Hydropower

LESSON PLAN

NEXT GENERATION SCIENCE STANDARDS

4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
MS-PS3-2. Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.
MS-PS3-5. Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object. (Grades 6 - 8)

OBJECTIVES

The student will be able to describe how a dam produces electricity.
The student will be able to differentiate between renewable and non-renewable energy.

ACTIVITIES

- The student will explore the NASA website on climate change:
  - https://climatekids.nasa.gov/
- The student will identify a "big question" that interests them.
  - https://climatekids.nasa.gov/menu/big-questions/
- The student will research the answer to the question using the NASA resources and create a way to share what they have learned (written reflection, video reflection, poster, etc.)
- The student will select an activity to complete with the support of their parents.
  - https://climatekids.nasa.gov/menu/make/
- The student will assemble all necessary materials to complete the project with the help of their parents.

OPPORTUNITIES FOR DIFFERENTIATION

YOUNGER STUDENTS

- Students can have a parent's help reading and researching
- Students can have a parent's help completing their reflection and give an oral or illustrated reflection rather than a written one
- Students can have a parent's help choosing and completing an age-appropriate project

OLDER STUDENTS

- Students can perform self directed research
- Students can form a hypothesis about their "big question" before performing research
- Students can have more autonomy for completing the projects
- Students can create science fair projects based on a question or concept that interests them