received a patent in 1994 for her “pocket diaper,” a diaper that has a pocket to hold a baby wipe and baby powder puff. She was still in Kindergarten when she got this idea, while helping her mother with her baby brother.

Eleven-year-old Jeanie Low received a patent in 1992, for inventing the Kiddie Stool—a foldup stool that fits under the sink. This stool is designed so that kids can unfold it, stand on it and reach the sink all by themselves!

There are three different types of patents in the United States.

- Utility Patent – This kind of patent protects the **FUNCTION** (the way something works) of an invention. This type of patent lasts 20 years from the date the application is filed.
- Design Patent – This kind of patent protects the **APPEARANCE** (the way something looks) of an invention. This type of patent lasts 14 years from the date the patent issues.
- Plant Patent – This kind of patent is for new types of **PLANTS**. For example, if you invent and grow a plant that has **BLUE** tomatoes - you might want to get a plant patent to protect your work. This type of patent lasts 20 years from the date the application was filed.



What can you patent, and what is the process?

You can patent any new and useful process (way to do something), machine, manufactured article, or composition of matter, as well as any new and useful improvements to those types of inventions.

A patent protects a finished invention. However, until you apply for and get a patent, you need to protect your IDEA. To protect the idea for your invention, you need to keep a record called an inventor's log. It is a journal of all the steps taken while developing your invention. For example, a spiral bound notebook can be used. Each entry is signed and dated. This helps prove when you had your idea and if it was original.

When your idea is complete, a patent can be obtained by filling out and submitting a patent application to the United States Patent and Trademark Office. You need an adult to complete this process.

Your Turn

Chances are, you like to spend some of your time playing. And if you spend quite a bit of time playing, you could be considered to be an expert on it!

So, who better to INVENT a new toy than an expert like you? This could be a toy that you would like to play with, something for a baby brother or sister or even a dog or cat toy!

Just remember - all of your ideas, no matter how wild and crazy, are good ones! Alexander Graham Bell was ridiculed when he first described his telephone invention to others, but he didn't give up!

Try it Out

Close your eyes. Picture yourself (or your little brother, neighbor, cat or dog) playing with something ENTIRELY new.

It can be as WILD and creative as you want to be.

For example - wouldn't it be so cool if you were playing jet-pack tag. The toy is a new jet pack that allows you to hover in the air and fly about.

Follow an idea for a fantasy toy.....

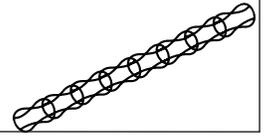
Is it based on a favorite game, TV show or movie?

Draw your Fantasy Toy:



The next steps – Once you have the idea, you would log information about it into an inventor's log and then take the steps to research it, develop it and finally PATENT it!

Curriculum Connections



These cross-curricular activities support main lesson concepts through critical thinking activities.

Technology Connection – Patent Identification



Materials/Preparation

- Internet access

Procedures

- Instruct students that they are going to play a game called “Goldmine” to Identify the Patent.
- The purpose of the game is to attempt to identify what an item is based upon by the patent drawing.
- Access the game at: <http://www.uspto.gov/web/offices/ac/ahrpa/opa/kids/games/miner.html>.



Discuss

Meet back as a class and have students share what was found.

- Have the students discuss which patents they recognized.
- Discuss how students figured out what each item is.



Materials/Preparation

- Internet access

Procedures

- Instruct students that they are going to play a game called “inventor IQ” to Match the Inventor to the Clue.
- The purpose of the game is to attempt to identify who invented various items, based upon clues.
- Access game at: <http://www.uspto.gov/web/offices/ac/ahrpa/opa/kids/games/gameinventors.html>.



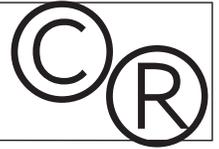
Discuss

Meet back as a class and have students share what they found.

- Have the students discuss which inventors they recognized.
- Discuss how students figured out who invented what.

LESSON PLAN—Intellectual Property and Trademarks

Recommended learning level: Mid – Upper Elementary



Learning Objectives

This lesson introduces age-appropriate meanings and concepts of intellectual property and trademark protections. Students will:

- be able to age-appropriately define the term “trademark”
- categorize products as generic or brand name
- identify popular trademarks
- associate the symbols: TM, SM and ® with the protection of trademark
- understand the benefit of having a trademark name



Materials

- a copy of the reference/activity page for each student or student group
- blank chart or area on the board



Procedures Discussion

Use the following open-ended questions and prompts to guide a brief discussion:

- Ask students what types of sneakers they buy. Continue by asking about other items they buy, such as jeans, backpacks, types of breakfast foods, or the make of pen they use, and so on.
- Ask students to list the complete “names” of some of the types of items they use, eat, or wear often. (for example: Eggo waffles or Bic pens). List items on the board as they are suggested.
- Ask students why items have two names.
- Explain that usually an item has what is known as a generic name as well as a brand name.
- Explain that a brand name is any name used to describe a product or signify a specific product. For example, aspirin is a generic name. In Bayer aspirin, “Bayer” is the brand name. CVS aspirin or Walgreens Aspirin are also examples of brand names.
- Brand names are trademark names. These names are just one example of the types of things that trademark law protects.
- A trademark can be a word, name, symbol, logo, scent, sound, or any combination of those.



Reference / Activity

- Hand out the reference/activity page to each student or student group.
- Read the information at the top of the page aloud to the group or have the students read it silently.
- Discuss the information.

Activity

- Have students work individually or in small groups.
- Instruct them to decide if each word in the word bank is a trademark (brand) name or generic name, and list each one in the correct column.
- Meet back as a class and discuss the categories and how they listed the names. Have students name other brand names for each generic name, or the generic name for each brand name on their chart.
- Discuss the Challenge Question. Evaluation: Answers should include (1) that the name “Aldo” might be mistaken by customers for the well-known brand, “Alpo.” The new company might sell some products this way. (2) Additionally, the name “Aldo” is so close to “Alpo” that even if a customer recognized the difference, the new product would get attention, and maybe a closer look, just for catching the customer’s attention.

Trademark Notations

- Explain to students there are different ways to show that you are claiming rights in a trademark.
- The symbol TM is used to show you are claiming rights in a trademark. However, it doesn’t mean it is a registered trademark.
- The symbol SM is used to claim rights in a service mark. It is like a trademark, but for a service, rather than a product.
- The symbol ® is used to show a trademark that has been registered with the United States Patent and Trademark Office.
- Have students practice making the 3 symbols on the backs of their activity pages.

Scavenger Hunt (optional)

- Instruct student groups to search the classroom for one item with the TM symbol and one with the ® symbol. Suggest students look at clothes, personal items, and more to find these marks if they have difficulty.

LESSON EXTENSIONS

Use activities found in the Curriculum Connections to reinforce concepts of the main lesson with cross-curricular activities that enable critical thinking.

Trademarks and Service Marks



A trademark includes any word, name, symbol, sound, scent, or device, or any combination used, or intended to be used, in commerce to identify and distinguish the goods of one manufacturer or seller from goods manufactured or sold by others, and to indicate the source of the goods. In short, a trademark is a brand name. A service mark is the same as a trademark except it is used to identify and distinguish the services of one provider from the services provided by others. A trademark or brand name helps people recognize a product. It helps to sell the product. Someone who HAS to have that XBOX video game, needs those DKNY jeans, or wants only Kellogg's Frosted Flakes cereal has probably been influenced by a trademark.

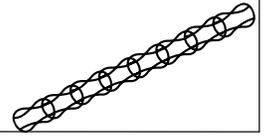
Brand Name vs. Generic Name

Most inventions have two names—one is the trademark or brand name, and one is a generic name. The generic name is how we identify the common item. Jeans, soda and chips are all generic names. Levis, Coca-Cola and Ruffles are all brand names.

Trademark Symbols

TM for trademark and **SM** for service mark show that one is claiming the right to a mark. The ® symbol shows that the trademark symbol being used has been registered with the United States Patent and Trademark Office.

Curriculum Connections



These cross-curricular activities support main lesson concepts through critical thinking activities.

Technology Connection – Trademark Hunt



Materials/Preparation

- online access

Procedures

Instruct students to go on a U.S. trademark hunt online – find a trademark for each of the following categories:

- sound
- logo
- scent
- phrase
- other (one unique trademark that does not fall into any of the previous categories, such as the design of a building or an animated character.)



Discuss

Meet back as a class and have students share what they found. Select several trademarks and for each selected, discuss what they think the intended “hook” is for the trademark. Is the trademark descriptive, suggestive, etc.? Refer to the main lesson plan as a resource if necessary.

For each selected trademark:

- Have the students assess how successful they think can be taken to make sure that the trademark is and why.
- Discuss steps the students think can be taken to make sure that the trademark does not become a generic name for a product.

