

Project Title: Force, Motion, and Weight

Teachers/Team: Reece, Trapp, Crews, Jordan, Luther, Smith
Grade Level: 1st Grade
Curriculum Area(s): Science, Math, Language Arts, Technology
Science Curriculum Goal 4: The learner will make observations and conduct investigations to build an understanding of balance, motion, and weighing objects. 4.01 Describe different ways in which objects can be moved. 4.02 Observe that movement of an object can be affected by pushing or pulling. 4.03 Investigate and observe that objects can move steadily or change direction. 4.04 Observe and describe balance as a function of position and weight. 4.05 Describe and observe systems that are unstable and modify them to reach equilibrium. Essential Question: How do forces and motion affect the world around us?
Math: 3.01 Identify, build, draw and name parallelograms, squares, trapezoids, and hexagons. 3.02 Identify, build, and name cylinders, cones, and rectangular prisms 5.02 Use Venn diagrams to illustrate similarities and differences in two sets.
Language Arts: 2.04 Use preparation strategies to anticipate vocabulary of a text and to connect prior knowledge and experiences to a new text. 2.07 Respond and elaborate in answering what, when, where, and how questions. 2.08 Discuss and explain response to how, why, and what if questions in sharing narrative and expository texts. 5.01 Use phonic knowledge and basic patterns (e.g., an, ee, ake) to spell correctly three-and four-letter words. 5.02 Apply phonics to write independently, using temporary and/or conventional spelling. 5.03 Write all upper and lower case letters of the alphabet, using correct letter formation. 5.04 Use complete sentences to write simple texts. 5.05 Use basic capitalization and punctuation: <ul style="list-style-type: none">•first word in a sentence.•proper names.•period to end declarative sentence.•question mark to end interrogative sentence 5.07 Use legible manuscript handwriting.

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Technology:

- 1.09 Identify and discuss multimedia terms/concepts (e.g., slide/card, link/button, text box, navigate, transition) as a class/group activity. (5)
- 1.10 Recognize and discuss responsible use of multimedia resources. (5)
- 1.11 Recognize, discuss, and cite various types of resources as a class
- 2.07 Use multimedia software to illustrate words/phrases/concepts.

Proposed Learning Activities (Briefly state the activities students will do to complete this project.)

Day 1

Discuss vocabulary *push/pull, *force

1. Children push their hands together, link fingers, then pull their hands apart to feel the force.
2. Put a rubber band over their thumb and index finger. Then stretch the rubber band by pushing their fingers apart. Feel the force of the rubber band as more force is applied. Define push, pull, and force. Discuss what they learned/observed from the experiment.
3. Sing the Push and Pull song to the tune of Row, Row, Row your Boat.

Day 2

Magic School Bus Video - Magic School Bus Plays Ball (30 mins.)

1. Move a block across a table (pushing and pulling) using a string, rubber band, craft stick, and straw
2. Plan first, then try your plan, then illustrate and write about pushing the object and pulling the object.

Day 3

Cut out objects from magazines that can be pushed or pulled. Then sort on a venn diagram push, pull and push, and pull objects.

Day 4

1. Promethean Flipchart -- Motion -- Resources Folder
2. Pages F9-F11
3. Math - Flip, Slide and rotate geometric shapes

Day 5

Vocabulary -- *balance, *weight/weighing

1. Use Bill Nye the Science Guy Balance Video (7 minutes)
2. Balance Scales - make things equal and unequal using different objects and the scales

Day 6

Science Test -- see Resources folder

Will be put on Promethean Board to use ACTIVotes

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Books using Push/Pull pictures/manipulatives that the students are creating.

Description of Culminating Task: Students will put together a book of the unit using paper and manipulatives.
Assessment: Activote test at the end and the completion of the book.
Responsibilities (Teacher): Each teacher will make sure that all manipulatives are created for the books.
Responsibilities (Media Coordinator): Pull books for the unit.
Responsibilities (Technology Facilitator): Find Motion Flipcharts for the unit and place in the Resources folder. Instruct teachers/aid in using the ACTIVotes with the class.
Planning Time: December 2 8:00-11:30 am
January 5-15