LEGO Disaster Island

Mid-Valley
STEM-CTE HUB

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LEGO Disaster Island

The LEGO Disaster Island kit enables hands-on STEM learning through disaster-response scenarios. Students build island hideouts, rescue vehicles and other structures to address challenges, exploring concepts in engineering, problem-solving, and teamwork. The kit supports projects that foster creativity, critical thinking, and collaboration.

Grade Level

4th - 10th grades

Group Size

Up to 4 students per group

Time Duration

30 - 90 minutes

Content of Kits

Components

- Bulk LEGO
- LEGO build plates
- Challenge cards
- LEGO brick holders

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Usage

Getting Started

1. **Distribute Materials:** Provide each participant or team with a tray of randomly assorted LEGO bricks.
2. **Set the Challenge:** Explain the task of building a disaster-themed island within the 20-25 minute timeframe.
3. **Build Session:** Allow creativity to flourish as participants build their LEGO islands.
4. **Presentation:** Have each participant or team present their island, explaining the elements of their design and the story behind their disaster theme.

Storage

Store LEGO bricks in their trays or bins to ensure they are organized and ready for the next challenge.

Troubleshooting

- Encourage participants to think creatively if they feel limited by the types of bricks available.
- Assist participants in resolving any structural challenges they encounter during the build.

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Activity Guide

Beginner

Basic Island Formation
Students will construct a simple island using LEGO bricks, focusing on terrain design, elevation, and basic structures. They will experiment with different landscapes, such as beaches, cliffs, and forests, to create a realistic setting. This activity introduces spatial awareness, foundational building techniques, and creative expression.

Intermediate

Incorporating Disaster Elements
Students will modify their islands to include natural disasters such as volcanic eruptions, floods, or earthquakes. Using LEGO pieces, they will simulate the effects of these disasters, reinforcing concepts of cause and effect, structural stability, and environmental science. This challenge encourages problem-solving as students must design resilient structures or emergency response strategies.

Advanced

Storytelling and Detailing
Students will enhance their islands with intricate builds that depict disaster aftermath, rescue operations, and survival scenarios. They will incorporate detailed structures, vehicles, and minifigures to bring their stories to life. This activity emphasizes creativity, world-building, and narrative development, helping students understand the impact of disasters and human responses.

Extension Activities:

LEGO Disaster Island Series
Students will create a connected series of disaster-themed islands, forming a larger shared world. They can design islands that experience different disasters and collaborate to develop a storyline linking them together. This activity fosters teamwork, storytelling, and systems thinking as students consider how each disaster affects the surrounding environment and communities.

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Learning Extensions

STEAM Connections: Engineering - Environmental Science

Learning Objectives:

- Develop spatial awareness
- Enhance creative thinking
- Improve presentation skills
- Learn to manage time effectively

Career Connections:

- **Architecture –** Develops spatial awareness and structural design skills, essential for planning and constructing buildings and infrastructure.
- **Engineering –** Encourages problem-solving and innovation in structural stability, disaster resilience, and mechanical design.
- **Urban Planning –** Introduces concepts of disaster preparedness, sustainable city design, and emergency response planning.
- **Creative Arts –** Enhances storytelling, world-building, and visual design skills, applicable in fields like game design, animation, and set design.

Essential Employability Skills:

- Logical reasoning
- Problem-solving
- Time management
- Innovation
- Public speaking
- Creativity
- Teamwork

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Resources and Accessibility

Safety Guidelines

- Supervise to ensure that small pieces are handled safely and not misplaced.
- Maintain a clean and organized building area to prevent accidents.
- Do not allow students to put LEGO pieces in their mouths.

Accessibility

- Ensure that all participants can access materials comfortably; provide table risers or seating arrangements as needed.
- Adapt challenges for varying skill levels and physical abilities.

Library Catalog

Library Resources

Feedback

QR to feedback survey