INNOVATIVE ECO-FRIENDLY ARCADE

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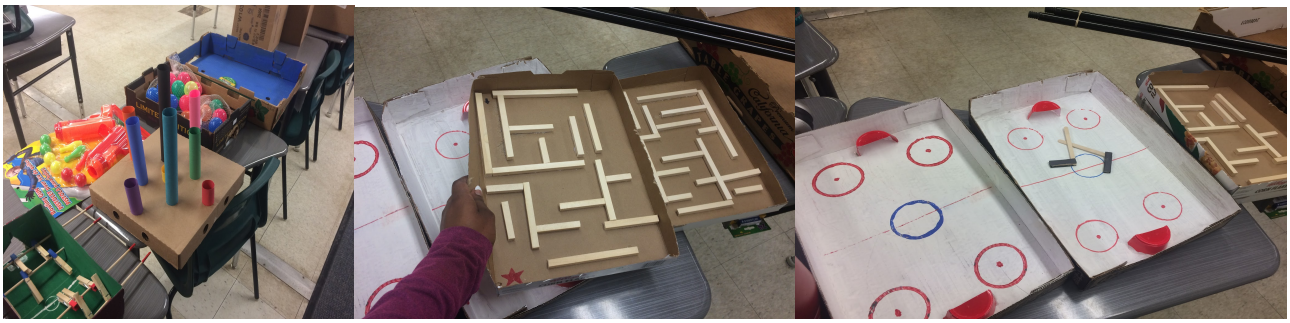
Title: Innovative Eco-frienly Arcade

Grade Level: 6

Strand(s) and Unit(s): Understanding Matter and Energy, Evaluate the impact of the use of electricity on both the way we live and the environment;

Overview: Assess opportunities for reducing electricity consumption at home or at school that could affect the use of non-renewable resources in a positive way or reduce the impact of electricity generation on the environment



Following the STAO Project Innovation seminars, I was mostly inspired by the lectures that encouraged students to innovate and expand their creativity while building small eco-friendly devices, games made from recycled items and be aware of the impacts of electricity on the environment.

Inquiry Focus: I asked my students, what were some of their favorite passtimes? While many enjoyed the outdoors, a vast majority referred to video games and onlines games as their favorite activity. Together, we listed the impacts of prolonged use of video games, on their lives and the environment.

For instance:

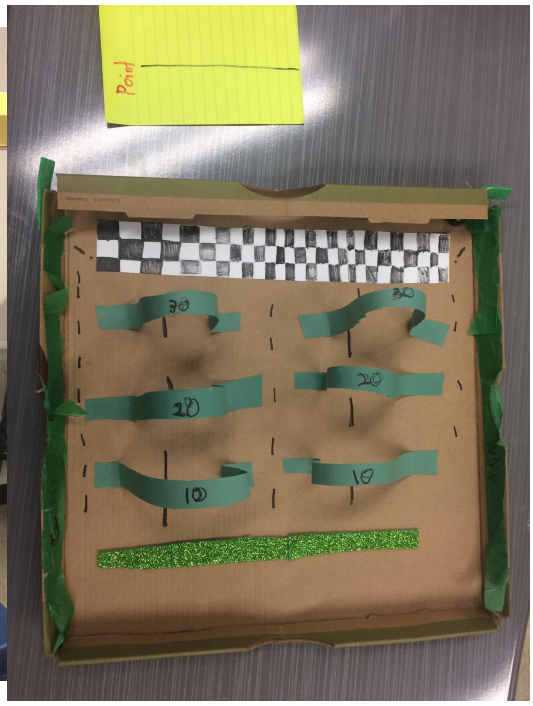
- What long term impact can video games have on your life?
  - Possible answer: "It can affect our sight or our ability to think and focus at school"
- What happens to electronical devices once they are discarded?
  - Possible answer: "Sometimes they are thrown away irresponsibly"
- How does that impact the environment?
  - Possible answer: "It can destroy the ecosystem or water life, etc."

