

8th Grade Lesson Plans

Designing a Mars Set and Creature

Learning Objectives:

I can:

- Define “set” and “set design”
- Recall the basic steps of a design process
- Search online for images
- Choose appropriate images for my collage
- Create a design collage showcasing initial ideas for a Mars set
- Justify my choices of images
- Create a basic rendering of a creature design
- Choose a medium to use for my rendering
- Collaborate with my peers
- Explain my choices in my creature design

Materials and Supplies:

Pre-Show

- [Google Slides Presentation](#)
- Student Chromebooks (or school computer lab)
- Pencils
- Paper
- Sample Collage (Optional)

Post-Show

- Google Slides Presentation
- Student Chromebooks (or school computer lab)
- Pencils
- Paper
- Colored Pencils
- Construction paper (Optional)
- Magazines (Optional)
- Glue (Optional)
- Markers (Optional)
- Sample Creature Design (Optional)

Standards:

South Carolina Academic Standards for Performance Indicators for Science

8.S.1B. Conceptual Understanding: Technology is any modification to the natural world created to fulfill the wants and needs of humans. The engineering design process involves a series of iterative steps used to solve a problem and often leads to the development of a new or improved technology.

8.S.1B.1 Construct devices or design solutions using scientific knowledge to solve specific problems or needs: (1) ask questions to identify problems or needs, (2) ask questions about the criteria and constraints of the device or solutions, (3) generate and communicate ideas for possible devices or solutions, (4) build and test devices or solutions, (5) determine if the devices or solutions solved the problem and refine the design if needed, and (6) communicate the results.

South Carolina College and Career Readiness Standards for Theatre Proficiency

Anchor Standard 2: I can design and use technical elements for improvised scenes and written scripts.

Benchmark T.CR NH.2 I can use basic technical elements in the dramatic process.

Indicator T.CR NH.2.2 I can use basic technical elements safely in a small project.

Pre-Show Activity-Designing a Mars Set

Introduction-Teacher Led Instruction (10 minutes)

Use the accompanying Google Slides Presentation to guide this introduction!

- Ask the question: What is a set?
- Briefly explain what a set is
- Explain that the students will begin to design a set for a future Colony on Mars.
- What do we know about Mars? Turn and talk, then share with the group. What will the buildings of the colony look like? What are the colors of Mars? Inside and outside.
- Explain the basic steps of a design process
 - Ask questions of the students as you go through these steps. What do they think each step means? Why is that step important?
- Watch the [video](#) on set design

Introduction of Project (5 minutes)

- Explain that students will be creating a design collage in groups of 4 or 5.
- Ask the question: What is a collage? Revoice student answers to guide the group to a common definition of collage.
- Explain that the purpose of the collage is to showcase your initial set design ideas for a play that is set on a future Mars Colony. The setting is outside in the Mars terrain as well as inside buildings in the colony. The collage should showcase ideas for both settings
- Explain that students will be showcasing your initial design ideas on a Google Slides Presentation
- Explain that students' finished products need to contain:
 - At least 5 images that show inspiration for Mars exterior terrain
 - At least 5 images that show inspiration for settlement buildings
 - At least 5 images that show inspiration for technology found inside settlement buildings.
 - A written explanation on each slide on why those images were chosen--justify your choices based on what you know about the environment. What kind of technology do the colonists need? Why?

Group work (30 minutes)

Students will:

- Get into groups of 4 or 5
- Collectively brainstorm about how they'd like their design to look and jot down ideas
- Create a shared Google Slides Presentation
- Decide how to divide the image search
- Share their found images with their group
- Write their justification statements for each slide
 - This can be divided like the image search was or students can decide as a group and have one student type onto each slide

Circulate as the groups work to help them keep on track and give guidance and suggestions.

Adaptations

Don't have chromebooks or easy access to a computer lab? Collect some magazines and print some images and do an old-school collage! Use poster boards or large sheets of paper, glue, and markers.

Post-Show Activity-Designing a Mars Creature

Review of Previous Lesson Activity (5 minutes)

The teacher will:

- Ask students to remind you what they were working on before seeing the show
- Revoice student answers to clarify the details of the set design project
- Ask the group if they would make any changes to their design after seeing the play

Group work (Optional) (10 minutes)

If the students weren't able to finish their group collages, give them time to finish. If some groups did finish, give them time to make changes to their work based on any new ideas after seeing the play.

Introduction of Next Phase (5 minutes)

The teacher will:

- Remind students of the "Not So Sweet Potato Rebellion" in the play
- Ask students to share what they remember about that plot point
- Guide student answers to remind students that mutated sweet potatoes took over the colony
- Tell students that their task today is to create a creature design for the mutated sweet potato
- Tell students that they have the option to draw their creature, create a digital collage using images from the internet, create the creature using pieces of cut construction paper, or create a physical collage by cutting out pictures from magazines or printed images to create a picture of the mutated sweet potato
 - Student options will vary depending on what materials you have available!
- Explain that students should prepare to explain why they made the choices they did

Group work (20 minutes)

Students will:

- Get back into their groups from the previous lesson
- Brainstorm, share ideas, and jot down ideas
- Decide what medium to use
- Create their creature design
- Write an explanation of their choices, either on the back of their work or on the digital version

Reflect (5 min)

The teacher will:

- Bring the whole group together
- Ask students reflection questions, such as:
 - Was this challenging or easy? Why?
 - What was challenging about the process?
 - How did your design ideas change after watching the play?
 - Was the second task more or less challenging? Why?
 - What would you do differently next time?

Want to do more?

-Have students prepare a presentation and present their design to the class! Then students can compare and contrast their designs, give feedback to one another, and reflect on the entire process.

-Go deeper into the design process! Have your students refine their ideas and make a model of the set using a shoe box and 3D materials!