



Children's Museum of Houston

Pre/Post Classroom Activities

Post-Visit Activity 4: Get the idea?

Introduction

Students will learn how ideas for inventions are formed. Students will discover a need for an invention by analyzing problems in their own life and surveying people in their community.

Write the saying "Necessity is the Mother of Invention" on the board. Ask students to write down in their own words what they think this proverb means. Ask student volunteer to share some of their thoughts. Guide students to understand that people often decide to invent something because they see a need for a certain item or process.

Story to share:

Tons of exciting new inventions are made every year because people see a need for them. In 2002, British researchers James Auger and Jimmy Loizeau created a "phone tooth". This tiny device placed in a person's tooth allowed them to receive telephone calls in secret. The "phone tooth" converts information into vibrations that travel from the tooth to the ear. Although the "phone tooth" does not allow the user to make outgoing calls, the person with the "phone tooth" is the only one who can hear any calls being received. Think of how useful this invention could be to a quarterback or a secret agent! It sure seems like a crazy idea, but these inventors certainly saw a need for the "phone tooth"!

Now that students recognize the inventions stem from necessity, it is time to figure out what is needed! Remind students that in the past invention lessons, they were **given** a problem to solve. In this lesson, they are going to be challenged to come up with their own problem or need.

4th Grade TEKS Objectives

(Language Arts)

5.B Demonstrate effective communications skills that reflect such demands as interviewing, reporting, requesting, and providing information (4-8)

(Science)

2.B Collect information by observing and measuring

3.D Evaluate the impact of research on scientific thought, society, and the environment

Vocabulary

Observation- an act or instance of regarding attentively or watching.

Creativity/Creative Thinking- the ability to transcend traditional ideas, rules, patterns, relationships, or the like, and to create meaningful new ideas, forms, methods, interpretations, etc.; originality, progressiveness, or imagination

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“Design for Function”- creating an object to fulfill a particular need or serve a certain purpose.

Materials

- Blackline Master F- Get the Idea (one copy per student)
- Blackline Master D- Inventor’s Log (5 double-sided copies per student)

Set up

Staple one copy of Blackline Master F to 5 double-sided copies of Blackline Master D to make one packet per student.

*Students will be using this Invention Log packet for lesson 4-6.

Procedure

1. Ask your students to take a look around the classroom. As a class, discuss what you think may have inspired the invention of some of the common classroom items like a chalkboard, overhead projector, mechanical pencils, desks, or pencil sharpener.
2. Distribute pre-made packets of Blackline Master F and D to each student. Tell students that they are going to think outside the box and look for new ways to improve the world they live in. Students will make a list of needs or problems in their lives on the first section of Get the Idea. Encourage students to list tasks that they find boring, tiresome, or difficult. Explain that mundane things can inspire great ideas.

*Although you want students to be creative, it is important to discuss with them why a certain idea may or may not work. This will help them to come up with practical ideas and functional inventions.

3. (This part of the lesson is intended to be a homework assignment.)

Students will interview at least three people in their community. Students should survey adults, siblings, or other students (who are not in their class). Tell students that they should explain to the participants that they are working as inventors to solve problems or make things more convenient. Students are going to ask other community members what problems, frustrations, or tiresome tasks they would like to see improved upon. Students should document the date, the community member’s name, and any important ideas that they may share in their log packet.

4. Students will review all of the information and ideas that they have gathered and documented in their log. Then, select and circle the idea that they are most interested in creating a solution for.

Extensions

Have students think of something that they feel they could not live without. Ask them to do some research on that selected product to find out when it was invented, who invented it, and what may have inspired the invention.

Websites

<http://www.inventivekids.com/indexFlash.html> Circle Media interactive games created to inspire kids to invent

Evaluation

Student work will be evaluated via the information documented in their inventor’s log. Students’ notes should be thorough and include several problems for which an invention might be needed.

Resources

Ostfeld, K. (2008). 21st Annual Young Inventors Showcase of Houston at the Children’s Museum of Houston. Copyright ©2009 Children’s Museum of Houston. All rights reserved.

- Houston Young Inventors Guidelines. Retrieved July 22, 2009 from <http://www.cmhouston.org/inventors-showcase/>.
- Lund, W.J. (2009). Invention Ideas for Students and How to Come Up with Great New Products. Retrieved July 27, 2009 from <http://www.articlesphere.com/Article/Invention-Ideas-for-Students-and-How-to-Come-Up-with-Great-New-Products/170850>.
- Time Magazine (2002, November 10). Transit and Talk Phone Tooth. Retrieved July 27, 2009 from http://www.time.com/time/2002/inventions/tra_phone.html.

Interview Participant 1 _____ Date _____

Interview Participant 2 _____ Date _____

Interview Participant 3 _____ Date _____

Interview Participant 4 _____ Date _____



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Inventor's Log

Contributed by _____ Date _____

Diagrams: