Invention Project

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

Andrews University STEM Division
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Goals for Today

Collaborate with your team to...

- Define the problem
- Research the problem

Project: Define & Research the Problem

Read the Logbook for more information (pg. 7-9).

(may need to finish research next time)

Requirements

What makes a good requirement?

- **Criteria – What does the solution need to do?**

- **Constraints – What must the solution not do?**

- **Describe the conditions where it should work**

- **Detailed (How will you know you've met it?)**

- **Do not say <u>how</u> it will be solved**

Project: Requirements

What makes a good requirement?

- Criteria – things the solution must meet or do
- Constraints – things the solution must not do (limitations or restrictions for the design)
- Consider the requirements for the solution without choosing a specific solution yet.
- The requirements will be the checklist for the invention.

Read the Logbook for more information (pg. 10).

Goals for Today

Collaborate with your team to...

- Finish research
- List solution requirements

Project: Requirements

Show the previous slide and read the Logbook for more information (pg. 10).

Goals for Today

Collaborate with your team to...

- Brainstorm solutions
- Compare solutions
- Research originality
- Choose the best solution

Project: Find & Choose a Solution

Read the Logbook for more information (pg. 11-13).

(this step may require extra time)

Goals for Today

Collaborate with your team to...

- Create invention design
- Build the prototype

Project: Design & Build the Prototype

Read the Logbook for more information (pg. 14-16).

(this step may require several days)

Project: Test the Prototype

Read the Logbook for more information (pg. 17-18).

(this step may require several days)

Goals for Today

Collaborate with your team to...

- Improve the prototype
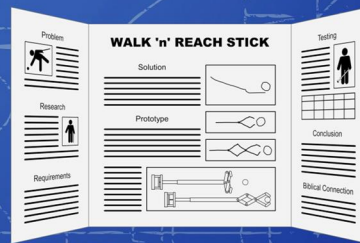- Run new tests
- Finalize the prototype

Project: Improvement

Read the Logbook for more information (pg. 14-18).

(this step may require several days)

Project: Wrap-Up

Read the Logbook (pg. 19-20) and the Presentation Guidelines (available on our website, Presentation Resources section in Teacher Resources) for more information.

(additional resources available in the Presentation Resources section)