



Grade Three PYP Unit of Inquiry Parent Information Sheet

Unit: *May the Force Be With You*

Transdisciplinary Theme: How the World Works

An inquiry into the exploration of the physical and material world; of natural and human-made phenomena; of the world of science and technology.

Subject Area Focus: Science, Art, Social Studies, and Language Arts

Central Idea: The stability of a structure is determined by the design and materials used and the forces acting upon it.

Lines of Inquiry:

- What makes a strong and stable structure?
- Forces of tension and compression
- Man-made and natural structures

Key Concepts: The two key concepts in this inquiry are that “form follows function” in terms of structures whether they are natural or man-made.

Form - What are the properties of structures?

Function - How do they work? How do they behave under certain loads?

Related Concepts:

Connection - How is it connected to other things?

Causation - Why is it like this?

Reflection - How do we know?

Summative Task:

- In pairs, students will build and reinforce a spaghetti structure using only spaghetti and a glue gun, scissors, ruler and cardboard base. They will test their structure with force. They will assess their structures strength and weaknesses based on the concepts learned throughout the unit. A rubric will be provided to the students to guide their learning.
- Students will also participate in a *Scientist in Schools* workshop where they will build a variety of structures and apply specific forces to test their structures.
- Students will be formally assessed on the terminology and concepts of structures.

Science

Students will demonstrate an understanding of the following:

- a structure has both form and function.
- structures are affected by forces acting on them

Students will:

- assess the impact of various forces on society and the environment
- investigate devices that use forces to create controlled movement
- demonstrate an understanding of how forces cause movement and changes in movement.
- assess the importance of form, function, strength, and stability in structures through time
- investigate strong and stable structures to determine how their design and materials enable them to perform their load-bearing function
- demonstrate an understanding of the concepts of structure, strength, and stability and the factors that affect them

Language Arts

Students will:

- read a variety of nonfiction texts about structures and forces and apply nonfiction reading strategies (determining important details, analyzing, synthesizing, inferring, repairing comprehension and using text features) to convey meaning and understanding
- apply the traits of nonfiction writing and stages of the writing process to produce a procedural and opinion piece of writing

Art

Students will:

- build several structures using a variety of materials
- draw structures to scale
- investigate perspective, form, lines, and shape

Field Trips and Special Events:

- **November 2** – Students will attend two workshops at the Canadian Museum of Science and Technology on *Structures and Forces*.
- **November 8** – Rockcliffe Park Public Library: Students will participate in an illustrator presentation and a workshop using plasticine. They will experiment creating clay structures.
- **November 19** – Students will also participate in the “*Scientists in Schools*” program. A scientist will visit our classroom and students will participate in a variety of structures and forces workshops throughout the morning.

Ms. MacDougall
Grade Three Teacher