Timeline: The activity took place in mid-November (right after the Project Innovation seminars), where students followed the guidelines to create cardboard games that were made to play in pairs, and that were also both creative and durable. The idea was to create multiple eco-friendly and and cardboard games that would be used and played by all the students of the school during the Internation Children's Day in the gymansium. However students can start building and creating their games as early as mid-October.

Key Concepts: Recycle, Reuse, Responsibility, Environment, Create, Innovate, Impact,

Prior Knowledge: Students are expected to have a sense of responsibility linked to the usage of electronical devices and be sensitive to its impacts on their lives and the environment. Students should be knowledgable about recycling and its importance on the environment.

Materials and Equipment: Depending on the games created, students will use a wide range of recycled items. During last year's activity, students used: cardboard boxes, cereal boxes, pizza boxes, shoe boxes, construction paper, wood sticks, paint, paintbrushes, tape, plastic bottles, clothes pegs, popsicle sticks, glue, glue guns, scissors, saw, gloves, glasses, markers and pencils. Some games required a few additional equipments that can be bought or brought from home such as small balls, marbles, and smalls cars.



Safety: Students were encourage to use the material responsibly and to wear the required safety gears such as gloves and glasses when using the glue gun.

Instructional Planning and Delivery:
● After a 15-20 discussion on the impacts of video games in our lives and on the environment, I brought the students to find alternative games that were both environmentally friendly and amusing. While still keeping the idea of arcade type games, I encourage students to think of games that they can create.

● The guiding questions to encourage students to innovate and suggests games were:
o What are some of the games we see at an arcade? (Possible answer: "pool games, darts, bowling, mini-basket, table games, etc.")

o How can we create these games while being eco-friendly? (Possible answer: "By using reclycled items"
o Where will we find these recycled items? (Possible answer: "By bringing boxes from home or using a plastic bottle container from our lunch box"

o What are specific items that we can use to create a eco-friendly bowling game? (Possible answer: "By bringing 2 liter bottles"

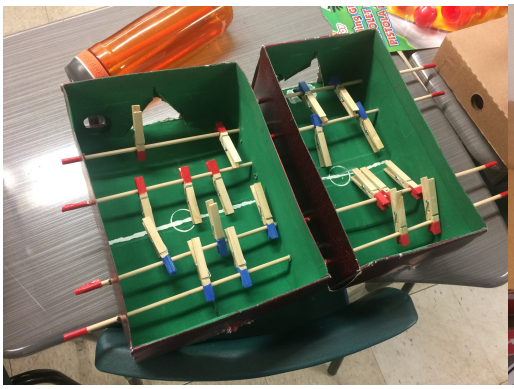
o How is this arcade Eco-friendy? (Possible answer: "Because we are not using electricity and we are reusing recycled materials"

● Once students have given multiples examples of arcade games and proposed the recycled items to create them, we can offer a few guidelines in terms of size and durability, since the games will be used, played and tried by many students of the school.

● Once students have a clear understanding of the recycled objects they can use, I can offer visual support help them in their innovative creation.

Assessment Opportunities: Once students will have finished creating a recycled game, they will be evaluated on being able to assess opportunities for reducing electricity consumption at home or at school that could affect the use of non-renewable resources in a positive way or reduce the impact of electricity generation on the environment and follow established safety procedures for handling tools and materials. Students eco-games will also be evaluated on durability and capability to play in pairs.

Future Opportunities / Extensions: This activity can lead students to evaluate their overall usage of electricity and make them become more aware, responsible and environmentally conscience. Furthemore, this activity will help students build confidence and leadership since they are creating games that will be used by others. They will learn how to accept constructive criticism and use it efficiently to improve their skills. This activity will also amplify their sense of innovation and creativity.



RESOURCES

- Cain's arcade (https://www.youtube.com/watch)
- Games made of cardboard (https://www.youtube.com/watch)

ELEMENT

- Critical Thinking (/expert-elements/critical-thinking)

(/classroom-catalysts) RETURN TO CATALYSTS (/classroom-catalysts)

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