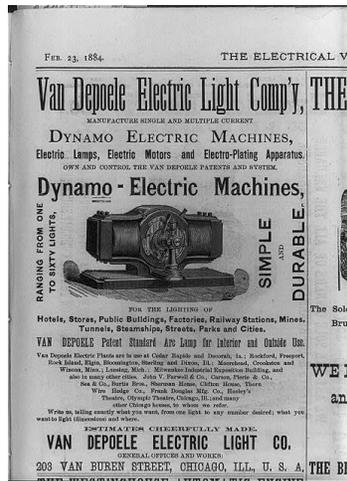


# Waynesburg University TPS Unit Outline

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<https://lccn.loc.gov/2004667802>

## ***Inventions that changed the world***

**Subjects:** Science, history, ELA, economics, math

**Grade Level/Range:** 2<sup>nd</sup> through 4th

**Overarching Goal or Concept for the Learning Unit:**

Theme 7: Production, distribution, and consumption.

Theme 8: Science, technology, and society.

The invention of Band-Aids, creation of their own invention, and then advertising/selling their own invention

**Overview:** For this learning unit, I focused on inventions that changed the world. I will start out the unit talking about what inventions students know of that have had a significant impact on society. We will begin by reading the book *The Boo-Boos That Changed the World*, doing a picture walk with some of the primary source pictures I found; then comparing Band-Aids then and Band-Aids today. My second lesson focuses on a learning center where students create a new invention idea, and then create it. The third lesson ties into the second where students have to create an advertisement and persuade people to want to buy their product. This learning unit has a variety of activities, inclusion of primary sources, incorporation of other subject areas, and a generally fun way for students to learn about history, economics, and inventions that have influenced society.

**Written By:** Shelby VanSickle

**Fall 2019**

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### **Pre-instructional Assessment / Introduction Activity:**

I would ask students what the word *invention* means and what they already know about inventions. We would brainstorm some inventions that have changed society. I would do a KWL chart of what students know about inventions, some inventions they already know, what they want to know about inventions, and then what they have learned.

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## Title of Lesson/Activity #1: *Book backdrop Connection to Band-Aid History*

### Overview of Lesson:

With this activity, we will begin by talking about what an invention is and naming a few that we can think of. Then we will read the book *The Boo-Boos That Changed the World*. After reading, we will do a picture walk of some pictures that relate to the book, coming from different events that happened in the book. Finally, we will talk about the differences and how Band-Aids have changed from the ones described in the book to the ones we use today.

### PA Standards:

Standard - CC.1.2.3.G: Use information gained from text features to demonstrate understanding of a text.

8.1.3. A. Identify the difference between past, present and future using timelines and/or other graphic representations.

### Investigative Question for this activity:

Exploring the history of the Band-Aid, how have Band-Aids changed over time?

### Objective(s):

After discussing an invention and reading the book, students will be involved in a picture walk related to the book, and then identify at least four ways how the first Band-Aids are different and how they are like ones now.

### Classroom Materials:

- Book: *The Boo-Boos That Changed the World: A True Story About an Accidental Invention (Really!)* (2018) by Barry Wittenstein
- Printouts of sources from loc.gov (listed below)
- Venn diagram papers
- Pencil

### Print Sources:

- Picture of New Brunswick, N.J. Title: Panoramic view of New Brunswick, N.J. <https://www.loc.gov/resource/pan.6a14030/>
- Soldiers bandaging each other. Title: Bandaging wounded. <https://www.loc.gov/item/2014704834/>
- Old picture of boy scouts. Title: Boy Scouts <https://www.loc.gov/item/2014709809/>
- Soldiers lined up. Title: Evacuees walking single file behind armed soldiers, WWII <https://www.loc.gov/item/2018661162/>
- Venn diagram worksheet

### Student Learning Process:

1. We will be talking about inventions that have had an impact on a society.
2. When I say the word "invention" what is the first thing that you think of?
3. We are going to read our book now. *Read book, showing pictures.*

