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Name of Project: Reducing, Reusing, Recycling, and Exploring Dystopia
Computational Thinking Concept: Games for Change
 Grades: 2–3

Instructional Model: Backward Design

DESIRED RESULTS

Enduring Understandings: ❖ Students will understand the basic concepts of reducing, reusing, and recycling to promote environmental sustainability. **Materials:** ● Illustrations related to reducing, reusing, and recycling. ● Picture books with environmental themes ● Short stories/ clips to show dystopian concepts **I can statement:** 1. I can describe the three Rs: reduce, reuse, and recycle. 2. I can share ways to protect our environment. 3. I can identify things that harm our environment.	**Essential Questions:** 1. What does reduce, reuse, and recycle mean? 2. How do we sort recyclables? 3. Can you think of any examples of reusing something in your daily life? 4. How can we work together to protect the environment and positively impact our community? 5. Imagine a world without trees, clean water, or animals. What do you think will happen?

Established Goals (Standards, Performance Indicators, Learning Goals):
*Choose appropriate standards for unit/project plan timing and learning goals. No need to use all disciplines below.

Computer Science and Digital Fluency Standards:
1. 2-3.DL.2 Communicate and work with others using digital tools to share knowledge and convey ideas. **Digital Literacy**

2. 2-3.DL.3 Conduct basic searches based on student-identified keywords. **Digital Literacy**

3. 2-3.DL.4 Use various digital tools and resources to create digital artifacts. **Digital Literacy**

ELA Standards:

1. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language

2. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

3. Participate in shared research and writing projects.

4. Recall information from experiences or gather information from print and digital sources. Take brief notes on sources and sort evidence into provided categories.

Backward Stages: 1. Identify desired results. 2. Determine acceptable evidence. 3. Plan learning experiences and instruction.
Adapted from Wiggins & McTighe (2005) Understanding by Design (UbD)

5. Participate in collaborative conversations with diverse partners about topics and texts with peers and adults in small and larger groups.

Social Studies Standards:

Gathering, Interpreting, and Using Evidence: Recognize different forms of evidence used to make meaning in social studies (including sources such as art and photographs, artifacts, oral histories, maps, and graphs).

Chronological Reasoning and Causation : Identify causes and effects, using examples from his/her family life or from the community.

Comparison and Contextualization: Identify similarities and differences between communities.

Geographic Reasoning: Describe how his/her actions affect the environment of the community. Explain how the community environment affects human activities.

Civic Participation: Identify situations in which social actions are required and suggest actions.

Science Standards:

K-ESS3-3. Communicate solutions that will reduce the impact of humans on living organisms and non-living things in the local environment.

EVIDENCE/ASSESSMENTS:

Performance Task

Goal: A definition of the problem or goal
Students will create and present a collaborative expression that demonstrates their understanding of reducing, reusing, recycling, and their ability to address dystopian themes through positive environmental actions.

Role(s): Define the role of the student
Students will take on the role of Environmental Superheroes, responsible for educating their community about the importance of environmental sustainability and inspiring others to take action.

Audience: Identify the target audience
Fellow classmates and other students at school. Students will have opportunities to present their artifacts to parents and teachers.

Situation: This is the context or scenario of the goal
We are facing environmental challenges. The situation calls for immediate action to protect and restore natural surroundings by focusing on reducing, reusing, and recycling.

Product: What is created and why it will be created
The final product of the performance task will be an artifact presentation. The students will create posters, brochures, or digital presentations that showcase their proposed solutions and strategies for a more sustainable and environmentally conscious community.

Standards (criteria for success): Rubrics or success criteria
A successful group will....

1. Clearly explain the importance of reducing, reusing, and recycling in their community.
2. Identify specific environmental challenges and explain the consequences.
3. Present creative solutions to address challenges and promote eco-friendly practices.
4. Use visuals/audio to engage community members to take action.

5. Collaborate as a team to work on an artifact and respect others' ideas.

Performance Task Narrative:
As Environmental Superheroes, students will learn about the three Rs (reduce, reuse, recycle). They will learn the importance of caring for the world and the role they can play in making a positive impact. Students will demonstrate their understanding of the lesson by completing activities and engaging in discussions.

Students will work independently or in small groups to create an artifact. They can research specific issues affecting their community (i.e., littering, pollution, or habitat destruction) and propose solutions to address these problems.

Each student will have the opportunity to present and showcase their artifact. They will make the first effort to create a cleaner, greener, more sustainable community.

The artifact will be presented to their classmates, teachers, and parents. Each artifact will be created in hopes of motivating others to take small steps toward a better future.

Other Evidence/Assessments:
- Class discussion, group work, peer- and self-assessment

LEARNING PLAN:

Learning Activities:

Day 1: Introduction

Start by engaging students by showing them images of dystopia and utopia. Then show an infographic of a comparison of a green and polluted city. Ask simple questions like, "What do you notice? "Which world do you prefer to live in and why?"

Students will receive vocabulary and definitions: (Visuals will be included)
*Reuse, Recycle, Reduce, Environment, Trash, Dystopia, Utopia, Eco-friendly, Pollution, Planting, Water Conservation, Energy Conservation, Climate Change, Protect.

