FORTNITE

BUILD A WONDER OF THE WORLD

LESSON PLAN

STEM / HISTORY

GRADES 8-12 (13 OR OLDER)
3 WEEKS

Do your students love Fortnite? How would they like to put their passion to work as they develop a variety of STEAM (Science, Technology, Engineering, Art, and Math) skills? This lesson plan is designed to do just that by guiding Fortnite players through the building process to create one of the Wonders of the World in Fortnite Creative. Students can work in groups or individually to create their Wonder.

For inspiration, students can explore some of the Wonders of the World built by creators on YouTube! One example is the Artemis Temple created by Darkous Gaming (https://youtu.be/nMlDuy-9qu8).

Fortnite Creative's powerful tools allow builders to construct almost any structure, terrain, or environment. By building a Wonder of the World, students will learn about its history, size, location, and purpose. In addition, they will establish the original appearance of their Wonder and compare it with its current look. To accomplish these tasks, students will find photos, graphics, dimensions and floor plans, then translate that information to a scale replica for Fortnite avatars to explore.

Link to Introductory Video: https://youtu.be/ziprAMooYB0

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LESSON INFORMATION

Lesson Title: Build a Wonder of the World

Content/Grade: STEM / History Grades 8-12 (13 or older)

Lesson Timeframe: 3 weeks

AUTHOR CONTACT

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DESCRIPTION OF CLASS/LEARNING ENVIRONMENT

The classroom or lab has one computer per student that can run Fortnite Creative Island. Students could also complete the assignment with access to a classroom, lab, or home machine after school.

LESSON OVERVIEW

Do your students love Fortnite? How would they like to put their passion to work as they develop a variety of STEAM (Science, Technology, Engineering, Art, and math) skills? This lesson plan is designed to do just that by guiding Fortnite players through the building process to create one of the Wonders of the World in Fortnite Creative. Students can work in groups or individually to create their Wonder.

For inspiration, students can explore some of the Wonders of the World that have been built by their favorite creators on YouTube!

Fortnite Creative's powerful tools allow builders to construct almost any structure, terrain, or environment. By building a Wonder of the World, students will learn about its history, size, location, and purpose. In addition, they will establish the original appearance of their Wonder and compare it with its current look. To accomplish these tasks, students will find photos, graphics, dimensions and floor plans, then translate that information to a scale replica for Fortnite avatars to explore.

We have determined that the following Wonders of the World are the most educational and best suited for Fortnite Creative Island's capabilities.

1. One of the three Great Pyramids of Egypt. The Pyramid of Menkaure is ideal, due to its manageable size.
2. A section of The Great Wall of China. We recommend the section of extremely steep slopes in Jinshanling.
3. Chichén Itzá's El Castillo (Temple of Kukulcan)
4. Machu Picchu (part or all)
5. The Colosseum
6. Stonehenge
7. The Hanging Gardens of Babylon
8. The Temple of Artemis

DESIRED RESULTS

ESSENTIAL QUESTIONS/BIG IDEAS

What is the significance of the Wonders of the World?

Can students demonstrate creativity with purpose using Fortnite Creative?

Can Fortnite be used as a tool to create a scaled replica of a structure?

What accommodations and compromises are necessary to create a replica in Fortnite Creative?

Can students learn and demonstrate their understanding to others through a build in Fortnite Creative?

How can students employ research skills to create an authentic replica of one of the Wonders of the World in Fortnite Creative?

LEARNING OUTCOMES/OBJECTIVES

Students will learn:

- What the Wonders of the World in this lesson plan are, what they look like, where they are, which one they like the most, and why.
- Their chosen Wonder's materials, building dates, and purpose.
- The exterior and interior design and dimensions of their structure's walls, doors, windows, halls, rooms, and building site.
- What their structure looked like when it was new, as compared to today.
- How to convert measurements in order to create a scale replica in Fortnite Creative.
- The concept of computer memory usage in relation to the size of a game build.
- Which materials were available at the time of construction, and how to simulate materials, objects, and plants in Fortnite.
- Construction practices of the builders, and the engineering techniques they used.
- The significance of the Wonders of the World.
- Details about the Wonder they create, as well as those created by their peers.

LESSON PLAN

HOOK

Show the Pyramid of Menkaure: Educational Fortnite Creative Pyramid Build Video

INSTRUCTION / DISCUSSION

Discussion: What is a Wonder of the World? Allow students to do cursory research on the Wonders of the World and participate in a class discussion.

EXPLORATION

There are different lists of the Wonders of the World available. Below are the Wonders with the best size and construction to build and play in Fortnite Creative.

Have students explore the Wonders of the World and choose one to recreate in Fortnite Creative:

- The Pyramid of Menkaure
- Jinshanling slopes of The Great Wall of China
- Chichén Itzá's El Castillo (Temple of Kukulcan)
- All or part of Machu Picchu
- The Colosseum
- Interpretation of The Hanging Gardens of Babylon
- The Temple of Artemis
- Stonehenge

Explore each Wonder in class and for homework. Students choose one Wonder and gather the following information:

- When, where, why, and by whom was your Wonder built?
- What does your Wonder look like now, and what did it look like when it was first built?
- Establish your Wonder of the World's rough dimensions.
- Find any floor plans, photos, schematics, etc. available and record them.
- Establish the number of meters that make up a grid square in Fortnite.
- View the Wakelet resources, and use the information to recreate one of the Wonders of the World in Fortnite Creative.