History of the Toll House Cookie

Objectives:

- reinforce concepts of “generic” versus “trademarks”
- introduce the concept of losing an exclusive trademark



Materials / Preparation

- online access
- or
- access to research materials such as the library, encyclopedia, etc.
- research information about the Toll House cookie. Suggested resources:
 - > <http://www.verybestbaking.com/products/tollhouse/history.aspx>
 - > <http://ideafinder.com/history/inventions/tollhouse.htm>

Procedures

- Have students work individually or in groups of two to research and write a summary of the story about how the Toll House Cookie was invented.
- Have students include information about how the trademark name, “Toll House,” was transferred from the inventor to another company, and why the trademark name, “Toll House,” was eventually lost.

Have students share their stories.

Literacy Connection: Trademark Know How



Materials / Preparation

- online access
- printouts of questions (or write the questions on a board for students to copy)

Procedures

Go to this activity found at the Kids Pages on the USPTO Web site: <http://www.uspto.gov/web/offices/ac/ahrpa/opa/kids/special/twinktales.htm>

Answer Key:

1. Ear muffs
2. The distinctive bottle design
3. Examples would be anything that describe the putty’s characteristics
4. Mr. Potato Head
5. Examples would be anything that describe the toy’s characteristics
6. The pocket stitch design, the two-horse brand design, and a red tab attached to the left rear pocket
7. Denim jeans
8. The fluted sides and bulging middle of the bottle was designed for the shape of the kola nut, one of the original ingredients



Activity

Go to this activity found at the Kids Pages at the USPTO Web site: <http://www.uspto.gov/web/offices/ac/ahrpa/opa/kids/special/twinktales.htm> and use it as a resource to answer the following questions:

1. What was the generic name of the item Chester Greenwood invented when he was 15 years old?

2. What trademark design made Coca-Cola easy to recognize from competing cola drinks?

3. Think of an appropriate generic name for Silly Putty and list it here:

4. What was the first toy ever to be advertized on TV?

5. Think of an appropriate generic name for Mr. Potato Head and list it here:

6. Name three registered trademarks that are associated with Levi's jeans.

7. What generic name is associated with Levi's?

8. How is the original bottle design for Coca-Cola related to the ingredients of the drink?

LESSON PLAN—Intellectual Property and Copyright

Recommended learning level: Mid – Upper Elementary

Learning Objectives

Students will:

- develop an understanding that property on the Internet can be owned just like physical property
- relate the term “intellectual property” to something that is created in a person’s mind
- associate different types of media as intellectual property: writings, music, videos, games, etc.
- develop an understanding that it is stealing from real people if someone downloads music or other protected intellectual property from the Internet, without permission from the copyright owner



Materials

- a copy of the reference page, “Intellectual Property has Value,” for each student



Procedures Discussion

Use the following open-ended questions and prompts to guide a brief discussion about property to lead into a definition of intellectual property.

- How do we define “property?”
Provide time for students to respond. (Items with value that we own—examples include shoes, books, a car). Provide positive feedback as the students identify those items that are property and those that are not, and help develop a definition.
- What does it mean to “create” something? Answers should include making something brand new; making something original, etc.
- Hold up a piece of original student-created work. Ask the following to facilitate discussion:
 - > Who created this?
 - > Does it belong to me (teacher)?
 - > Or does it belong to the person whose name is on it?
 - > Why?

The discussion should reinforce the concept that the work belongs to the person who created it, not to the teacher. The creator is the owner.

- Do we call things created by a person, “property?” (Yes) Present the concept: When someone creates something such as (name’s) work, we think of it as “property.” It is a kind of property that has been created with a person’s mind. The special name for this kind of property is “intellectual property.”

- Then add: Property is something that has value to its owner. And this is no different with intellectual property.
- If a person thinks something up, then writes, draws, or makes it, it is property. Is this any different from any other property?
- Discuss why these items should be considered property - many people make their living from them, they belong to, or are owned, by the creator.
- Have students create a definition for “intellectual property” and write it on the board. Explain that the term intellectual property is a name used for creations that come from the mind, such as inventions, music, poems, or pictures.
- Have the class brainstorm examples of intellectual property that they think have some type of value to the creator or owner. Possible examples: music you hear on the radio makes money for its owners, an author makes money from his books, a school project made by a student may get a good grade.
- Discuss - if intellectual property has value, would it be okay to steal it from the one who owns it? Why or Why not?

Introduce the term: copyright

Note: Refer to the section on copyright in the Teacher’s Guide, to add information that is age appropriate for your students.

- Define the term, copyright: Copyright is protection provided by the laws of the United States to the creators of original works of authorship like books or other written works, as well as other dramatic, musical, and artistic works. To be copyright protected, the works must be in “tangible” form, meaning the work created in one’s mind is written down or turned into something that can be seen and touched.
- Copyright protection means that the owner has control of what can be done with his or her intellectual property. Copyrighted works are protected from being copied, distributed, performed or changed without the creator’s (or owner’s) permission. This protection is available to both published and unpublished works, and applies to students’ work.
- Have students show by raising their hands if they have ever copied a picture, used someone’s idea, downloaded music, software, or movies off the Internet. Talk about whether this is stealing now that they have refined their definition of property to include intellectual property.

Reinforce

There is no difference between intellectual property found on the Internet and writing or pictures you would find in a book or magazine. Someone put their own writing and work on the Internet to let other people read it and see it. It was not put there for other people to copy and say it belongs to them. It belongs to the person who created it.

There are laws against copying things that other people have created or made. It is stealing from real people if you copy things that don’t belong to you.



Group activity – Showing Copyright

Explain:

- Any original work of authorship can be copyrighted – even a child’s idea.
- Most copyrighted items show a copyright notice, which is represented by the letter “c” in a circle ©.
- The © symbol is usually followed by the year of creation and the creator’s name.
- People usually show copyright on their work at the bottom of the page or work.

Hunt for copyright

- Have students conduct a copyright search by looking for the © (copyright symbol) on items in the classroom.

Show copyright

- Use the board to have several students demonstrate how they would show copyright notice on their own work: © year, student’s name



Reference and activity page

- Pass out the activity page, Intellectual Property has Value.
- Have students read the information silently, then read it to them to clarify the information.
- Have students complete the activities as a group or individually.

Evaluation:

List reasons why you think kids should learn about copyright. Example answers:

- Children’s work has as much value as anyone else’s.
- If they didn’t know about copyright, they might steal intellectual property by mistake.
- They might want to enter their own work in a contest and they need to know that someone does not have the right to copy their property.
- They might want to sell something they created, and showing copyright on it tells the public that it belongs to them.

Show how you would make the copyright symbol on something you created.

Correct answers will have the copyright symbol, the year, and the child’s name: © 2007, Mary Jones.

LESSON EXTENSIONS

Use activities found in the Curriculum Connections to reinforce concepts of the main lesson with cross-curricular activities that enable critical thinking.

Intellectual Property has Value!



You are learning that intellectual property is something real—it belongs to the person who created it. Intellectual property is something that is created using a person’s mind—like a story, an art project or music. It can also be something like a photograph—the creator used his mind to compose the picture taken with his camera.

Who Cares About Intellectual Property?

Anyone who creates things, as well as anyone whose job supports creative works, cares about it. For example, that includes inventors and the people who manufacture an invention; artists like singers, songwriters and painters; writers of books and plays; producers of movies and music; and the people who work in local movie theaters and bookstores. They all make money from creative work to pay their bills and support their families. Intellectual property has value to them – it is important!

Who Else Should Care About Copyright?

YOU! All of your ideas that are turned into artwork, music, inventions, reports, stories, poems, and other writings, just to name a few, belong to you and cannot be copied or used without your permission.

Think about it—something you create may be worth recognition, as in winning a contest prize, or may be worth money if someone wants to buy it.

It’s the Law!

Copyright laws protect original work of authorship. The law makes it a crime to steal what people create.

This © on a person’s work reminds others that it is owned by the creator and is protected by copyright laws.

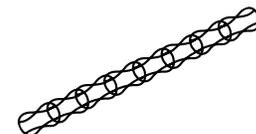
List reasons why you think kids should learn about copyright:

1. _____

2. _____

Show how you would make the copyright symbol on something you created:

Curriculum Connections



These cross-curricular activities support main lesson concepts through critical thinking activities.

Literacy Connection – Cite Your Source

The concepts of copyright protection are reinforced as students learn how to age-appropriately cite sources for school reports and projects.



Materials/Preparation

- a copy of the activity page for each student
- a pre-selected webpage or book of your choice for students to use as a reference to cite
- materials for drawing and coloring

Procedures

Briefly review the concepts of intellectual property by asking: What is property? (Something of value that is owned, which can be bought or sold.) Have students give examples of physical property they own.

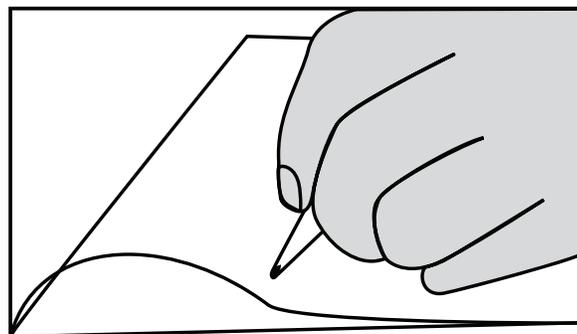
Use the following script to guide discussion about using intellectual property responsibly.

