



Invention Project

PowerPoint Lesson Slides
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www.andrews.edu/go/invent

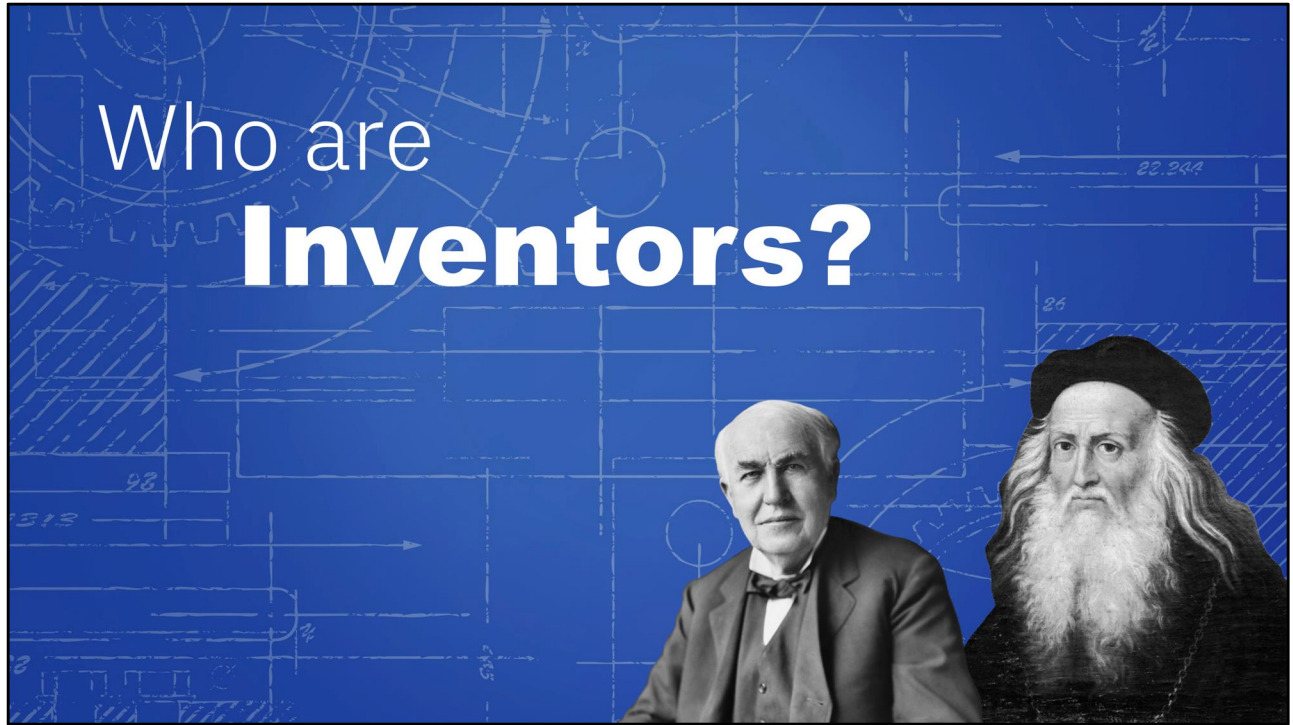
Andrews University STEM Division
January 2022

Note:

Some slides in the PowerPoint have text or images that appear out of place until full-screen playback. This is because some elements are animated and will not appear in the right place until the slide is played. There are also some animated transitions that require an extra slide to animate properly. These slides were simplified for the notes version to improve readability.

Page numbers in this document do not correspond to slide numbers in the PowerPoint.

Who are **Inventors?**



Lesson 1: Who Are Inventors?



Question:

**How would you
describe an
inventor?**

Discussion Question 1



Question:

**Do you think you
could become
an inventor?**

Discussion Question 2



Possible Preconceptions:

- All inventors are adults.
- Inventors are a thing of the past.



Inventors can be YOUNG too! (examples – ages shown)

Benjamin Franklin (11 years old) – Swim Fins (1717) – handheld wooden paddles to swim faster

Louis Braille (12 – 15 years old) – Braille Alphabet (1824) – alphabet for blind people

Peter Chilvers (12 years old) – Windsurfing Sailboard (1958) – a surfboard with sail attached

William Kamkwamba (14 years old) – Makeshift Windmill (2001) – recreated a windmill to power his family home

George Nissen (16 years old) – Trampoline (1930) – fun athletic equipment for gymnasts

Young Inventors



Young Inventors: (modern examples – ages shown)

- Kids and teens of all ages can be inventors!
- Examples taken from activity (next slide)

Young Inventors

Choose an Inventor

1. Name?
2. Age?
3. Problem?
4. Solution?
5. Favorite part?



Suggested Activity: Young Inventors

- Print activity sheets, provide websites, or direct students to other lists of inventors.
- Let each student/group choose 1-2 inventors.
- Students should identify the inventor's name, age, problem, solution, and favorite thing about the inventor/invention.
- Students can share with the class, in groups, or in a written response.

