Unit I: Force and Motion

Content Area: **Science**
Course(s): **Science 3**
Time Period: **October**
Length: **Sept 6-Nov 4**
Status: **Published**

Enduring Understandings

The motion of an object is affected by forces.

Energy is necessary for change to occur in matter

Energy can be stored, transferred, and transformed, but cannot be destroyed.

The motion of an object is affected by forces.

Some forces act by touching, while others can act by not touching.

Essential Questions

Can we predict the behavior of a rolling object?

How can we make a runway that will keep an object rolling?

What does it take to change the motion of objects?

What is an example of a force that acts by direct contact with an object in contrast to a force that can act without direct contact?

Content

NGSS Science InvestigationTemplate
Videos
http://www.fossweb.com/module-summary?dDocName=D1488532
http://www.deltaeducation.com/productdetail.aspx?Collection=Y&prodID=1111
http://www.sciencea-z.com/scienceweb/fosscorrelations.do

Vocabulary

direction, distance, effort, energy, force, friction, fulcrum, gravity, inclined plane, lever, load,

lubricant, machine, motion, newton, pivot, position, pulley, screw, simple machine, speed, spring scale, wedge, weight, wheel and axle, work

Videos:

Bill Nye - Simple Machines

https://www.schooltube.com/video/b92aaeff6cf4431aa6c7/Bill%20Nye%20-%20Simple%20Machines

PBS Learning - Simple Machines

http://www.pbslearningmedia.org/resource/idptv11.sci.phys.maf.d4ksim/simple-machines/i

BrainPop - Simple Machines (will need login)

https://jr.brainpop.com/science/forces/simplemachines/preview.weml

Literature:

Forces Make Things Move

by: Kimberly Brubaker Bradley

Newton and Me

by: Lynne Mayer

Forces and Motion

By Sarah Angliss Kingfisher

Forces and Motion

By David Dreirer

Additional Activities:

Force and Interactions Unit

http://www.mccracken.kyschools.us/Downloads/FORCES%20INTERACTIONS%203.pdf

NGSS 3-PS2-1 ENERGY PERFORMANCE TASK

file:///H:/NGSSPerformanceTaskrdGradeEnergyPS.pdf

3-PS2-1 & 3-PS2-2 Activity:

Part 1 - http://betterlesson.com/lesson/630800/how-fast-can-you-get-there

Part 2 - http://betterlesson.com/lesson/631278/how-fast-can-you-get-there-part-2

3-PS2-2 Activities:

http://betterlesson.com/next_gen_science/browse/2112/ngss-3-ps2-2-make-observations-and-or-measurements-of-an-object-s-motion-to-provide-evidence-that-a-pattern-can-be-used-to-predi?from=breadcrumb_core_dropdown

Skills

Discover facts about force, motion, and friction

Identify the six simple machines and how they work.

Discuss the function of a table of contents, headings, and a glossary.

Interpret photographs and diagrams to answer questions.

Recognize that objects move differently on different surfaces.

Describe the relationship between the amount of force applied to an object and the distance the object moves.

Organize information in a variety of ways.

Discuss what it means to do work.

Identify the elements necessary for work to be accomplished.

Compare amounts of work accomplished in moving objects a distance

Discuss ways in which machines help make work easier

Standards

SCI.3	Forces and Interactions
SCI.3-PS2-1	Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
SCI.3-PS2-2	Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.