Question: “Do you ever have to find pictures or information for a school report? You can find information in books and also on the Internet. But based on what we have learned about intellectual property, is it right to just use that information in your report for free?” **Provide time for student responses and discussion.** “As a matter of fact, if you use someone’s writings in a book or from the Internet, it is your responsibility to make sure you don’t steal by copying.”

“Luckily for you, there are some **exceptions** to the rules about intellectual property. When you are in school and learning things, sometimes you need the information you find in books or on the Internet to use in your reports. However, you still can’t just take it. Instead, there is a special rule for using someone else’s intellectual property. Does anyone know what the rule is?” **Provide time for student responses and discussion.**

“This is the rule: You can **cite** your source. You are allowed to use some information and some pictures that you find. But there is a catch. You can’t just **copy and paste** and say you wrote the report. You have to give the person who really wrote it credit as owning it. This lets everyone know you aren’t taking that person’s ideas for your own use. It helps your teacher know what your own ideas are and what you learned from others in a book or on the Internet.”

“There are many ways to cite a source. The main thing to remember is to write down the name of the author—the person who created it, and where you found it. If it’s an article on the Internet, just copy down the name of the Web page or the URL. The URL is at the top of a webpage—an example is i-SAFE’s URL: **<http://www.isafe.org>**.”



Activity Page

Directions

1. Divide class into small student groups.
2. Have the students create some rules or guidelines for citing sources when using intellectual property.
3. Have the students complete the Practice section using the reference of your choice:
 - Who (who wrote or created the information)
 - What (the title)
 - Where (where it was found—use your class guidelines—write URL, etc.)
 - Date (date it was found)
4. Meet back as a class and have the groups share what they came up with.

Historical Connections - The First Copyrights



Materials

- a copy of the activity page for each student or student group

Procedures

- Have students read “The First Copyrights” silently.
- Ask students to summarize the reading aloud.
- Students complete the Technology Talk section: Compare examples of how life has changed since 1790 in the areas of communication, transportation, commerce (ways to buy and sell things), and education.
OPTION: have students use reference materials or Internet searches to help answer the questions.

Example answers:

Then	Now
Communication: hand-written notes; talking to each other in person	cell phones; IM
Transportation: horse and carriage	cars; planes
Commerce: general store	over the Internet
Education: one-room school house	schools, online education

Be Inspired – Young Authors



Materials

- a copy of the activity page for each student or student group

Procedures

- Have students read “Young Authors.”
- Students complete “Making Connections – What’s in a Title?”

Example answer key:

1. Did you notice the spelling of the word “behaviour” in the book title by Francis Hawkins? Can you think of why the word in the book title is spelled in this way?

The word “Behavior” is spelled “Behaviour” in the United Kingdom and other non-US English-speaking countries.

2. Read the title of Jason Gaes’ book. Why do you think he spelled “cancer” as “cansur”?

Jason was only 7 years old when he wrote the book.

3. If you saw Jason’s book for the first time and didn’t know anything about the author, what would the spelling in the title tell you?

That it was written by a child author.

4. Just from the title, who might be influenced to buy Jason’s book, and why?

Kids or parents of kids who have cancer, or other young people who know someone with cancer, might want to buy it to learn more about it.

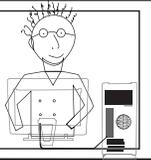
5. What does the title of Gwendolyn Brooks’ first poetry collection tell you about what her poems are probably about?

The author’s experiences of growing up in America.

6. List reasons why Gwendolyn’s experience as a child author might have helped her to ultimately win a Pulitzer Prize.

Having her poems published as a child gave her encouragement to keep writing.

Be Responsible with Intellectual Property



How?

Cite Your Source!

You can find out about things you are interested in, or find information you need for a school report in books or on the Internet. But, as you have learned, anything that is protected by copyright, like a book or Internet article, belongs to someone. If you use it, you need to respect the owner's rights.

Here's how to be responsible with what you find:

1. Don't copy and paste – put things in your own words.
2. Cite your sources – that means, let others know where you got the information.

Practice!

Go to a Web site or use a book that your teacher provides. Pretend you are going to use this material for a report. Write down the following information about the author to cite your source.

Who

What

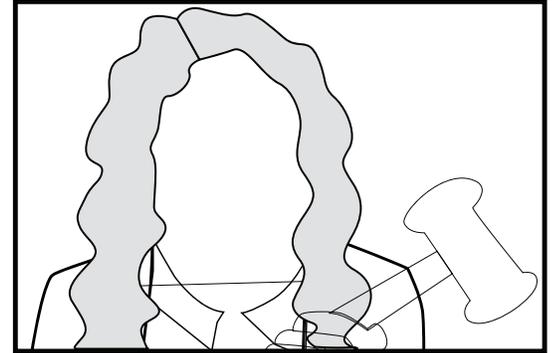
Where

Date

The First Copyrights



There has always been a need for artists and inventors to have their work protected from theft and copying, but actual protection by law is relatively new. The world's first copyright law, called "The Statute of Anne," was passed about 300 years ago by the British Parliament in 1709. In the United States, James Madison suggested at the Constitutional Convention of 1787, that the Constitution include language that would give rights of ownership to authors and inventors for their writings and inventions, for a limited time. This was passed unanimously and became law.



Why did the founding fathers think this was important enough to put in the U.S. Constitution? They knew that intellectual property protection could improve society by helping people to make a living by coming up with brilliant ideas and inventions. They also realized the basic fairness of granting control of the creative work to the author.

President George Washington signed the first U.S. copyright law on May 31, 1790. In the simplest terms, copyright laws say that creators or owners of creative work such as artwork, music, reports, stories, poems, and other writings, just to name a few, belong to the creator/owner and cannot be copied or used without their permission. Nine days after the first copyright law went into effect, author John Barry registered his work, *The Philadelphia Spelling Book*, in the U.S. District Court of Pennsylvania, making it the first "writing" protected by copyright in the United States. Since then, the copyright laws have been changed many times in order to find a balance between a creator's right to enjoy the benefits of his or her work, and society's ability to benefit from that same work.

Technology Talk

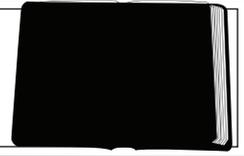
Before the Internet, keeping track of a person's copyrighted work was not as difficult as it is today. In 1790, all John Barry had to do was register his book at the courthouse in order to protect his rights as the owner and creator of that book. If anyone wanted to copy or distribute *The Philadelphia Spelling Book*, they would have to go see Mr. Barry and get his permission.

Compare examples of how life has changed since 1790 in the areas of communication, transportation, commerce (ways to buy and sell things), and even education.

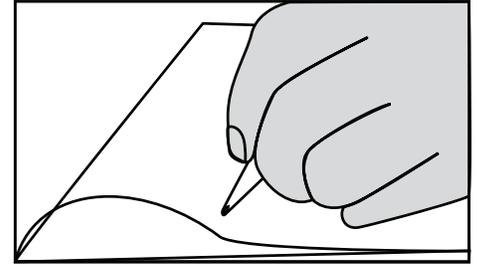
	Then	Now
Communication:		
Transportation:		
Commerce:		
Education:		

You Learned It! Individually or as part of a small group, use what you have learned to develop an answer to the following: Choose one of the categories above and explain why you think copyright laws affect it more today than in the year 1800.

Young Authors



Have you ever thought about writing a book or publishing one of your poems? Young people have been successful authors for hundreds of years! The first book by a child author is thought to be Francis Hawkins' *Youths Behaviour Or Decency in Conversations Amongst Men*. Historical accounts claim that he translated the book from French to English and added in his own advice when he was only 8 years old. The book, which was



published in 1641, offered guidance to other children on etiquette and manners. The youngest author is Dorothy Straight of Washington DC. At the age of 4, she wrote a book entitled *How The World Began*, which was published in 1964.

If you wrote a book, what would it be about? Some of the best-loved books by children tell about real experiences. One seven year old author, Jason Gaes, wrote the book *My Book for Kids With Cansur: A Child's Autobiography of Hope*. Suffering for 2 years with Burkitt's lymphoma, a rare form of cancer, inspired him to write words that would bring comfort and hope to other kids with cancer. After convincing his brothers to illustrate the book, it was published in 1987. A video documentary about Jason's battle with cancer called *You Don't Have To Die*, was later produced by HBO. Jason's family was told that he would probably not survive his illness, but he did.

Kids write more than successful stories and books. American poet Gwendolyn Brooks wrote her first collection of poetry, *American Childhood*, when she was 13 years old. She went on to become the first African-American to win a Pulitzer Prize. Pulitzer prizes are given every year for achievements in various fields of American journalism, literature, and music.

Making Connections – What's in a Title?