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4. After reading that book, what events or big things happened?
5. How do you think Band-Aids have changed our lives?
6. I am going to put out some pictures and I want you to do a picture walk, talking with a partner what you notice in each picture, and then how you think they relate to our book.
7. What is this first picture of? (Map of New Brunswick). How does it relate to the book?
8. What is the second picture a picture of? (Soldiers using bandages). How does it relate?
9. What is the third picture a picture of? (Boy scouts). How does it relate?
10. What is the fourth picture a picture of? (Soldiers). How does it relate?
11. Now that we've looked at some pictures that relate to our story, I want us to talk about the history of Band-Aids and how they've changed.
12. I will pass out some Venn diagrams for you to use.
13. On the left side, we will put the first Band-Aids, like the ones in the book. On the right will be Band-Aids today, and in the middle will be how they are similar.
14. What are some characteristics about the first Band-Aids that are different from the ones we use today? Write them down on the left side.
15. What are some characteristics about the Band-Aids that we use today?
16. Now, what are some ways that they are similar?

### **Closure:**

Now that we have talked about the importance of Band-Aids, their history, and how they have changed, what are some other important inventions that we know of? Why do you think they are important?

### **Modifications/Accommodation Techniques for Students with Special Needs:**

- For students with reading/writing difficulty, have them write three characteristics instead of five, or work with a partner and have the partner write it.
- Provide the Venn diagram with lines for students with writing difficulty.

### **Formal Assessment:**

Students will turn in the completed Venn diagram sheet.

### **Informal Assessment:**

Students are engaged and involved in the discussion about the book, involved and contributing to the picture walk, and then the discussion following the picture walk.

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## Title of Lesson/Activity #2: *Create your own invention*

### Overview of Lesson:

With this activity, students will be working in small groups and creating their own invention. Students will use the attached invention worksheets to design their own invention. They can research an invention they are interested in and use that as a guide. They will also be drawing their invention, naming it, how their invention would solve a certain problem, discuss people who would benefit from it, and then describe the way the invention works.

### PA Standards:

CC.1.4.3.A: Write informative/ explanatory texts to examine a topic and convey ideas and information clearly.

CC.1.4.3.C: Develop the topic with facts, definitions, details, and illustrations, as appropriate.

8.3.3. A. Identify and describe the social, political, cultural, and economic contributions of individuals and groups in United States history.

### Investigative Question for this activity:

If you could be the creator of a new invention that would solve a problem and benefit people, what would that invention be?

### Objectives:

After reading the book *The Boo-Boos That Changed the World: A True Story About an Accidental Invention (Really!)* and talking about other inventions that have impacted society, students will work in a center to design their own new invention, providing supporting details about the invention.

### Classroom Materials:

- Copy of the book: *The Boo-Boos That Changed the World: A True Story About an Accidental Invention (Really!)* (2018) by Barry Wittenstein
- Invention worksheet
- Pencil
- Crayons
- Chromebooks/iPads

### Print Sources:

- Printout of invention from loc.gov
  - Title: Watt's double-acting rotative [steam] engine, 1787-1800.  
<https://www.loc.gov/item/2004678666/>
- Invention worksheet

### Online Collections/Exhibits/Websites:

- <https://www.history.com/topics/inventions>

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## **Student Learning Process:**

1. After discussing inventions and inventions that impacted the world, students will be broken into small groups to come up with and design their own new invention.
2. Students will use the invention worksheet graphic organizer to design their invention.
3. Students can also use the Chromebooks or iPads to research different inventions and see what information needs to be included in it.
4. Students will need to draw their invention and include as much detail (labeling if needed) as possible, and then name the invention.
5. Show the picture of the invention of Watt's steam engine to give them an example of a drawing of an invention.
6. Students will need to discuss ways that their invention solves a particular problem.
7. Students will need to list and discuss the types of people who would benefit most from their invention, and how they personally would benefit.
8. Finally, students will describe the ways that their invention works.

## **Closure:**

Once all students have their invention completed, they will share their invention with the class.

## **Modifications/Accommodation Techniques for Students with Special Needs:**

Students can work with a partner to create their invention together. They could also verbally tell someone what they want their invention to be and someone else could write it. They can draw out the invention and then just describe it to the class. If needed, they could work one-on-one with the teacher.

