**Physical Science**

**Essential Understandings**

1. We can make an object move. We can push or pull it.
2. Two objects rubbing together cause friction. Friction can slow an object down.
3. The weight of an object affects how it moves. For example, a heavy object is harder to push, pull, or lift.
4. We can measure how quickly an object moves and predict where it will be at a later time.
5. Forces can change the way an object moves. Contact forces happen when objects collide (hit each other). An example of this is a car crash. Non-contact forces we cannot see, like gravity which can make an object fall to the ground.

**Essential Indicators**

PS 3: Identify contact/noncontact forces that affect motion of an object (e.g., gravity, magnetism, and collision).

PS 4: Predict the changes when an object experiences a force (e.g., a push or pull, weight, and friction.

**Supporting Indicators**

PS 1: Describe an object’s position by locating it relative to another object or the background.

PS 2: Describe an object’s motion by tracing and measuring its position over time.

**Vocabulary**  *(Essential vocabulary in italics)*

*motion distance speed force*

*gravity weight*  contact force noncontact force

**Resources**

Harcourt Science, Chapter 6

Pete’s Power Point Station (www.pppst.com)

Bill Ney science DVD: Forces and Motion

Previous OAA science test questions

**Assessments**

*Formative:*

* Each student has a dry-erase board: show responses and/or draw examples
* Observation during labs: making predictions
* Students write a short answer: “What do you know about friction?” and re-teach students having trouble with the concept
* Thumbs up/thumbs down for quick response
* Choose different parts of room for each answer of a multiple-choice question and defend their response

*Summative:*

**Pacing: 4 weeks**

Note: Teaching safety items occurs the first two weeks of school

**Earth and Space Science**

**Essential Understandings**

1. Soil has many properties that help plants grow.
2. Rocks break apart to become part of the soil.
3. Soil is made from four key ingredients: water, air, weathered rock, and humus (decayed plants and animals).
4. Decomposition is what happens when plants and animals decay.
5. The soil supports life for plants and animals that live in the soil.
6. Soil can be found in layers and can be different from place to place.

Rocks

1. Rocks are made of minerals.
2. Ice, water, wind, and plants break rocks apart.
3. Weathering is the process of breaking rocks apart.
4. Fossils are evidence of plant and animal life long ago.

**Essential Indicators**

ES 1:

ES 2:

ES 3:

ES 4:

ES 5:

ES 6:

**Supporting Indicators**

SI 2:

SI 3:

SI 6:

SWK 2:

**Vocabulary**  *(Essential vocabulary in italics)*

*decompose properties soil layers*

*fossil weathering extinction*

humus metamorphic igneous sedimentary

**Resources**

Harcourt Ch. 1 & 2, 4

Foss Kits (Rocks and Minerals)

**Assessments**

*Formative:*

* Each student has a dry-erase board: show responses and/or draw examples
* Observation during labs: making predictions
* Students write a short answer: “What do you know about friction?” and re-teach students having trouble with the concept
* Thumbs up/thumbs down for quick response
* Choose different parts of room for each answer of a multiple-choice question and defend their response

*Summative:*

Evaluate quarterly assessments.

**Pacing**

10 weeks

**Life Science**

**Essential Understandings**

1. All animals change as they grow. This is called a life cycle.
2. Animals are grouped according to the way they look, how they breathe, how they are born, and if they are warm-blooded or cold-blooded.
3. All animals change (adapt) to survive in their habitat.
4. Changes in an animal’s habitat can help the animal survive or cause it to die.

**Essential Indicators**

LS 1:

LS 2:

LS 3:

LS 6:

**Supporting Indicators**

LS 4:

**Vocabulary**  *(Essential vocabulary in italics)*

*organism habitat* *mammal* bird

*amphibian* *reptile*  fish life cycle

reproduce survival *characteristics ecosystem*

environment *adapt* adaptation population

camouflage migration hibernation texture

**Resources**

Harcourt Science Chapters 3, 5

“The Butterfly Lady” presentation (Mrs. Strine)

Gorman Nature Center (Steven Key)

Tadpoles, lady bugs to demonstrate life cycle

Public library videos

**Assessments**

*Formative:*

* Each student has a dry-erase board: show responses and/or draw examples
* Observation during labs
* Students write a short answer and re-teach students having trouble with the concept
* Thumbs up/thumbs down for quick response
* Choose different parts of room for each answer of a multiple-choice question and defend their response

*Summative:*

Some questions from chapter tests, questions from Gr. 5 OAA

**Pacing:**  10 weeks