Use the back of this page or a separate sheet of paper to write your answers to the following:

1. Did you notice the spelling of the word "behaviour" in the book title by Francis Hawkins? Can you think of why the word in the book title is spelled this way?
2. Read the title of Jason Gaes' book. Why do you think he spelled "cancer" as "cansur?"
3. If you saw Jason's book for the first time and didn't know anything about the author, what would the spelling in the title tell you?
4. Just from the title, who might be influenced to buy Jason's book, and why?
5. What does the title of Gwendolyn Brooks' first poetry collection tell you about what her poems are probably about?
6. List reasons why Gwendolyn's experience as a child author might have helped her to ultimately win a Pulitzer Prize.

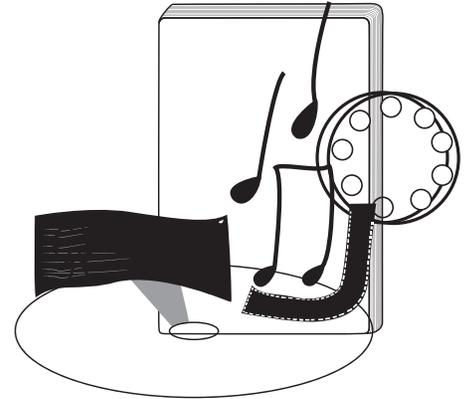
LESSON PLAN—Intellectual Property Theft

Recommended learning level: Mid – Upper Elementary

Learning Objectives

Students will:

- identify different types of media as Intellectual property: writings, music, videos, computer games, etc.
- understand it is stealing from real people if one copies material or downloads material from the Internet without permission
- understand it is against the law to download videos, music, etc. from the Internet without permission



Materials

- copies of the mini booklet pages for each student
- materials for drawing or coloring



Procedures Discussion

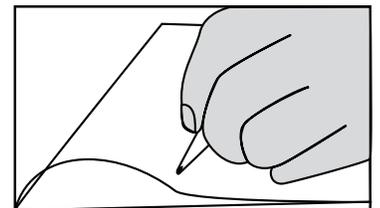
Use the following open-ended questions and prompts to guide a brief discussion.

- We've been learning about intellectual property. There are many types of intellectual property. What are some types that you can remember?
- Just as there are many types of intellectual property, there many types of protections for intellectual property. Can you name any?
- Unfortunately, despite laws, intellectual property theft occurs all the time. Think about it. How might people steal intellectual property?
- Youth are most likely to be involved in two types of intellectual property theft called plagiarism and piracy. What do you think these words mean?

Story Activity

Read the following story aloud to the class.

Susan has to write a report for school. She spends hours researching and gathering information. She takes the time to have one of her parents read her paper and give her ideas. Susan is very proud of her work. There is one sentence at the end of the report that she really likes: "Inventors are people who solve their problems." She thought it was a really great way to sum up what she learned about inventors.



On her way home from school, Susan accidentally left her backpack on the bus. Luckily, her classmate, Alice, picked it up for her. Alice called Susan to let her know she had found it and she would bring it to school the next day. Alice was relieved since the report was due tomorrow.

Several days later, Susan's teacher called her up to her desk. She had two reports on her desk. She said she was very sorry but she could not give Susan credit for her report because it was nearly the same as another student's report.

Susan couldn't believe it. She looked at the other report, and there were all her ideas and research, even the quote at the end about inventors was the same. But wait, Susan recognized that handwriting. It was Alice's. Alice had copied her work. Susan tried to explain that to the teacher. The teacher said she was sorry, but both reports were the same and she had no way of knowing who had written it originally. Susan was very upset.



Discussion:

Ask students the following questions:

- Do you think Susan had a right to be upset?
- Do you think her ideas and her report were her own property?
- What do you think would be a good ending for this story?

Explain:

Susan's report was her intellectual property – protected by copyright after she wrote it. When Alice copied the report she committed **plagiarism**.

- What does it mean to steal something?

Remember – There are laws against stealing intellectual property.



Activity/Reference

- Hand out the mini book pages to students.
- Have students assemble the mini book pages in order and staple.
- As a class read through each page of the mini book and complete the activities.

Conclusion

Review the concepts from the mini book.

LESSON EXTENSIONS

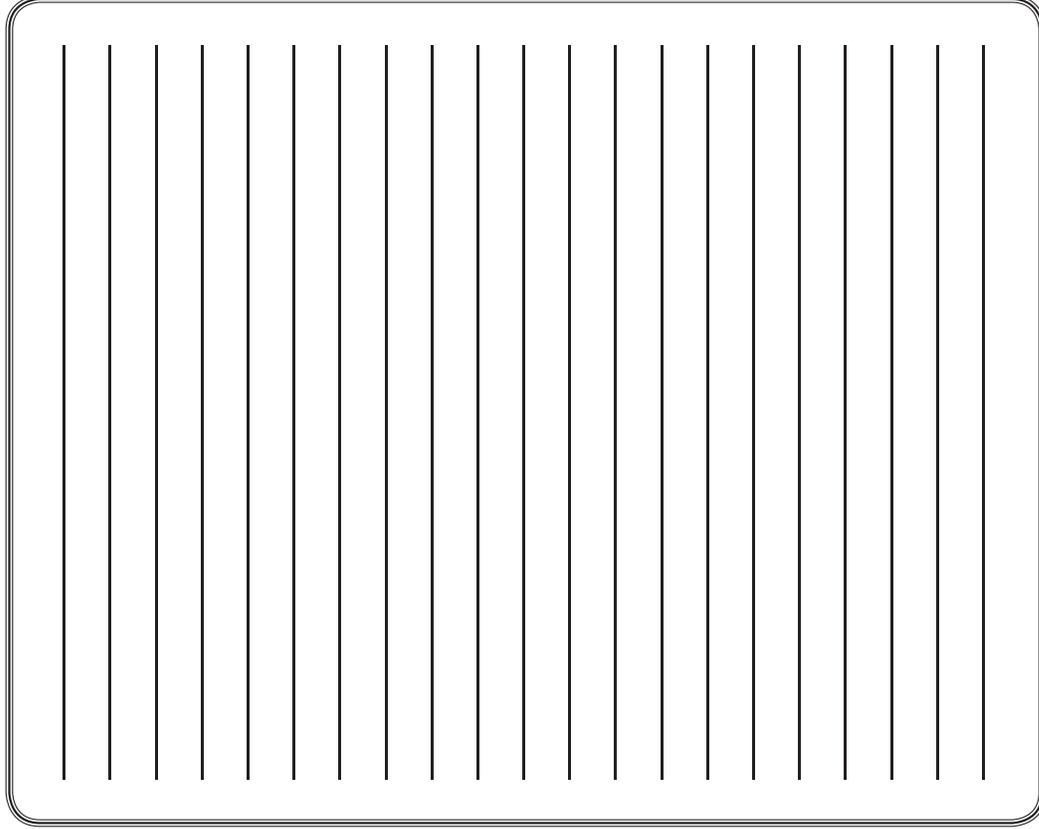
Use activities found in the Curriculum Connections to reinforce concepts of the main lesson with cross-curricular activities that enable critical thinking.

Intellectual Property Theft and You

Plagiarism

Based on the story you heard – what do you think plagiarism means?

Write your own definition of plagiarism.



1

Another type of Intellectual Property Theft:

Draw a picture of what piracy means to you.



Think About it:

Pirates stole things. They were unethical, immoral, and operated illegally!

2

Just like the pirates of old, today's pirates also behave illegally—by stealing copyrighted items.

- Piracy on the Internet is done by copying or using something that is protected by copyright laws.
- Examples of piracy include downloading copyrighted materials and burning (copying) CD's that contain copyrighted material.
- Piracy on the Internet is a crime (against the law).
- Piracy hurts the people who create the intellectual property.

Modern Day piracy occurs by:

- downloading music for free online without the copyright owner's permission
- making a copy of your favorite game for your friend
- making a copy ("burning" a copy) of the music CD or movie DVD you rented

Reinforce: There are many songs and games on the Internet for which the copyright owner has given permission to freely copy or download. If you are not sure if something you find on the Internet is protected by copyright and cannot be downloaded for free, ask an adult to help you, OR just be safe and don't download or copy it.

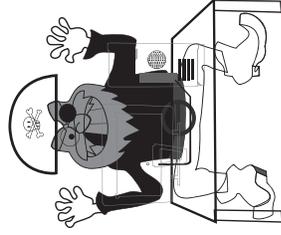
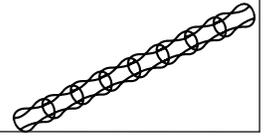


Chart It— Create a Chart

Things you can buy in a store, things on internet that are intellectual property, who has ownership/rights

Store	Online	Rights
Example: CD	Song	Record company, producer, song writer, etc

Curriculum Connections



These cross-curricular activities support main lesson concepts through critical thinking activities.



