SAANICH SCHOOLS

Remote Learning
At-Home Curriculum Connections Projects

GRADE 4

SCIENCE

Information for Home Facilitators

Science Content

- energy has different forms
- energy can be conserved

Key Elements

- Learn about different forms of energy
- Design, prototype and test a car that transforms one form of energy into another

Resources to Support Learning

Introductory Video - https://www.youtube.com/watch?v=j4pNEOKqesA
Best Rubber Band Car - https://www.instructables.com/The-Best-Rubber-Band-Car
Rubber Band Powered Milk Bottle Car - https://www.youtube.com/watch?v=n95CzKXf2Wo&feature=emb_logo
How To Make a Rubber Band Powered Car - https://www.youtube.com/watch?v=WTgxX4-TVm0&feature=emb_logo
Cereal Box Rubber Band Powered Car - https://www.youtube.com/watch?v=ZfiV1oTF-ks&feature=emb_logo

Information for Students

Your challenge: Build a simple car that demonstrates the difference between stored energy (also known as potential energy) and energy of motion (also known as kinetic energy). You will use a rubber band to make your car move!

When the rubber band is twisted tightly, it is packed with potential energy- stored up and ready to zoom away! When you release the rubber band, the potential energy is converted to kinetic energy- and the car moves! How awesome is that?!

Steps:

1. Make a plan - Do a search on the Internet for materials to use for wheels or the "body" of the car. Spend time and gather your materials. What do you want your car to look like? Make a labelled diagram that describes your plan.

List of Suggested Materials:

- Straws
- Duct tape
- Small box or milk carton
- Scissors
- Wooden skewers or dowels
- CD's or sour cream container tops for wheels
- Clay or play-Doh
- Rubber bands
- Thumbtacks
- Craft sticks/popsicle sticks
- Hot glue
- Masking tape
- Stickers, markers, glitter and other items to decorate your car!

2. Start building your car. Take some time to decorate your car as well.
3. Test out your car. Make sure it works. If it does not, spend some time fixing any issues it might have.
4. Time to Race! Do you have a remote control car at home? Or a wind-up toy? How about a younger sibling that has just learned how to crawl? Can you think of anything else you might want to race your creation with? Can you make alterations to your design to make your car go farther or faster? How could you design a way to measure and record your results?
5. As a final step to your project draw, take pictures or film your car before, during and after it races. Then write a few sentences, record or film yourself explaining how this project demonstrates the transformation of energy.



SOCIALS

Information for Home Facilitators

Socials Curricular Competencies

- Use Social Studies inquiry processes and skills to ask questions; gather, interpret, and analyze ideas; and communicate findings and decisions

Socials Content

- The history of the local community and of local First Peoples communities

Key Elements

- Learn how Indigenous culture has survived through art.
- Ask questions about the importance of Indigenous artwork

Information for Students

Your challenge: In this mini-inquiry, you will be investigating Indigenous art and culture. There are many different forms of Indigenous art (totems, carvings, weaving, Cowichan Sweaters, paintings etc). To truly be able to understand any art piece one must be able to ask questions and wonder about the art piece.

In this project you will choose a piece of art based on the following criteria:

- The art has importance to a specific group of Indigenous people.
- The art depicts something important to that culture.

You may choose to visit a museum, look in a local gallery or search "First People's Art", "West Coast Art", or "Coast Salish Art" on the Internet. You can also explore one of the links below to find your art piece or get an idea of what kind of art piece you would like:

http://www.royalbcmuseum.bc.ca/visit/exhibitions/first-peoples-galleries

http://firstpeoplesofcanada.com/fp_groups/fp_nwc5.html

Once you have found or chosen a piece of art, open a text document and copy and paste the following questions. Type your answers under the questions:

- What is the form of the art? (Totem pole, mask, etc) Does the form serve a specific purpose?
- What is the piece made out of and does the material have importance?
- Is there a symbol on the art? If so, what does it mean?
- What indigenous group does the artist belong to and is there a connection in the art?
- Is the art functional? (A functional art piece would be something that serves a specific purpose, like a bowl to serve food in, or a sweater to keep you warm). How might that link to the culture?

As a final step, use your research to construct a paragraph that explains the artwork and answers the above questions.

***Note - These projects are based on ideas and resources from SIDES (South Island Distance Education)