

Mary Queen of Peace School  
Science Curriculum Grade 6 (2012)

11  
Subject

Science

6

Composition and Motions within the Universe

Unit  
Name

Grade

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

6,1A,B The Earth, Sun, and Moon are part of a larger system that includes other planets  
6,2A,B The position of the Sun, moon, and other stars can be observed and change in observable patterns  
6,2C The regular motions of the Earth and Moon relative to the Sun explain Moon phases, tides, & seasons  
6,2D Gravity is a force of attraction between objects in the solar system that governs their motion  
6,1A (7<sup>th</sup>) Smaller celestial bodies, meteors, meteorites, meteoroids, comets, & asteroids move through the universe  
6,2A-C (7<sup>th</sup>) Classification of stars and their cycles

Understandings

Parts of the Universe and their positions  
The Sun, Moon, and Earth position change  
Theories past & present of the Universe  
Explanation of Moon phases, tides, seasons, and what causes day and night, a month, a year  
Gravity between objects governs their motion  
Difference between a meteor, comet, & asteroid  
Classification of stars & their various life cycles

Essential Questions

What is the position of the Earth, Moon, & Sun to each other and why this changes?  
What were past theories of the Universe?  
What are the Moon phases and what causes this?  
What causes tides, seasons, day & night & a year?  
What keeps all celestial bodies a certain distance away and at a constant speed?  
What is the difference between meteors, comets, & asteroids?  
How are stars classified and what are their cycles?

Knowledge

Skills

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Other Evidence

Key Criteria

Stage 3: LEARNING PLAN

TEXT HERE

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Subject

Science

6

Climate, Weather, & Causes of Changes in Both

Unit  
Name

Grade

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

5.1D Climate is a description of average weather conditions in a given area over time  
5.2A The Earth's materials and surface features are changed through a variety of external processes  
5.2E Changes in the form of water as it moves through earth's systems are described in the Water Cycle  
5.2F Weather conditions in a given area are due to the transfer of energy and matter Earth's systems and can be predicted & identified with appropriate tools

Understandings

The make up & structure of the Atmosphere  
The causes of our climate and weather  
External Processes that change weather  
Predictable conditions in weather and the tools that are used as well as technology available  
Forms of water as it moves through the atmosphere  
Examples of severe weather

Essential Questions

What makes up the atmosphere?  
What is the difference between climate & weather?  
Can weather be predicted?  
What are fronts, air masses, air pressure, & relative humidity?  
How are weather maps & instruments used?  
How is water affected by changes in weather?  
What causes & examples of severe weather?

Knowledge

Skills

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

A debate on migration of particular groups  
Letters home from immigrants  
Brochure advertising new homeland options

Other Evidence

Key Criteria

Stage 3: LEARNING PLANTEXT HERE

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Subject

Science

6

Properties and Principles of Force and Motion

Unit  
Name

Grade

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

- 2,1A The motion of an object is described as a change in position, direction, and speed  
2,1B An object that is accelerating is speeding up, slowing down, or changing direction  
2,1C Momentum depends of the mass of an object and the velocity with which it is traveling  
2,2A-B Forces are classified as either a push or pull, examples: inertia, gravity, friction, that affect motion  
2,2D Newton's Laws of Motion explain mass and forces, and are used to predict changes in motion  
2,2F Work transfers energy into and out of a mechanical system  
2, 2F Machines, both simple and compound are used to decrease the work or increase the force

Understandings

Motion as it relates to a reference point  
How forces interact with each other to cause a change in motion  
Acceleration refers to motion changing speed or direction  
Forces act in pairs, defining gravity, inertia, or friction as it relates to the Laws of Motion  
Work is only done when you cause an object to move which needs energy  
Machines both simple and compound, can be used to make work easier  
Calculations measuring work, acceleration, speed

Essential Questions

What is motion? How can you describe it?  
What is gravity? How does it affect all matter?  
What is a acceleration, friction, speed & inertia?  
What is a force and how do forces interact?  
How do the Laws of Motion explain how mass, friction, gravity & inertia affect matter & motion?  
How do machines give forces mechanical advantage?  
Name the 6 simple machines  
How can you calculate work, acceleration, & speed?  
What are compound machines?

Knowledge

Skills

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Other Evidence

Key Criteria

Stage 3: LEARNING PLAN

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Subject

Science

5 & 6

Impact of Science, Technology and Human Activity

Unit  
Name

Grade

Stage 1: DESIRED RESULTS

Established Goals / Content Standards

8,1A-C Designed objects are used to do things better & easier and sometimes result in improved data  
8,2A People of different gender and ethnicity have contributed to scientific discoveries & inventions  
8,2B Scientific theories are developed and must be questioned and tested for validity  
8,3A People make discoveries about nature and invent new ways to solve problems  
8,B,C The progress of science and technology are influenced by social, political, ethical, & environmental factors that must not knowingly subject people to health risks

Understandings

Through time people change theories about science when new or better technology is found  
All gender and ethnic contributions are made  
New technology must be tested for validity  
Inventions and discoveries improve our lives  
Progress in Science are influenced by social, political, ethical, & environmental factors but may not pose a health risk to mankind

Essential Questions

How have theories about (example) changed over time?  
**Who is responsible for this discovery?**  
**How has this technology been tested?**  
**How has this technology improved or advanced science?**  
**What are the social, political, ethical, or environmental ramifications of this discovery**

Knowledge

Skills

Stage 2: ASSESSMENT EVIDENCE

Performance Tasks

Other Evidence

Key Criteria

Stage 3: LEARNING PLAN

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