Materials

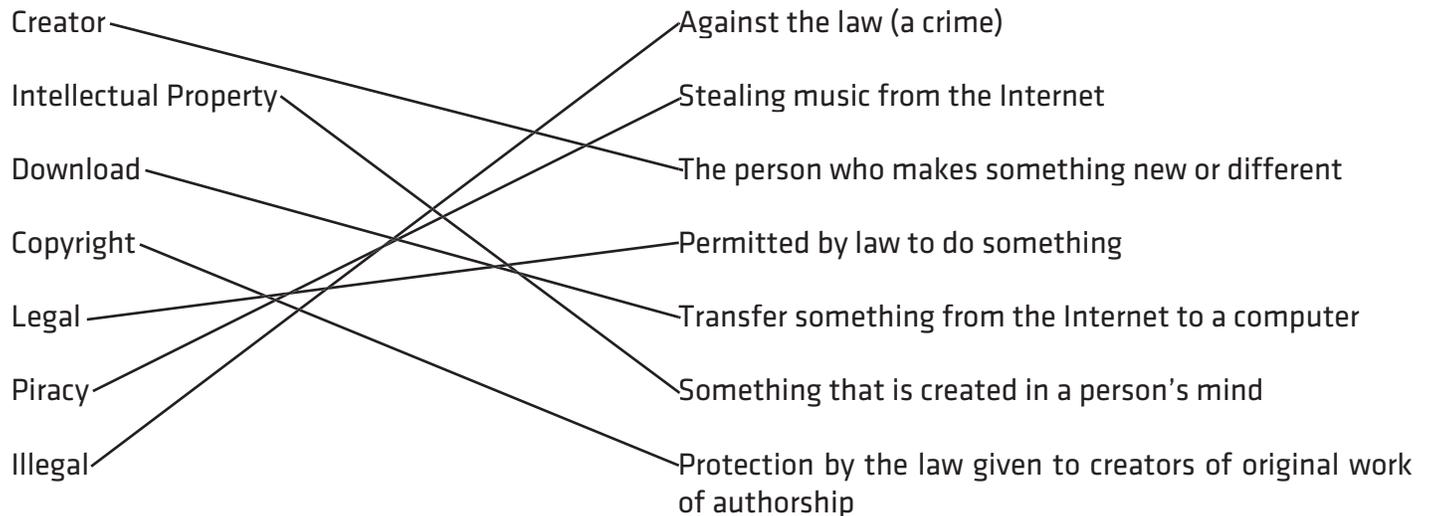
- a copy of the Literacy Connection activity page for each student

Procedures

- Have students complete the activity page.
- Have students exchange papers for review and correction.

Answer Key

Vocabulary Match up: Draw lines to match each vocabulary term to the phrase that explains its meaning.



Sentence Completion

Word List: copyright, create, copy, paste, creator, pirate, piracy, download, legal, illegal

1. If you write a song, it is protected by copyright.
2. It is illegal to take something from a creator without permission.
3. A music pirate is one who steals music online.
4. It is not okay to copy and paste someone else's work into something you take credit for.
5. When you download from the Internet, you copy and save something found online to your own computer.

6. Music piracy means to steal music from the Internet and burn CDs for friends.
7. If you write a song, you can decide if you want others to use it without paying for it.
8. There are many ways to enjoy music on the Internet that are legal and fair to the music creators.
9. It is illegal to make CD copies for your friends.

Use at least 8 of the following words in a paragraph or mini-story to tell about what you have learned about piracy on the Internet.

Copyright	Create	Copy	Own
Creator	Pirate	Piracy	Steal
Download	Legal	Illegal	Property

Be Inspired – Making Right Choices Online

Learning Objectives

This activity enables students to learn techniques that demonstrate good citizenship skills in regards to making positive online choices about intellectual property use.

Students will:

- identify examples of good choices one can make online
- develop an age-appropriate understanding of refusal skills
- demonstrate examples of refusal skills to use regarding illegal use of intellectual property



Materials

- a copy of the reproducible reference page for each student
- a copy of the reproducible activity page for each student group



Procedures

Discussion

Use the following open-ended questions to facilitate a discussion about good cyber citizenship and making choices.

- What does it mean to be a good cyber citizen?
- Reinforce that being a good cyber citizen includes making the right choices when online. The right choices include being kind to people and following the rules.
- Can you think of examples of good choices that you can make when you are online?
(Examples might include: Send a nice email or IM to a friend; play a game; research for a school project.)

Unfortunately bad online choices can also be dangerous choices. Can you think of examples of bad choices that you can make when you are online?

(Examples might include: Go to sites that you are not allowed to visit; communicate with strangers; post pictures of yourself for everyone to see.)



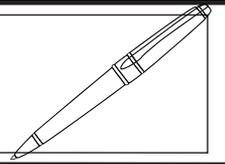
Reference and Activity pages

- Hand out a copy of the reference page: “What’s Right about Rights?” to each student.
- Go over the page with the whole class.
- Divide students into small groups.
- Hand out a copy of the activity page: “Think for Yourself” to each group.
- Discuss “refusal skills.” Make sure the students understand what it means to “refuse” to do something.
- Provide time for groups to create skits.

Post-activity and Evaluation

Have students present their skits to the class. The skits should reflect that students have a reasonable understanding of the concept of making good choices about intellectual property.

Literacy Connection



Vocabulary Match up

Draw lines to match up each vocabulary term to the phrase that explains its meaning.

Creator	Against the law (a crime)
Intellectual Property	Stealing music from the Internet
Download	The person who makes something new or different
Copyright	Permitted by law to do something
Legal	Transfer something from the Internet to a computer
Piracy	Something that is created in a person's mind
Illegal	Protection by the law given to creators of work

Sentence Completion

WORD LIST: copyright, create, copy, paste, creator, pirate, piracy, download, legal, illegal

1. If you write a song, it is protected by _____.
2. It is illegal to take something from a _____ without permission.
3. A music _____ is one who steals music online.
4. It is not okay to _____ and _____ someone else's work into something you take credit for.
5. When you _____ from the Internet, you copy and save something found online to your own computer.
6. Music _____ means to steal music from the Internet and burn CDs for friends.
7. If you _____ a song, you can decide if you want others to use it without paying for it.
8. There are many ways to enjoy music on the Internet that are _____ and fair to the music creators.
9. It is _____ to make CD copies for your friends.

Use at least 8 of the following words in a paragraph or short story to tell about what you have learned about piracy on the Internet.

Copyright	Create	Copy	Own
Creator	Pirate	Piracy	Steal
Download	Legal	Illegal	Property

A large rectangular area with rounded corners, containing 25 horizontal lines for writing a paragraph or short story.

What's Right about Rights?



As a cyber citizen, it is your right to think for yourself when it comes to making good choices online. You never have to make a bad choice or an unsafe choice just because you are feeling pressure to do so.

Find Out! Take turns reading the following sections and have your classmates give answers.

- You have learned that people who create intellectual property have the right to say what is done with it. Why should this right be protected?

- You also have the right to make good and safe choices. Has anyone ever dared you to do something online? (Give examples)

- When someone dares you, is it usually safe or unsafe? Why?

Think About It!

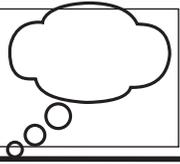
Sometimes it is hard to make the right choice online, even though you don't feel good about it, especially if someone else is asking you or wanting you to make a bad choice. Read this story about Jake.

Jake's friend wanted him to download music from the Internet illegally to make a CD for him. Even though he didn't feel very good about it, Jake knew how to do it and he really didn't want to disappoint his friend. Jake has learned though that it hurts the people who own the intellectual property when he does this. They lose money.

Jake got smart! He realized that it was his right to make a good choice—he did not have to do what his friend wanted him to do. Jake thought of these reasons a person might make a wrong choice online:

- Doesn't want to disappoint a friend
- Can't think of way to say "no"
- Doesn't know about the risks
- To appear older and more "cool"
- To seem important
- To go along with the group
- Curiosity
- To impress friends

Think for Yourself!



Activity

Learning to Refuse

Think about it! What does “refuse” mean?

It means to decline to do something—to make a decision NOT to do something.

“Refusal skills” are ways to make this happen.

In your group, read the following scenario and list some ways that Jake could use good refusal skills to make the right decision:

Jake’s friend said, “We need a new CD. Jake, your computer has Internet access. Let’s download a bunch of songs and burn one for ourselves.”

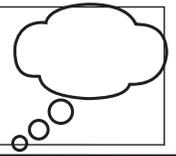
List 2 ways Jake could refuse, and still keep his friendship. Hint: Do you think it would help if Jake told his friend why it’s not good to steal intellectual property from someone else?

Apply What You Know!

In your group, write a short skit that shows how someone could use their right to make a good choice about using intellectual property belonging to someone else, even if it is a difficult to do. Use Jake’s list for reasons it might be difficult as a guide, and be sure to include a good refusal skill.

Present your skit to the rest of the class.

Innovation and Invention: Creative Problem Solving



Recommended learning level: Elementary School

Section 1: Teacher-Facilitated Lesson/Activity Plans

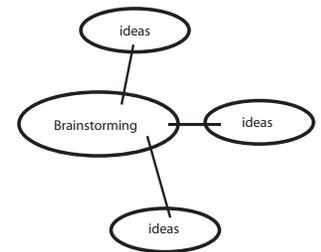
How to use this section

This section provides **Traditional lesson/activity plans** for teacher-facilitated instruction, similar to the other sections of this unit.

