This folio contains a variety of resources that help teachers assess student progress in reaching Grade Level Expectations (GLES) as outlined in the Essential Academic Learning Requirements (EALRs) for science. These materials have been designed for Washington State teachers using the 2000 edition of FOSS. Look in the Assessment Overview, available at www.smerc.org, for more on how to use these classroom-based assessments.

Scoring guides for each of the assessments begin on page 4, using a +/-/– rubric.

+  going beyond expectations
✓  meeting expectations
–  below expectations

NOTE: This edition is the result of collaboration among FOSS staff at Lawrence Hall of Science, the Science and Math Education Resource Center (SMERC) at ESD 112, and many dedicated teachers in Washington State.

The Washington Edition was made possible by the generous support of the following organizations: Delta Education; Educational Service District 112; Eisenhower Funding; Hewlett-Packard; Intel; Lawrence Hall of Science at the University of California, Berkeley; Washington State School Districts; and Washington State University, Vancouver.

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End-of-Module Assessment 27
Assessment Blueprint 32

INVESTIGATION DUPLICATION MASTER CHANGES
New Student Sheets
• no. 8a Forces
• no. 10a, 10b, and 10c K-2 Inquiry or Design Project and K-2 Project (continued)
INVESTIGATION 1: BALANCE

PART 1

TRICK CRAYFISH

• How many ways can a shape be balanced?

Time: 50 minutes

Students balance a tagboard cutout of a crayfish on their fingertips. After finding the balance point, students are challenged to balance the crayfish on its edge, its tail, and its “nose,” using clothespins as counterweights.

PART 2

TRIANGLE AND ARCH

• How can counterweights help us balance other shapes?

Time: two 30-minute sessions

Students balance tagboard geometric shapes in a variety of ways on the end of a craft stick, using clothespins as counterweights. They try to find as many ways as possible to establish stable positions, so that a push on the object will make it wobble but not fall.

PART 3

THE PENCIL TRICK

• How can a pencil be balanced on its point?

Time: 50 minutes

Students use a piece of soft wire and clothespins to balance a pencil on its point in a stable position.

PART 4

MOBILES

• How do the parts of a mobile stay in stable positions?

Time: 50 minutes

Students make mobiles to confirm developing concepts of balance, counterbalance, and stability.
### Concepts and Principles

- Objects can be balanced in many ways.
- Counterweights can help balance an object.
- The way an object balances can be changed by counterweighting.

### Assessment Opportunities

- **Teacher Observation**
  - Anecdotal Notes

- **Student Sheet**
  - **Stable Positions**
  - **Properties of Substances.** Understand simple properties of common natural and manufactured materials and objects. (GLE 1.1.1)

### Examples of questions students might generate for inquiry projects

- Does the weight (heaviness) of the paper make a difference in how a shape balances?
- How many ways could the arch be balanced if only one clothespin were used?
NOTE: Assessment for Part 1 of this investigation is anecdotal notes.

INVESTIGATION 1: BALANCE
PART 2: TRIANGLE AND ARCH

Use student sheet no. 2 called Stable Positions. Check students’ answers for evidence that they have sorted the pictures by a general rule: the counterweights should always be kept down low. Give the sheets back uncorrected, and let students try out each setup for themselves as a self-assessment.

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>sorted and predicted all objects by the rule: counterweights need to be down low.</td>
</tr>
<tr>
<td>✓</td>
<td>sorted most objects by the counterweight rule.</td>
</tr>
<tr>
<td>–</td>
<td>has not established a workable rule.</td>
</tr>
</tbody>
</table>

GOING FURTHER
Give students old file folders to cut into shapes and practice balancing if they have not yet constructed a general rule.
STABLE POSITIONS

Look at each picture. Does it show a stable position?

1 [Diagram]
2 [Diagram]
3 [Diagram]
4 [Diagram]
5 [Diagram]
6 [Diagram]
7 [Diagram]
8 [Diagram]
9 [Diagram]
INVESTIGATION 1: BALANCE
PART 3: THE PENCIL TRICK

Interview students to check their abilities to describe position.

