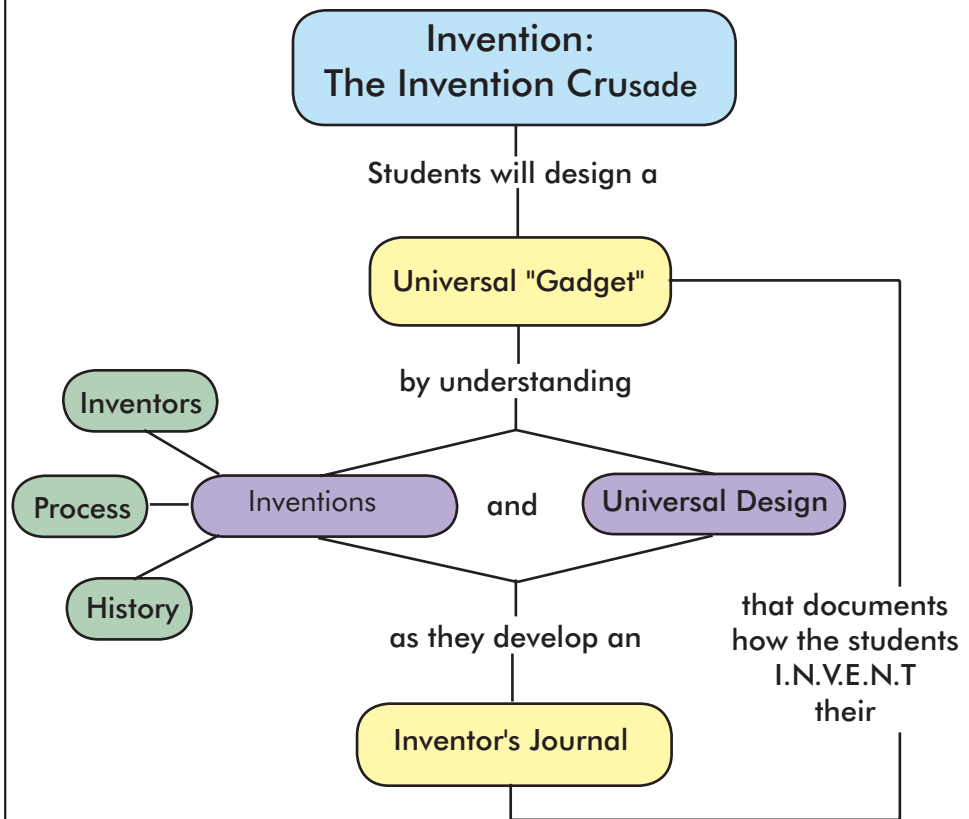


Invention: The Invention Crusade

This unit involves the study of technology, science, and history through the design and developments of an invention.



Conducting the Unit

There are five main topics in this unit. Each topic varies in length and scope depending on the schedule and length of the teaching time.

Notes:

Topic I: Junk Box Inventions (1 hour)

Objective: Students will be able to recognize that many inventions begin with a need or want.

Students need opportunities to exercise their creativity. This activity uses a constructivist approach to learning the inventing process.

Present the lesson using the following steps:

1. Arrange students' desks in groups of two to four.
Note: They will stay in these groups throughout the unit.
2. Ask each group to write a list of five tasks that they do not like to do at home or find difficult to do.
3. Give each group a box filled with "junk" (paper towel rolls, spools, yarn, pieces of wood, nails, screws, nuts, bolts etc.).
4. After seeing the materials, have students review their lists again and possibly add more items. Then, have the students discuss the entries on the list and narrow their ideas to one item.
5. Have each group create an invention with the materials in their box that will make the task they selected more enjoyable or easier.
Note: Tell the class that they will have only 30 minutes to work, but will have another opportunity to create a more complete invention.
6. After 30 minutes, have each group present an invention to the class. Within the presentation the students should state the task that they chose, describe how their invention would work, and if they think that their invention is could be sold.
Note: Students may choose to draw their idea. An invention does not have to be a product; it may also be an idea. Many ideas for inventions have been generated that never were developed into a product.



Invention Crusade News

Samantha Visits her Grandparents

Samantha visits her grandparents with her younger brother during summer vacation. During the week Samantha observes her brother having difficulty with simple household chores. She is also tired of her younger brother always bothering her. She wonders how she could help her brother become more independent.



Near the end of the week, Samantha watches the movie "The Three Musketeers." After hearing the saying "All for one and one for all!" Samantha comes up with a brilliant idea! She could invent a gadget that assists her grandparents and brother to perform a household chore. Join Samantha on her crusade to invent a universal gadget that completes a simple household task!

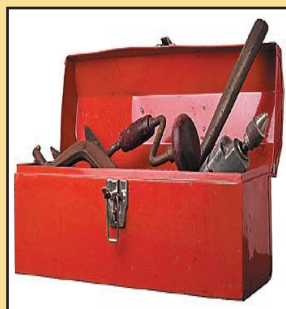
Design Challenge

Design and construct a model that will assist a small child complete a household chore. Create the gadget in such a way that it can be used by people with different physical abilities.

The Design Portfolio

Your group is required to prepare a Design Portfolio that includes:

- ✓ All thumbnail sketches of ideas generated during brainstorm sessions.
- ✓ A formal drawing of the chosen idea for the invention.
- ✓ A written description of the gadget, how it works, and what it does.
- ✓ A written evaluation summary of how the invention was tested and modified.
- ✓ A survey to be given to elementary students during the open house.



Important Details

How To Get Started?

Research how simple machines work and what materials you could use for your invention.

Where To Find Information

- ✓ How Stuff Works
(<http://www.howstuffworks.com/>)
- ✓ What You Need To Know About
(<http://inventors.about.com>)

Materials You Can Use

- ✓ Invention can include any of the materials in the Inventor's Lab.
- ✓ Materials from your house can be used after teacher's approval.

Assessing Your Work

- ✓ Completeness of Design Portfolio.
- ✓ A working prototype of the gadget.
- ✓ Completeness of ten elementary student survey evaluations.