If you prefer to have students work in a more self-directed manner, or if students are using these materials as a resource for actual invention activities, select Section 2: **Invention Connection**

This section provides a series of facilitated lessons/activities to demonstrate organized steps in the invention process including:

- Getting an idea
- Make the idea better
- Follow through on idea
- Naming the invention
- Protecting the invention



1. The Idea – How to GET an Idea

Learning objectives

Students will be able to demonstrate the brainstorming process in response to an assigned problem.



Materials

- copies of the reference and activity material for each student group



Discussion

Most of us at one time or other have had an “ah-ha” moment – where something enormously creative or brilliant just occurs to us. This spark can come at any time – after a deep sleep, while working on other work, mowing the yard,

- Have you ever had a sudden creative idea?
- When do you feel most creative?
- How do you commonly solve or think out problems?
- Is there someone you feel best bouncing ideas off of? Why?
- How do you make your creative ideas a reality?
- Have you ever had an idea for an invention? What was it? Did you follow through? Why or why not?



Group activity

Have students break into small groups, read the reference material and complete the activity.

Presentation

Have groups present the results of their brainstorming process.

Evaluation

Use the student reference page as a resource in the evaluation of understanding of the concept of brainstorming.

- Did the group have a record of their ideas and processes?
- Were a variety of ideas included in the process?
- Were ideas obviously built upon within the group?

2. The Creative Process – The Inventor’s Log

Learning objectives

Students will learn how to identify ideas of value through various processes.



Materials

- copies of the reference/ activity pages for each student or student group



Discussion

Everyone has ideas. Sometimes ideas are good and sometimes they are bad. Think about it:

- Who decides what is a good idea? A bad idea?
- Are there some people you would trust more if they said it was a good/bad idea?
- How would YOU decide if it was a good idea?
- If you have many ideas how would you pick the best one?



Group activity

Have students break into small groups, read the reference material and complete the activity.

Presentation

Have groups present the results of their evaluation process.

Evaluation

Use the student reference page as a resource along with student activities to evaluate the following:

- Did the group select an evaluation method?
- Did the group successfully evaluate ideas?
- Was one idea selected as the best idea?

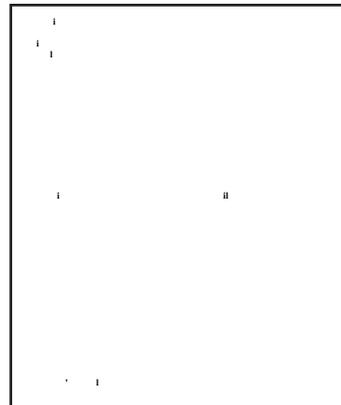
3. Following Through – The Inventor’s Log

Students will learn more about how to develop an invention from idea to product in a careful manner to protect their intellectual property. Through the process they will understand how to utilize an inventor’s log.



Materials

- copies of the reference/ activity page for each student or student group



Discussion

Inventions are a part of our world, they help us move forward and make progress. Inventions can come about as the result of sudden creativity, as an answer to a problem, or after long research and hard work. Think about it:

- Have you ever had an idea for an invention? What was it?
- Did you follow through on your idea? Why or why not?
- Why might some people with good ideas not follow through?
- If you had a great idea, what would you do to follow through to make an invention and protect it?



Reference Page: Keep a Record!

- Reinforce the following rules for keeping an inventor’s log. You may want to write the rules on the board or overhead.
 - > Write in ink. Do not cross out any mistakes. Instead, circle and note the problem.
 - > Do not leave any empty spaces. Never delete or add pages into your original log.
 - > Date all log notes.
 - > Record and describe your invention ideas.
 - > Explain why your invention is new and original.
 - > Write about any problems you experience and how you solved them.
 - > Make sketches of your ideas, when possible.
 - > Describe all materials, parts and costs associated with your invention.
 - > Describe the characteristics of your invention such as heat resistant, biodegradable, etc.
 - > Describe the tests you ran and their results. Use diagrams, if needed.

- > Be sure to come up with a generic name for your invention and a name to use to market your invention (trademark name). Describe how you came up with the name.
- > Sign and date all entries.
- > Have another person witness your signature each time.

Activity

- Have students complete this activity in small groups or individually.
- Pass out the activity page that provides the sample inventor’s log.
- Go over the student instructions:
Student instructions – Task: Record what you have done including the brainstorming session and your evaluation of the ideas resulting in your selection of your “best” idea.
- Have students present their logs to the rest of the class.

4. Naming the Invention

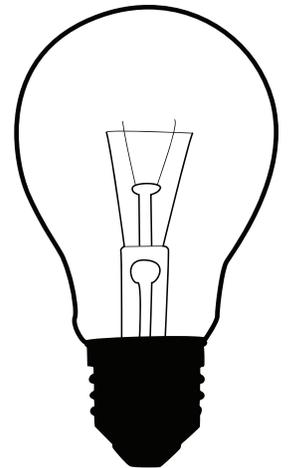
Learning objectives

Students will learn more about brand names vs generic names and demonstrate how to name an invention.



Materials

- a copy of the reference/activity page for each student or student group



Discussion

Ask students the following questions to spark discussion:

- When you go to buy jeans, how do you pick which one to buy?
- What about shoes?
- Does the name of the item make a difference?
- Name some examples of brand names you believe are successful, and why.



Reference/Activity

- Hand out the reference/activity page.
- Read the reference information as a class.
- Have students or student groups complete the activity.
- Have students present their final names to the class.

5. Invention Protection

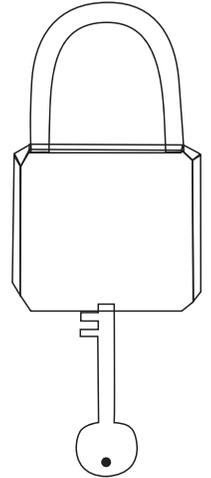
Learning objectives

Students will learn to be smart and savvy when seeking help with the development and production of an invention to avoid frauds and scams.



Materials

- a copy of the reference/activity page for each student or student group
- optional: Internet access



Discussion

Its not that easy to get an idea up the ground and turned into a product that people want! So how does one do it?

- If you have an idea for an invention, what would you do to go about creating and getting it patented and marketed?
- Where would you turn for help?
- Why might some people be scammed in the development of their inventions?
- How is scamming possible?

Activity

Individually or as a group, have students list their ideas about how a young person could promote an invention without spending his or her own money? (answers might include: enter invention contests, science fair projects, show invention on a personal Web site, etc.)

Extension:

Have students do some Internet research on invention promotion companies. What types of companies did they find and what were the company promises?

Have an Idea



Get ready to get started in the creative process. On your mark, get set, GO

So – got an idea yet?

NO? Why not?

It's not that easy? How come?

Getting ideas isn't always that easy, especially if you don't have a starting point. While it is true, sometimes things just come to us—while we are sleeping, playing, eating—most of the time ideas come to us because they are sparked by something else.

For example, have you ever been doing yucky chores and thought, wouldn't it be great if there was some better way to do this? Sometimes we even spend more time trying to think up easier ways to do things or trying to get out of doing something than it would take to just do the task. Why is this?



It's possible that the inventor of the Roomba vacuum cleaner—(the robot that vacuums) REAL-
LY didn't like to vacuum his room when told to. So what tasks would you rather not do? What challenges have you faced that made you think there must be a better, smarter, quicker way?

Think about this:

Do you have a pet? Suzanna Goodin did. She had a cat and she hated cleaning off the cat food spoon, so six-year-old Suzanna came up with a very creative idea—an edible spoon shaped cracker.

Brainstorming

Brainstorming is about letting your brain just randomly generate ideas. Lots of times, brainstorming works best in groups. That way you end up with lots of different ideas. However, group brainstorming requires some rules:

- No criticism. Don't tell anyone they or their ideas are stupid. They may be too afraid to offer any more ideas.
- Say ANY idea that comes to you. You never know what idea may turn out great with some work.
- Have a recorder—or someone who will write down everyone's ideas.
- Don't spend too long on any one idea. Keep thinking up new ones.

Activity

Identify something that you think could be made better or one chore, job, or exercise you dislike doing.

Describe it here as THE CHALLENGE:

Now you need to come up some solutions.

Take 5 minutes to think up ideas to find a possible solution to the challenge you've chosen.
Ready, Set, GO:

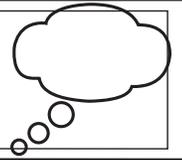
Brainstorm:

1

2

3

Making Idea(s) Better



How do you make sure an idea you have chosen has real MERIT? (Merit means excellent, worthy, and deserving of notice).

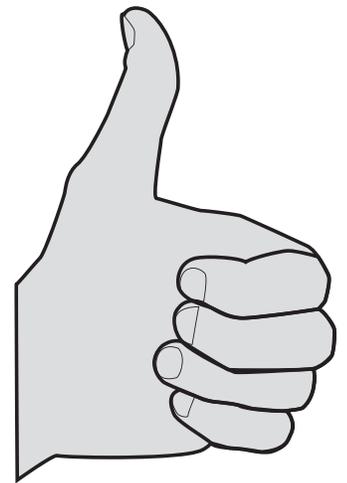
There are several ways.