Handout available on our website: (Activities section in Teacher Resources)

https://www.andrews.edu/cas/stem/invent/downloads/young-inventors-activity_3-5.pdf

Invention Project

Team Project

- Choose a problem
- Invent a solution
- Build the invention



Presentation

- Tri-fold presentation board
- Present to judges

Invention Project Overview:

- Major components
- Goals & expectations
- Local invention fair

Logbook

- **Instructions & Tips**
- **Document your work**
- **A record if you decide to patent the invention**
- **Fill out during the project**
- **1 Logbook per team**

Logbook

Invention Name: _____
Invention Category: _____

Inventors: Name _____ Grade _____

School: _____
State/Province: _____

 **STEM**

Introduce the Logbook:

- Explain its purpose and use
- Fill out over time, not all at once
- Give each team 1 Logbook

Logbook available on our website: (Project Resources section in Teacher Resources)
https://www.andrews.edu/cas/stem/invent/downloads/logbook_3-5.pdf

Teams

- **3-4 Students per team**
- **Same members for the entire project**



Form Teams for the Project:

- 3-4 Students per team
- Smaller classes may need a team of 2

Schedule

Mar 10	Choose a Problem
Mar 24	Choose a Solution
-	Design, Build, Test, & Improve
May 6	Finalize Invention
May 8	Invention Fair (presentations)

Example Project Schedule:

- Adjust the deadlines to match your schedule

Mission: Invent

Date: July 11, 2022

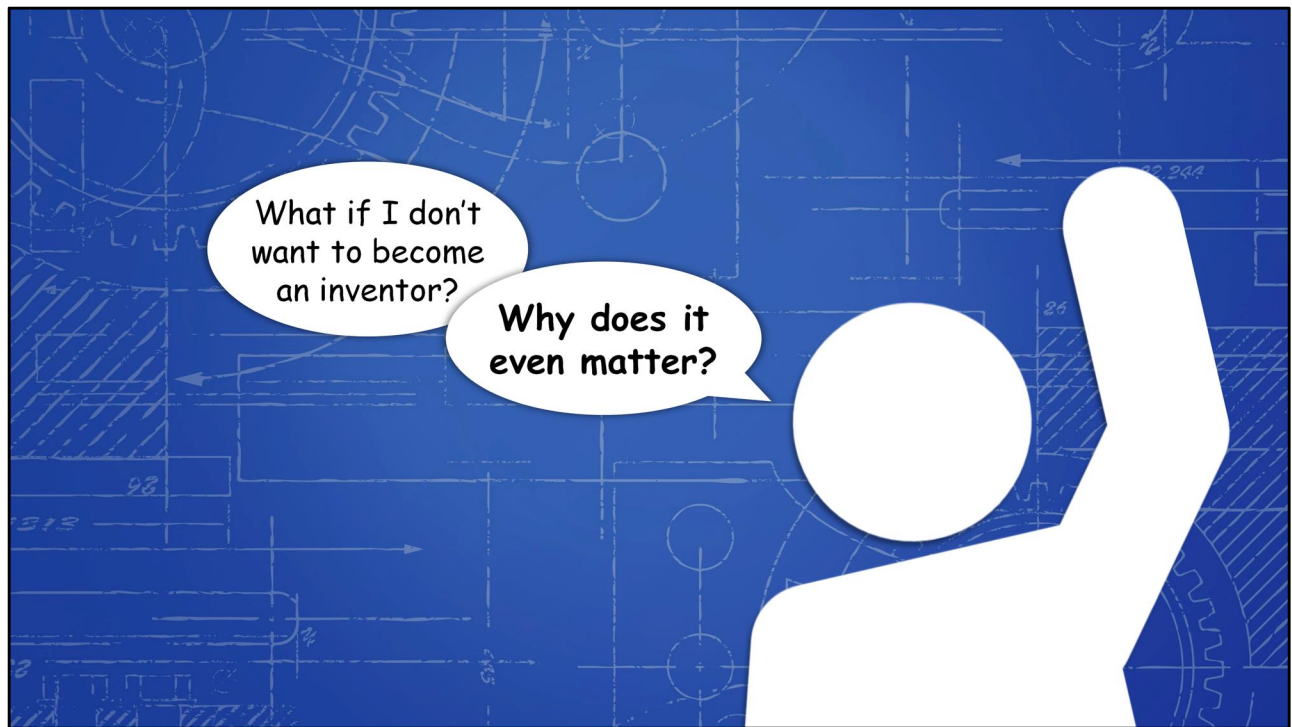
Where: Andrews University, Michigan

Who: NAD K-12 Students

What: Showcase Inventions
Awards Ceremony
Engage with other students

Introduce Mission: Invent 2022

- Annual NAD-wide invention fair
- Top inventions from each school are eligible to enter



Question:

- What if someone doesn't want to be an inventor?
- Why does this project matter?

(answered on next slide)

The background of the slide is a dark blue rectangle filled with a complex, light blue technical drawing. This drawing includes various geometric shapes like circles, rectangles, and lines, along with some faint, illegible text and numbers, giving it the appearance of an engineering blueprint or a technical sketch.

Inventors are simply Problem Solvers... and Everyone is a Problem Solver!

This project is important because it teaches students to be problem solvers. Everyone needs to solve problems of some kind, whether professionally or privately. This project emphasizes STEM and teaches problem solving in this context, but the skills can be extended to every area of life.

Problem Solvers

- **Inventors**
- **Scientists**
- **Engineers**
- **Business People**
- **Construction Workers**
- **Police Officers**
- **Farmers**
- **Doctors**
- **Athletes**
- **Artists**
- **Chefs**
- **Parents**
- **Students**
- **Everyone!**

Everyone is a Problem Solver!

Assignment (due Mar 10)

Look for problems to solve:

- Each student must find at least 5 problems to share next time
- Look around your home, school, community, etc.
- Talk to friends and relatives
- Notice things that are challenging

Assignment: (due next class – adjust date accordingly)

Each team will need to choose a problem by the end of next class. To prepare for this, students need to find problems to share with their team.

Read the Logbook for more information (pg. 7).

Worksheet available on our website: (Project Resources section in Teacher Resources)
https://www.andrews.edu/cas/stem/invent/downloads/logbook_3-5_problem.pdf

Invention Project