## **Formal Assessment:**

Students will need to completely fill out the invention worksheet and then discuss it with the class.

## **Informal Assessment:**

I will walk around during the center time to make sure students are on task and working as they should be. Students should be working together to discuss ideas and help each other whenever they are having difficulties on part of the invention creation.

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## Title of Lesson/Activity #3: Let's Make A Sale!

### Overview of Lesson:

After completing the invention lesson/learning center, students will try to persuade the class to buy their product.

### PA Standards:

CC.1.4.3.A: Write informative/ explanatory texts to examine a topic and convey ideas and information clearly.

CC.1.4.3.D: Create an organizational structure that includes information grouped and connected logically with a concluding statement or section.

CC.2.4.3.A.3: Solve problems and make change involving money using a combination of coins and bills.

5.3.3.G: Identify individual interests and explain ways to influence others.

6.2.3.C: Identify types of advertising designed to influence personal choice.

6.2.3.D: Define price and how prices vary for products.

### Objectives:

After discussing advertising and the use of advertising, students will create an advertisement to persuade customers to buy their product, including the price, ways to persuade, and how it will be advertised.

### Classroom Materials:

- Pencil
- Invention project from last lesson for reference
- Invention advertisement outline

### Print Sources:

- Picture of advertisement. Title: [Advertisement for dynamo electric machines]  
<https://www.loc.gov/item/2004667802/>

### Student Learning Process:

1. We will begin the activity by getting our invention projects that we did the other day.
2. Reflect on what you talked about with your invention and how it will be beneficial to people, and the group of people you are targeting with it.
3. Now I am going to show you a picture (of the invention advertisement), and I want you to take a few minutes and think of some things that you notice about the picture and things you question.
4. After looking at it, what are some things that we notice about the picture?
5. What are some things that we wonder?
6. Now that we have looked at an older example of an advertisement, you will be working to create own for your own product invention.
7. You will be using this handout to as a guide line for your advertisement. Make sure you include all of the parts: what are you advertising, how much will it cost,

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why should people buy it, what words will persuade people to buy it, and where will you advertise it.

8. Keep in mind your invention creation worksheet and the people for whom you are inventing your product and how it will benefit them.

### **Closure:**

Students will present their advertisement ideas to the class and try to persuade us to buy it. Students will have “money” they can use to then buy the product being sold.

### **Modifications/Accommodation Techniques for Students with Special Needs**

- Students of lower reading ability or with a learning disability can work with a partner who is doing a similar product and work on their advertisement together.
- Students with lower reading/writing ability can draw their advertisement and talk about the rest of the requirements.

### **Formal Assessment:**

Participation in the activity.

### **Post-instruction Assessment:**

My pre-instruction assessment was that I would ask students what the word invention means and what they already know about inventions. We would brainstorm some inventions that have changed society. I would do a KWL chart of what students know about inventions and some inventions they already know, what they want to know about inventions, and then what they have learned. For my post-instruction assessment, I would have students fill out the learned column of the KWL chart and then discuss what an invention is, what they have learned about inventions, give me some examples of inventions, and then briefly talk about the invention that they created.

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Name: \_\_\_\_\_ Date: \_\_\_\_\_  
This Venn Diagram helps me to compare and contrast  
&  
\_\_\_\_\_ & \_\_\_\_\_  
Both  
\_\_\_\_\_

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
This Venn Diagram helps me to compare and contrast  
&  
\_\_\_\_\_ & \_\_\_\_\_  
Both  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Invention

PRICE My invention costs... \_\_\_\_\_

My invention solves this problem: \_\_\_\_\_

MY INVENTION

These are the people who would benefit from my invention: \_\_\_\_\_

My invention is called... \_\_\_\_\_

Here's how my invention works: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_

## MAKE YOUR OWN ADVERTISEMENT

What are you advertising? \_\_\_\_\_

\_\_\_\_\_

How much does it cost? \_\_\_\_\_

Why should people buy it? \_\_\_\_\_

\_\_\_\_\_

What words will persuade people to buy it? \_\_\_\_\_

\_\_\_\_\_

Where will you advertise it? \_\_\_\_\_

\_\_\_\_\_