1. You can ask others. Sometimes asking others can help us see which idea is the best.
2. You can think about the good points and bad points.
3. You can evaluate all parts of the idea.

Asking others

Who could you ask that you can trust to be honest, impartial (showing no favoritism, fair), and truthful? Once you have someone to ask, you can ask for feedback. Feedback is the evaluation, including suggestions and constructive criticisms, offered about your ideas.

When you ask for feedback, it is helpful to give the reviewers questions or things you want them to consider. You might want to ask if they think the idea is doable, affordable, etc.



Good vs. Bad

One way to compare ideas is to take each idea and list the good things and the bad things. Obviously the idea with the most good things should probably win.... Or should it? What if that same idea has the most bad things? In any case, by listing out the good and the bad, at least you are THINKING it through so you can make an informed choice.

Evaluation

Another way to select an idea is to evaluate each idea and then compare those evaluations.

First come up with some criteria, or ways to JUDGE each idea.

Examples: how much would it cost, is it practical, would people use it, and so on.

Then, use a rating system to simplify your comparisons. For example, use a scale of 1-10. Ten is BEST, one is WORST.

For this example consider an invention like the edible cat food spoon.

Let's say you have come up with 3 ideas – an edible spoon, a built in plastic spoon, and a can lever (like a lipstick twist). Look at each idea in the chart below and fill in the last section.

	Cost	Practical	Ease of use
Edible Spoon	Could be considered cat treat 8	Yes – cat can eat spoon – no waste 10	
Built in spoon	More packaging 6	Not really – more garbage - 5	
Twist up can	More packaging and parts 4	Yes - 7	

By looking at each idea and comparing them – you can figure out which idea is probably the best and the one you should pursue.

Activity: Try using those evaluation techniques!

Feedback:

List 3 people you could ask for feedback:

- 1. _____

- 2. _____

- 3. _____

List 5 questions you could ask to guide feedback on your ideas:

- 1. _____

- 2. _____

3. _____

4. _____

5. _____

Pro/Con:

Take one of your ideas and list the pros and cons for it in this chart:

Pros	Cons

Rubric: Select three ideas to compare in this rubric:

Idea Name	Cost	Practical	Ease of use
Total Points:			

The Inventor's Log



As you develop your idea you need to make sure you keep an inventor's log—a record of the steps you have taken to make your invention a reality.

All inventors **SHOULD** _____
is it a wise thing to do, it will prove that _____
your invention.

Use this SAMPLE inventor's log page to record everything you have done to date for your big idea. (Brainstorming, selecting an idea, etc.)

Date:

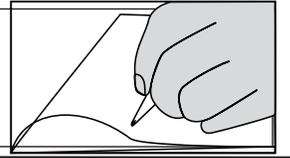
Place:

Time:

Witness initials:

Journal/Notes:	Drawings or Photos:

Naming an Invention



You've come up with a great invention. Now what do you name it? There are many ways to name your invention, and you actually need to think up 2 names—a brand name and a generic name.

A generic name is a name that describes the invention. This name will be used if you apply for a patent.

The brand name, or trademark, will be a special name for your invention. It can be based on just about anything!

Activity

Use this example: You have just come up with a fantastic idea for an invention that will automatically feed a person while they are working at a computer or playing a video game, OR think up another fantastic invention for this activity.

For the invention you choose, you need to develop two names, one for the patent—a generic name, and one to market it with—the brand name.

Try it now think up a list of generic names and a list of brand names.

Generic Names

Brand Names

Remember – choosing the right names can be very important. It will help identify your invention and also market it to others.

Now – choose your favorite from each of the lists above.

The generic name is:

The brand name is:

Here are some ideas on naming inventions

By function – for the way it works (ex. squirt gun, earmuffs)

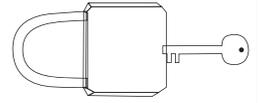
Clever words – to grab attention (ex. Hula Hoop, flip flops)

After the inventor – (Ford Cars)

Descriptive names – abbreviations or acronyms: (ex. VCR – video cassette recorder, Super Soaker)

For what it is made of – (shredded wheat, ice cream)

Protecting the Idea and SELLING it



You've seen those commercials or online ads that say if you've invented something, give them a call and you will be rich and famous! Unfortunately it isn't quite that easy. Lots of those advertisements are just SCAMS. (scam—fraudulent or deceptive act of operation—a business designed to cheat you out of money).

You have learned that a patent protects your invention. These scamsters will tell you how great your idea is and will ask for a lot of money to do a patent search and market it. They want to make as much money from you as possible.

Instead – go to a parent or trusted adult and together, if you think you may have a patentable invention, you may decide to apply for a patent with the USPTO. Ask your parents or trusted adult to help you find an honest and good place to help you with your invention. The USPTO Web site has a list of registered patent attorneys and agents at <https://oedci.uspto.gov/OEDCI/>

The process for applying for a patent can be difficult so you will need help, but honest and good companies will not take your money and run. Instead, you should find out exactly how much money they will charge and what they will do for the money.

One common way most honest promotion companies work is to take a flat fee to research the patent and then ask for a percentage of profits to market and produce the product. Also, see Scam prevention brochure on the USPTO Web site, <http://www.uspto.gov/web/offices/com/iip/documents/scamprevent.pdf>

Activity

Think About It

Who could you take your invention to for help?

Look for Contests!

Another way to get your idea out there is to enter a contest. There are lots of contests out there for young inventors!

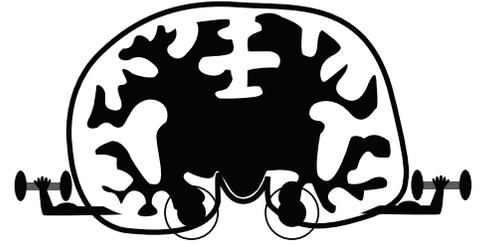
Research contests you can enter your invention in. Do an Internet search on contests for young inventors and check out the links you find or go to the library and do some research in books and magazines.

Look for contests from nationally known organizations and stay away from any contest that requires you to pay a large up-front fee.

List what you find here and on the back of this page.

Invention Connection: Exercising Your Brain

Turning creative thoughts and ideas into something real is a great way to exercise the brain. Your brain blends creativity with reasoning (logic) in the thought process.



Think About It

Inventing and creating is about creatively thinking up good ideas, and then following through on those ideas in an orderly way. There are some logical steps in the creative process that this booklet will help you explore:

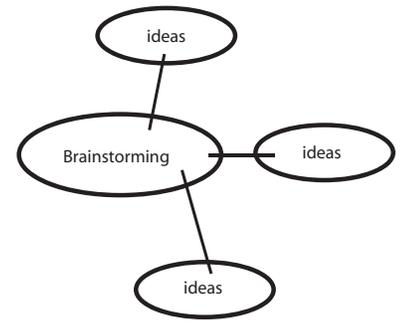
- Step 1 - Have the Idea
- Step 2 - Brainstorm
- Step 3 - Make the Idea(s) Better
- Step 4 - Following Through with an Inventor's Log
- Step 5 - Name the Invention
- Step 6 - Protecting the Idea and Selling it

Your instructor may provide you with additional online and/or offline resources to complete the activities provided in this booklet.

Connect It! These sections give you space to apply what you learn to your own inventive ideas.

Step 2 – Brainstorm

Brainstorming is a way to come up with ideas to help you work towards a solution to the challenge. It is about letting your brain explore lots of ideas. Brainstorming usually works best in groups. That way you end up with lots of different ideas. However, group brainstorming requires some rules:



- No criticism. Don't tell anyone they or their ideas are stupid. They may be too afraid to offer any more ideas.
- Say ANY idea that comes to you. You never know what idea may turn out great with some work.
- Have a recorder – or someone who will write down everyone's ideas.
- Don't spend too long on any one idea. Keep thinking up new ones.

Connect It!

If directed by your teacher, work with a small group to share the challenge that you identified in the last section. As a group, decide on ONE challenge to work on.

With that challenge in mind, it's time to brainstorm. If you are working alone, you can still do this!

Take 5 minutes to think up ideas to find a possible solution to the challenge you've chosen. Don't forget to have someone write down all of the ideas.

The Ideas:

1	_____

2	_____

3	_____

4	_____

5	_____

6	_____

You have some ideas, now what?

Step 3 – Make the Idea(s) Better

If you've come this far – you're on your way to becoming an inventor!

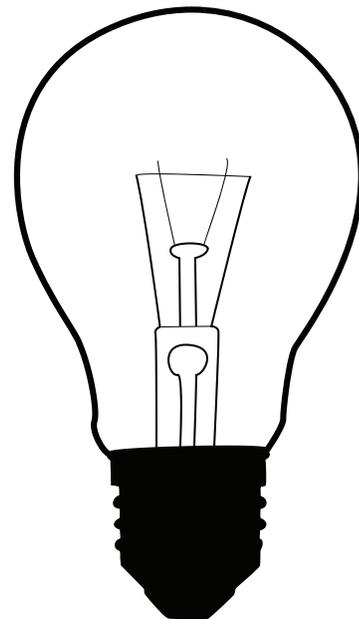
It seems pretty easy, but how do you pick the RIGHT idea to work on. You might just draw one idea out of a hat, but if you did that, you might wind up with that one completely silly idea that you really don't want to work on.