<table>
<thead>
<tr>
<th>Teacher Observation—Position</th>
<th>Motion of Objects. Understand the position and motion of common objects. (GLE 1.1.2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>If the student...</td>
</tr>
<tr>
<td>+</td>
<td>can consistently describe the position of the counterweights (clothespins) relative to the balance object.</td>
</tr>
<tr>
<td>✓</td>
<td>can usually describe the position of the counterweights.</td>
</tr>
<tr>
<td>–</td>
<td>needs help to describe the position of the counterweights.</td>
</tr>
</tbody>
</table>
INVESTIGATION 1: BALANCE
PART 4: MOBILES

Interview students to assess their abilities to describe the position and motion of the balance shapes.

<table>
<thead>
<tr>
<th>Teacher Observation—Position and Motion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motion of Objects.</strong> Understand the position and motion of common objects. (GLE 1.1.2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>uses knowledge gained in previous parts to balance the mobile; can describe the position of the parts of the mobile system, and what happens as a result of moving them from one position to another.</td>
</tr>
<tr>
<td>✓</td>
<td>uses knowledge gained in previous parts to balance the mobile; can describe the position of mobile parts with some help.</td>
</tr>
<tr>
<td>–</td>
<td>does not appear to apply what was learned in previous parts to this new context; needs help describing position and interactions.</td>
</tr>
</tbody>
</table>
### INVESTIGATION 2: SPINNERS

#### PART 1

**TOPS**
- How can spinning tops be changed?

*Time: 50 minutes + 30–40 minutes on another day*

Students make tops from plastic disks and straws, and spin them. After finding the arrangement of parts that produces the best top, they make tops from other materials.

#### PART 2

**ZOOMERS**
- How can a spinning object be kept in motion?

*Time: 30–40 minutes*

Students use disks and a length of string to make zoomers.

#### PART 3

**TWIRLERS**
- How can air start an object spinning?

*Time: two or more 30–40-minute sessions*

Students make twirlers (flying spinners) that rotate by air resistance, first modifying soda straws with wings, and then making twirly birds from paper and paper clips.
**CONCEPTS AND PRINCIPLES**

- Objects and systems that turn on a central axis exhibit rotational motion.
- You need a force to start a top spinning.
- The amount and position of mass affect how the object rotates.

**ASSESSMENT OPPORTUNITIES**

**Teacher Observation**

Forces

**Nature of Force.** Know that a push or a pull is a force on an object but some forces can act without touching an object. (GLE 1.3.1)

**Teacher Observation**

Parts of a system

**Structure of Physical Earth/Space and Living Systems.** Understand that things are made of parts that go together. (GLE 1.2.1)

**New Student Sheet**

Forces

**Forces to Explain Motion.** Know that pushes and pulls can change the motion of common objects. (GLE 1.3.2)

---

**Examples of questions students might generate for inquiry projects**

- How does the way a top spins change if you add more disks?
- How does the way a top spins change if you make the disk wider?
- How does the motion of a zoomer change if you change the length of the string?
- What happens to the motion of the twirlers if you cut the wings shorter?
INVESTIGATION 2: SPINNERS

PART 1: TOPS

Interview students to assess their abilities to describe forces.

<table>
<thead>
<tr>
<th>Teacher Observation—Forces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nature of Force.</strong> Know that a push or a pull is a force on an object but some forces can act without touching an object. (GLE 1.3.1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>can describe using a force to spin the top; notes that the stronger the push, the faster the top spins.</td>
</tr>
<tr>
<td>✓</td>
<td>can describe needing a force (push or pull) to start the top; with help can relate the strength of the push to the speed of the top.</td>
</tr>
<tr>
<td>–</td>
<td>needs help to relate forces to spinning tops.</td>
</tr>
</tbody>
</table>

GOING FURTHER

Use the science story *Push or Pull* to help students further develop the concept of push and pull as a force.
INVESTIGATION 2: SPINNERS
PART 2: ZOOMERS

Interview students to assess their abilities to identify parts of a system.