Use visuals to explain each concept.
Introduce Reuse, Recycle, and Reduce concepts with examples of familiar household tangible items. Play the video https://youtu.be/Fex-wvrOZf4 Recycling for Kids | Learn how to Reduce, Reuse, and Recycle Learn Bright.

Activity: Students will be given the first task to "clean the neighborhood" using cut-out images. Students will work independently/ in small groups to identify and sort pictures of everyday items into the correct "reduce," "reuse," and "recycle" categories. They will be provided with pictured labels to sort items based on trash, paper, plastic, or metal.

Day 2: Videos and Discussion (Fiction and Non-Fiction resources)

Students will watch and listen to the Youtube read-aloud of "Michael Recycle" by Ellie Bethel
https://youtu.be/pJweMxEhjlU

Then watch https://youtu.be/NdxQplqGkFE StoryBots Season Three "Why Do I Have to Recycle?" Exclusive Clip | Netflix Jr

Watch https://youtu.be/hKFV9IquMXA Kids Take Action Against Ocean Plastic | Short Film Showcase National Geographic

After watching the different videos, students will engage in a short discussion about the story's message. Encourage students to share their thoughts and discuss how they can help prevent a dystopian future by taking small steps to care for the environment.

Activity: Computer Game
Objective: The objective of the game is to engage students in an interactive adventure where they make choices related to reducing, reusing, recycling, and exploring dystopian and sustainable themes.

Materials:
A computer with access to Twine (https://twinery.org/)

Instructions: You start the game as a young superhero on a mission to save the planet. The background is the world in shambles (Dystopia). The character has to go through adventures to complete missions that help make the world a better place. The game's purpose is for education and entertainment. After each round, they earn badges for their environmental efforts.
Goals: Teach students how to reduce their environmental footprint and make decisions that have a positive impact on the earth.

Discussion and Sharing:
➢ After playing the game, students discuss their experiences and the lessons they've learned.
Wrap-Up and Reflection:
➢ Facilitate a class discussion on how the game relates to the lesson's themes and the importance of environmental sustainability.
➢ Reinforce the connection between their choices in the game and real-life actions they can take to care for the environment.

Days 3-5: Creative Expression & Showcase Presentations

Students will have the option to create an artifact to assess their understanding of reducing, reusing, recycling, and exploring dystopia. They can create one of the following:

1. Poster or Infographic: Students can highlight the three Rs (reduce, reuse, recycle) and include practical tips and illustrations to promote sustainable practices.

2. Presentation: Students will prepare a short speech/commercial about the importance of any of the Three Rs and/or the damages of not taking care of our planet.

3. Short Story: Students can create a short story (e.g., written format/Scratch). They can create characters and attitudes that reflect the potential consequences of not caring for the environment.

4. Artwork: Students can express their understanding of environmental concepts through creative artwork, such as drawings, paintings, or collages.

5. Recycled Craft Project: Students can create something useful/decorative using recycled materials.

*Each artifact will have clear guidelines and expectations. After completing the artifact, each student or group will present their project to the class. Positive student feedback will be provided using a rubric.

Supporting students with an Individualized Education Plan (IEP) and English Language Learners (ELLs):

Differentiated Instruction: Multiple Means of Representation (UDL)
☐ Multiple means of representation: students will have access to information through visuals, hands-on activities, and videos with closed captioning and translations provided. Visuals will help students understand concepts and connect ideas.
☐ Differentiated activities will be provided based on individual needs and abilities for each student to participate and learn at their own pace.
☐ Use simple and clear language for students to complete tasks.

Build on Prior Knowledge: Provide Multiple Means of Representation (UDL) Comprehension
- ☐ Connect new information to students' prior knowledge and experiences.

Cooperative Learning: Engagement (UDL)
- ☐ Students can work in small group work to ensure that there are opportunities to practice language skills while interacting with peers.

Scaffolded Instruction: Engagement (UDL)
- ☐ Break down complex tasks into smaller, manageable steps, providing clear instructions and support throughout the lesson.
- ☐ Use of different multimedia use for communication. **Action and Expression (UDL)**

Monitor Progress and Adjust: Action and Expression (UDL)
- ☐ Assess students' understanding and progress using a rubric. Adjust instructions and materials based on individual needs.

Collaborate with Special Education Teachers/Related Service Providers and ELL Specialists:
- ☐ Collaborate to develop appropriate accommodations and modifications for students with IEPs and ELLs.

Assessments:
Active participation in class discussions and activities
Ability to explain the concepts of reducing, reusing, and recycling
Completion of Activities: Accessible Worksheet & Twine Game
Project - Creation of Artifact to highlight consequences and promote solutions

**Rubrics – will assist with student progress and determine if the lessons require additional modifications to accommodate each student. (Both teacher and student rubrics will be used)

Critical Reflection/ Next Steps:

After completing the activities, students can start a campaign in school, showcase their projects to other classes, and do community outreach to bring awareness to make positive changes.