

Young Inventors' Challenge: Creating an Original Toy or Game

Curriculum Overview

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Objectives:

1. Students will read about and research inventions.
2. Students will read lists of instructions (Expository/How-To Pieces).
3. Students will create an original toy or game.
4. Students will use writing skills to describe their toy/game and to explain how to play.
5. Students will create a prototype of their invention and use STEM skills to test their idea.
6. Students will present their ideas in the form of a video.

Standards

ELA:

W 2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

W 4: Produce clear and coherent writing in which the development and organization are appropriate to the task, purpose, and audience.

W 6: Use technology, including the internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.

W 7: Conduct short research projects that build knowledge about a topic.

W 9-10.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Science:

Engage students in the science and engineering practices of Asking Questions and Defining Problems, Planning and Carrying out Investigations, and Developing and Using Models.

SEL:

Goal 1: Develop self-awareness and self-management skills to achieve school and life success.

Goal 2: Use social awareness and interpersonal skills to establish and maintain interpersonal relationships.

Goal 3: Demonstrate decision-making skills and responsible behaviors in personal, school and community contexts.

Theatre:

Anchor Standard 2: Organize and develop artistic ideas and work.

Anchor Standard 3: Revise, refine, and complete artistic ideas and work.

Anchor Standard 5: Develop and refine artistic techniques and work for presentation.

Media Arts and Visual Arts:

Anchor Standard 1: Generate and conceptualize artistic ideas and work.

Anchor Standard 2: Organize and develop artistic ideas and work.

Anchor Standard 3: Revise, refine, and complete artistic ideas and work.

Anchor Standard 5: Develop and refine artistic techniques and work for presentation.

Skills

Reading, Researching, Designing, Testing, Using the Writing Process, Developing an Idea, Writing Information (How-To) Pieces, Presenting

Enduring Understanding

Sequencing, Writing Directions, Proofreading, Revising, Editing, Inventions, Prototype

Enduring Essential Questions

What is the correct sequence for writing directions and for explaining a process to a specific audience?

How do you take an idea and invent from it?

How do you test an idea to make sure it works?

Activating Prior Knowledge

- Refer to knowledge types of games.
- Refer to the way games are explained (Directions/Instructions).
- Discuss the qualities that make a fun, great, memorable game.
- Read **Timeless Toys**, by Tim Walsh.

Materials

*Computers

*Paper

*Pens/Pencils

*Art Materials for Prototype Construction(Cardboard, Tape, Glue, Rulers, Construction Paper, Markers, Crayons, Colored Pencils, Blocks, etc).

Procedures

*Read **Timeless Toys**, by Tim Walsh.

*Research inventions.

*Research invention of toys.

*Read various game instructions and various game descriptions

*Determine Importance; Take notes after reading.

*Use the Writing Process to brainstorm a new game/toy idea, write the description, rules, and instructions for the game/toy.

* Use STEM skills; Design the game/toy, test the usage of it,revise design if necessary, showcase the concept.

Suggested Websites/Resources

*www.chitag.com/people of play
(see Resources for Teachers, Young Inventors' Challenge,
Design Packet, Links to YouTube Videos)

*Timeless Toys, by Time Walsh

*<https://invention.si.edu/tags/toys-and-games>

<https://www.factmonster.com/search/toy+and+game+inventions>

<https://www.ducksters.com/searchducksters.php?q=toy+and+game+inventions>

*<https://en.wikipedia.org/wiki/Toy>