GREAT INVENTIONS BEGIN WITH GREAT IDEAS

What will be your contribution?

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Great Inventions Begin with Great Ideas
What Will Be Your Contribution?

Skill Level
Intermediate, 6th - 8th grade

Learner Outcomes
The learner will be able to:
- Analyze the contributions of four inventors
- Understand the importance of making a contribution to society

Educational Standard(s) Supported
6.L.VAU.6
6.RL.KID.1
7.L.VAU.4
7.RL.KID.1
8.L.VAU.4
8.RL.KID.1

Success Indicator
Learners will be successful if they:
- Understand the importance of inventions to society
- Summarize new found information in a concise manner

Time Needed
45 Minutes

Materials List
Student Handout- Four Young Inventors

Introduction to Content
Every great idea starts with a good idea. In this lesson, students explore ideas and inventions created by four young inventors. Students evaluate the contributions of the inventors to society and then craft ideas of their own.

Introduction to Methodology
The lesson allows students to read through stories about inventors in groups and discuss their contributions to society. Students then identify other inventors and their contributions to society. The lesson concludes with students identifying contributions they can make to society.

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Terms and Concepts Introduction

Contribution- the part played by a person or thing in bringing about a result or helping something to advance

Setting the Stage and Opening Questions

Say, “Is it true that most teens are only worried about taking selfies, texting or playing games?”

Allow students to respond and then say, “Today, you are going to read about four dedicated teens who are spending their time and energy to create new things to make the world a better place. The greatest actions, inventions and acts of kindness begin with an idea. That idea grows, develops and eventually can turn into a contribution to society.

By the end of class today, you should be able to analyze the contributions of four young inventors, understand the importance of making a contribution to society, and identify ways you can contribute to your community.”

Tips for Engagement

As students complete group work, rotate around to each group to ensure that all students are engaged. If you notice a student is not engaged, ask them questions to help them to reenter the conversation with their group.

Experience

Separate students into small groups of no more than four. Pass out a copy of the student handout to each group.

Say, “In your groups, read and discuss each of the four inventors outlined in your handout. As you read, pay attention to what they invented, how they formed the idea, and what they did after crafting their invention.”

Allow students to read through the packet and discuss among their groups.
Share

After students have read and discussed the four inventors, ask students to share their major takeaways from each inventor.

Process

Say, “These are just four examples of young inventors. Who are some other inventors you can think of and what was their invention?” Allow students to discuss.

Generalize

Say, “Have you ever thought about how you could contribute to society? Take out a piece of paper and write a response to finish this statement: I would like to make our society a better place, and my contribution this week will be __________.” Allow students to write their response and then share with the class.

Apply

Say, “Now, let’s think about future contributions. On your piece of paper, write down contributions that you can make to your community within the next month, the next year, the next two years, and the next five years.”

Allow students to write and then share with the class.

Life Skill(s) from TIPPs for 4-H

6th Grade

Use appropriate social skills to interact in group settings. (Heart, Relating)

Clearly State your needs and feelings to others. (Heart, Relating)

7th Grade

Understand the feelings and perspectives of others. (Heart, Relating)

Respond appropriately to communications from others. (Heart, Relating)

8th Grade

Speak up for your rights. (Heart, Relating)

Have positive experiences with those who are different from oneself. (Heart, Relating)
6.L.VAU.6 Acquire and accurately use grade appropriate general academic and domain-specific words and phrases; develop vocabulary knowledge when considering a word or phrase important to comprehension or expression.

6.RI.KID.1 Analyze what a text says explicitly and draw logical inferences; cite textual evidence to support conclusions.

8.L.VAU.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on 8th grade-level text by choosing flexibly from a range of strategies.
   a. Use context as a clue to the meaning of a word or a phrase.
   b. Use common grade-appropriate morphological elements as clues to the meaning of a word or a phrase.

7.L.VAU.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on 7th grade-level text by choosing flexibly from a range of strategies.
   a. Use context as a clue to the meaning of a word or a phrase.
   b. Use common grade-appropriate morphological elements as clues to the meaning of a word or a phrase.
   c. Consult reference materials.

8.RL.KID.1 Analyze what a text says explicitly and draw logical inferences; support an interpretation of a text by citing relevant textual evidence.

7.RL.KID.1 Analyze what a text says explicitly and draw logical inferences; cite several pieces of textual evidence to support conclusions.
The 11-year old who invented a gadget to prevent parents from leaving their babies in hot cars

An 11-year-old Nashville student has invented a simple device that could save lives.

After learning approximately 38 children die each year from being left in hot cars, young Andrew Pelham felt compelled to do something. He entered The Rubber Band Contest for Young Inventors, which is held each year in Akron, Ohio. (The city is also known as the rubber capital of the United States.)

There is only one rule for contestants – they must use rubber bands in their invention. With that in mind, Andrew created the E-Z Baby Saver and won second place, taking home US$500.

Andrew thought his amazing invention might be a cheap way to help parents remember when they have a child in the back seat. The E-Z Baby Saver is a simple device made of duct tape and rubber bands. The device renders parents unable to walk away from the car when a child is still inside. It is a strap that stretches from the back seat to the front and attaches to the driver's side door.

Andrew used his prize money to buy a laptop and create his website. (Source)
The 11-year old cancer survivor who invented a chemotherapy bag

When she was 8 years old, Kylie Simonds of Naugatuck, Connecticut was diagnosed with rhabdomyosarcoma, a cancer of the connective tissues. She is now in remission and recovering from the ordeal.

Throughout her illness, one of the obstacles she endured were I-V pole wires that would cause her to constantly trip. She also needed to help pushing the pole around because it was too heavy for her.

Kylie invented a pediatric IV backpack – a wearable, portable IV machine for kids receiving chemotherapy or transfusions. The bag even comes in colorful designs. She calls it the I-Pack.

Kylie's design won a prize at the Connecticut Invention Convention in August 2014. She has secured a patent and is trying to raise money to put the backpack into production. (Source | Via)
The 13-year old who invented a lollipop that cures hiccups

In 2012, a thirteen-year-old girl launched a potentially lucrative business built around her unusual cure for hiccups. Kievman's idea for a cure came after she was afflicted with a stubborn case of the hiccups two years before and decided to test a number of folk remedies, from sipping water out of an upside-down cup to drinking salt water.

Eventually, after curing her hiccups, the future doctor combined her three favorite remedies to form her own (patent pending) cure for the annoying ailment.

Her three part cure is composed of sugar, apple cider vinegar, and lollipops. While she claims she is still in the process of “tweaking the taste,” her invention has already received a considerable amount of attention and has resulted in her enlistment of M.B.A. students, who will assist with launching her start-up.

She named her product Hiccupops. (Source)
The grandson of an Alzheimer patient who created a sensor for patients with dementia

Sound Alert

RF Signal

Smartphone serving as caretaker’s remote monitor

Quarter-coin-sized circuit board

Ultra-thin film pressure sensor
A New York teenager whose grandfather suffers from Alzheimer's disease won a $50,000 science prize for developing wearable sensors that send mobile alerts when a dementia patient begins to wander away from bed.

Kenneth Shinozuka, 15, who took home the Scientific American Science in Action Award, said his invention was inspired by his grandfather's symptoms, which frequently caused him to wander from bed in the middle of the night and hurt himself.

His invention uses coin-sized wireless sensors that are worn on the feet of a potential wanderer. The sensors detect pressure caused when the person stands up, triggering an audible alert on a caregiver's smartphone using an app.

The award honors a project that aims to make a practical difference by addressing an environmental, health or resources challenge, said Scientific American Editor in Chief Mariette DiChristina. (Source | Photo)