How do you make sure the idea you choose has real MERIT? Merit means excellent, worthy or deserving of notice. An idea with merit just may make you famous! The following are options to help make an idea better:

Ask Others – Why not switch ideas with a different group and see what they have to say.

- But WAIT – what if they STEAL your idea?

So..... maybe you shouldn't ask your competition or someone who might benefit from your idea. Who could you ask that you can trust to be honest, impartial (showing no favoritism, fair), and truthful?



Think of a few people and list here:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Once you have your list, you can ask for feedback. **Feedback** is the evaluation, including suggestions and constructive criticisms, offered about your ideas.

When you ask for feedback, it is helpful to give the reviewers questions or things you want them to consider. You might want to ask if they think the idea is doable, affordable, etc.

Think of some other things that would be helpful to get feedback on and list here:

1. _____

2. _____

3. _____

Good vs. Bad – One way to compare ideas is to list any good things and bad things that seem obvious about each idea. The idea with the most good things should probably win....

Or should it? What if that same idea also has the most bad things? In any case, by listing out the good and the bad, at least you are THINKING it through so you can make an informed choice.

Here’s a chart to use:

Idea:

Good:

Bad:

Evaluation – Another way to select an idea is to basically evaluate each idea and then compare it to another. How do you do this?

First come up with some criteria, or ways to JUDGE each idea. Examples: how much would it cost, is it practical, would people use it, and so on.

Then, use a rating system. For example, use a scale of 1-10. Ten is BEST, one is WORST. For practice, consider an invention like the edible cat food spoon. Let’s say you have come up with 3 ideas – an edible spoon, a built in plastic spoon and a can lever (like a lipstick twist). Look at each idea in the chart below and fill in the last section.

	Cost	Practical	Ease of use
Edible Spoon	Could be considered cat treat 8	Yes – cat can eat spoon – no waste 10	
Built in spoon	More packaging 6	Not really – more garbage - 5	
Twist up can	More packaging and parts 4	Yes - 7	

Comparing the ideas in this way may give you an obvious choice to pursue.

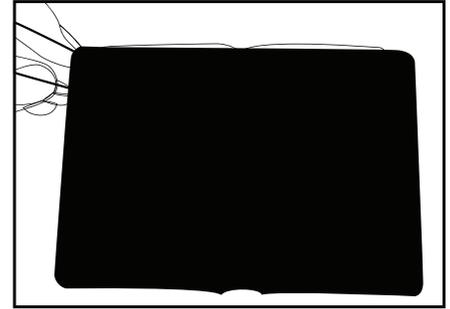
Connect It!

Choose one of the 3 evaluation methods you just learned about to use on your ideas. Select the BEST idea. Use this page to complete your questionnaire, pro con chart, or rubric.

You've got this GREAT idea - now what?

Step 4 – Following Through with an Inventor’s Log

It’s time to follow through. Your brain needs to really kick in and help you make that creative idea a reality. As you develop your idea, you need to make sure you keep a record, in a bound booklet, of every step you take. This is called an inventor’s log. This document is the proof of your creative, inventive process. It will help you plan your invention and can be used, if necessary, to prove that YOU had an idea first.



Start at the Beginning

For example, if you were working on inventing the edible cat spoon, you would start the inventor’s log by writing your idea. Then you would enter each step you go through to develop the idea. For example, if you test different materials on your cat to find out which one the cat likes best and which holds up as a spoon best, you would write it all down in your inventor’s log.

Inventor’s Log Guidelines

- Write in ink. Do not cross out any mistakes. Instead, circle and note the problem.
- Do not leave any empty spaces. Never delete or add pages into your original log.
- Date all log notes.
- Record and describe your invention ideas.
- Explain why your invention is new and original.
- Write about any problems you experience and how you solved them.
- Make sketches of your ideas, when possible.
- Describe all materials, parts and costs associated with your idea.
- Describe the characteristics of your invention. For example, it is heat resistant, it can be eaten, it is flexible, and so on.
- Describe the tests you run and their results. Use diagrams, if needed.
- Be sure to come up with a generic name for your invention and a name to use to market your invention (trademark). Describe how you came up with the name.
- Sign and date all entries.
- Have another person witness your signature each time.

Connect It!

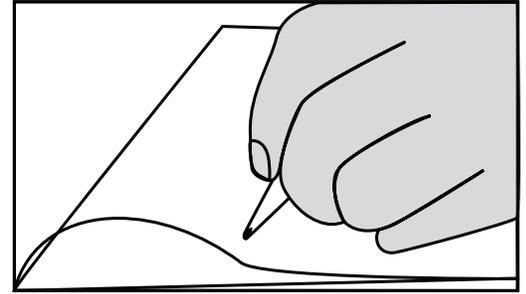
Use this sample inventor's log page, or make your own, to record information about this mock (pretend) invention.

Sample Inventor's Log			
Place:	Time:	Date:	Witness initials:
Drawings			

Step 5 - Name the Invention

You've come up with a great invention. Now what do you name it? There are many ways to name an invention, and you actually need to think up TWO names - a generic name and a brand name.

A generic name is a name that describes the invention. This name will be used to if you apply for a patent. For example, jeans is the generic name for "Levis."



The brand name will be a special name for your invention. It can be based on just about anything!

Here are some ideas on naming inventions:

By function - for the way it works (examples: squirt gun, earmuffs)

Clever words - to grab attention (examples: hula hoop, flip flops)

After the inventor -(examples: Goodyear tires, Ford cars)

Descriptive names - these can include abbreviations or acronyms: (examples: VCR - video cassette recorder, Super Soaker)

For what it is made of - (examples: Shredded wheat, ice cream)

Learn It

Pretend you have to name the invention of the kitty spoon. You would need to develop two names: one for the patent description—a general or generic name, and one to market it with—the brand (trademark) name.

Try it now. Think up a list of generic names and a list of brand names.

Generic Names:	Brand Names:

Remember - choosing the right names can be very important. It will help identify your invention and also market it to others.

Now – choose your favorite from each of the lists.

The general name is:

The brand name is:

Connect It!

Now do the same for your challenge invention! List here and in your inventor's log.

Generic Names:	Brand Names:

The generic name is:

The brand name is:

Step 6 – Protecting the Idea and Selling it

Wow, you have an actual **invention**. Now what?

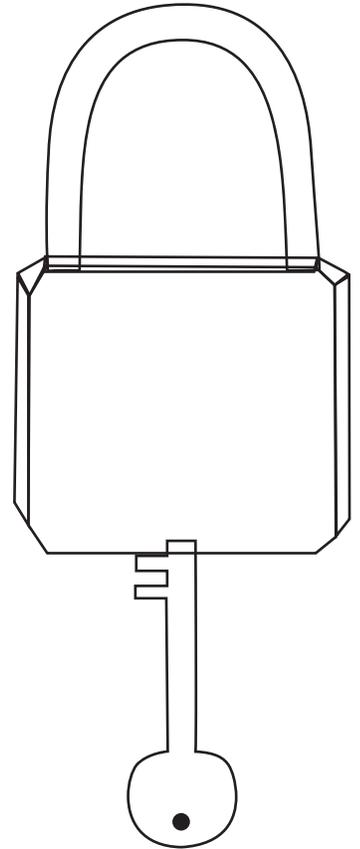
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Think About It

Who could you take your invention to for help?

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Enrichment Activity – Wrap it Up!

Inventing is fun and exciting and it can ultimately lead to the betterment of society. As you have learned, however, even though someone may have an idea for something, the whole process may seem overwhelming, leading the young inventor to.....nothing!

This section will lead you through the steps to create an informative poster to help others get involved in the creative process. This is especially valuable information for you to share with younger children – perhaps at your school or a club meeting. Empower them to create!

Step 1 – Identify your target audience.

Who will benefit the most from the information you can provide – parents, students, public at large (or even all three!)?

Step 2 – Gather information.

With your target audience in mind, review this Invention Connection booklet and other lessons you may have completed in this unit. You can use reference information and activities you have completed in the previous pages to create content for your poster. Use a separate page to collect the information.

Step 3 – Organize the information into a poster format. For example:

- What is the most important information you want to display?
- How will it catch the attention of the audience?
- Can you tie this information into the promotion of a school event such as a science or art fair, or a contest?
- Will you create graphics/artwork for the poster or will it be mostly text?
- What will the title be?

Step 4 – Use materials of choice to design and create posters.

Step 5 – Make plans to display the poster

- Figure out where the poster will have the most impact (i.e., cafeteria, science room, media center, etc.)
- Make sure you have permission for your display.
- Check with your teacher for ideas too.

Step 6 – Display posters.