ITERATIVE DESIGN PROCESS

1. Sketch the Wonder you have chosen and label it with the actual dimensions.
2. Start a new Fortnite Creative Island using the Grid Island Template.
3. Start the foundation of your Wonder of the World to the correct dimensions.
4. Share progress with a peer and recruit feedback.
5. Build each day and engage in “pair share,” in which you and a peer explore each other’s Wonders. After you explore, provide verbal feedback to each other.

The completed project will be a walkthrough that provides information about the Wonder and incorporates game mechanics to create an immersive Fortnite Creative experience.

Reminder: "*Perfect is the enemy of done*."

EXTENSION ACTIVITY

Students with extra time should further develop their Wonder to include game mechanics. Ideas could include:

- Wonder of the World Scavenger Hunt: Students incorporate objects for players to find in and around their Wonder of the World.
- Escape the Wonder! Students incorporate game mechanics that require players to find a key to open doors, avoid traps, and solve other puzzles in order to escape.

CULMINATING ACTIVITY

- Record a screen capture of a narrated walkthrough of your Wonder of the World.
- Submit the walkthrough as a video.
- Post a short write-up to accompany your video walkthrough submission. The write-up should explain when, where, why, and by whom your Wonder was built.
- With permission from your teacher and parents, post a video of your creation publicly to help other students and teachers learn with Fortnite Creative Island.

EXTERNAL RESOURCES

Wakelet resources, including information on each Wonder of the World and examples on YouTube of similar structures built by Fortnite players and captured in speed-build videos

https://wke.lt/w/s/VIvxlM

The Pyramid of Menkaure
Jinshanling slopes of The Great Wall of China
Chichén Itzá's El Castillo (Temple of Kukulcan)
All or part of Machu Picchu
The Colosseum
Interpretation of The Hanging Gardens of Babylon
The Temple of Artemis
Stonehenge

Artemis Temple created by Darkous Gaming: https://youtu.be/nMlDuy-9qu8

ASSESSMENT

RUBRIC

WONDER OF THE WORLD RUBRIC

	DEVELOPING	COMPETENT	PROFICIENT	DISTINGUISHED
PROJECT CONTENT/ LEARNING OBJECTIVES	Project does not convey the required information or demonstrate understanding of the learning objectives.	Project shows a basic understanding of the Wonders of the World and demonstrates learning objectives.	Project reflects understanding of the Wonders of the World and demonstrates desired learning objectives.	Project reflects understanding and synthesis of the subject, and mastery of the learning objectives related to the Wonders of the World are met or exceeded.
PROJECT DEVELOPMENT	Project does not work, or has major flaws that prevent its intended use.	Project demonstrates basic functionality, but has minor flaws.	Project functions in the way the student intended, and provides general guidance for the end user. The project serves as a tool to educate peers and provides an immersive experience focused on one Wonder of the World.	Project is functional and refined, with extra features that exceed requirements. The project serves as a great tool for educating others on the Wonder, and includes game mechanics that establish an interactive experience for the player.

	DEVELOPING	COMPETENT	PROFICIENT	DISTINGUISHED
PROJECT AESTHETICS/ DESIGN	Project requires more attention to the look and feel of the experience, as well as general design.	Project shows some attention to aesthetics and thoughtful design but is incomplete or lacking in some aspects of layout and design.	Project is well organized and pleasing to the eye. It is easy to navigate and understand. The project demonstrates thoughtful design, and the player feels like they are exploring the Wonder of the World.	Project is well organized, makes good use of space, and uses both available and user-created assets. The world is inviting and thoughtful, and intentional design is apparent. The project displays exemplary recreation of the Wonder in Fortnite Creative.
REFLECTION	Student has difficulty describing the intent of the project.	Student can mostly describe or reflect upon the basics of the project and intended learning objectives.	Student provides a thoughtful reflection and explanation of the project and how it relates to the desired learning outcomes. Student demonstrates an understanding of the Wonder, as well as the Wonders presented by peers.	Student can describe how the project was created and demonstrates a clear understanding of the selected Wonder including when it was built, its purpose, who built it, etc. Student also demonstrates understanding of Wonders presented by peers.

STANDARDS MAPPING

ISTE STANDARDS

3 Knowledge Constructor
Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.

4 Innovative Designer

4a Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

4c Students develop, test and refine prototypes as part of a cyclical design process.

4d Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

5 Computational Thinker

5c Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

5d Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

6 Creative Communicator

6c Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.

NEXT GEN SCIENCE STANDARDS

Motion and Stability: Forces and Interactions
HS-ETS1-2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

INTERDISCIPLINARY AND 21ST CENTURY CONNECTIONS

This lesson covers areas related to engineering, science, and multimedia design. This lesson integrates all areas of STEM / STEAM. 21st Century Connections:

- 1. Critical thinking
- 2. Creativity
- 3. Collaboration
- 4. Communication
- 5. Technology literacy
- 6. Flexibility
- 7. Leadership
- 8. Initiative
- 9. Social skills

MODIFICATIONS AND ACCOMMODATIONS

Create a developers account and submit Island to Epic Games to be considered for inclusion as a Featured Island.

Post a live stream or screen capture of the full gameplay and explanation to Twitch or YouTube.

Provide students with the option to use a different game development tool to create a Wonder of the World.

Incorporate an adaptive controller / game controller if necessary.

ADDITIONAL TEACHING MATERIALS

Please include other teaching materials as separate documents (handouts, etc.)

Wakelet Resources provided throughout template (videos of FN Creators' Builds)
https://wke.lt/w/s/VIvxlM

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