<table>
<thead>
<tr>
<th>Teacher Observation—Parts of a system</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structure of Physical Earth/Space and Living Systems.</strong></td>
</tr>
<tr>
<td>Understand that things are made of parts that go together.</td>
</tr>
<tr>
<td>(GLE 1.2.1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>identifies the parts of the system; says the movement of the zoomers depends on the winding and unwinding of the string.</td>
</tr>
<tr>
<td>✓</td>
<td>identifies the parts of the system; needs some help to relate one part to another.</td>
</tr>
<tr>
<td>–</td>
<td>needs help to identify parts of the system or how the parts depend on each other.</td>
</tr>
</tbody>
</table>
INVESTIGATION 2: SPINNERS

PART 3: TWIRLERS

Use science notebooks or the new student sheet no. 8a called Forces to assess students’ understanding of how a push or pull affects motion.

**Student Sheet—Forces**

**Forces to Explain Motion.** Know that pushes and pulls can change the motion of common objects. (GLE 1.3.2)

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>shows evidence that he or she is developing basic ideas about forces, such as a force is needed to put an object at rest into motion, a stronger push or pull generally means more motion or a faster stop, and a force is needed to change direction.</td>
</tr>
<tr>
<td>✔</td>
<td>shows evidence that ideas about force are developing; still needs some prompting.</td>
</tr>
<tr>
<td>–</td>
<td>does not show any evidence of understanding a relationship between force and motion.</td>
</tr>
</tbody>
</table>
1. Choose one of the spinners that you have been using in class. Draw a picture and write a few words to explain how you get it to spin.

2. If you want to make a top spin faster, what do you need to do?

3. If a ball was rolling across a table and you wanted to change its direction, what would you need to do?
PART 1

**ROLLING WHEELS**

- How can a wheel-and-axle system be changed?

Time: 50 minutes

Students set up cardboard ramps down which they roll plastic disks. They put the disks on slim straws to make wheel-and-axle systems. They try all kinds of configurations of wheel size, axle length, and axle position to get the rolling systems to perform a variety of tricks.

---

PART 2

**ROLLING CUPS**

- Can we predict the behavior of a rolling cup?
- What happens if weight is added to a rolling-cup system?

Time: 50 minutes

Students roll paper cups down ramps. They observe the way cups roll and use the predictable curved rolling path to meet challenges. They put cups together to make them roll straight and weight them in various ways to see how weight affects rolling.

---

PART 3

**ROLLING SPHERES**

- How can we make a runway system that will keep a marble rolling?

Time: two or more 45 minute sessions

Students roll marbles in cups and down runways to observe spheres as rollers. They work with the flexible runways to make the rolling marbles do tricks. As a culminating experience, students work together as a class to connect the runway sections to make one long runway through which a marble can roll nonstop.
CONCEPTS AND PRINCIPLES

- Wheels roll down a slope.
- A slope is a surface that is higher on one end.
- Axles support wheels.
- Wheel-and-axle systems with wheels of different sizes roll toward the smaller wheel.

Teacher Observation and Student Sheets

K/2 Inquiry or Design Project

Planning and Conducting Safe Investigations. Understand how to plan and conduct simple investigations following all safety rules. (GLE 2.1.2)

Explaining. Understand how to construct a reasonable explanation using evidence. (GLE 2.1.3)

Teacher Observation

Systems

Structure of Physical Earth/Space and Living Systems. Understand that things are made of parts that go together. (GLE 1.2.1)

Student Sheet

Marble Runways

Nature of Force. Know that a push or a pull is a force on an object but some forces can act without touching an object. (GLE 1.3.1)

Performance Assessment

Inquiry or Design Project

Investigating Systems: GLEs 2.1.1—2.1.5

or Designing Solutions: GLEs 3.1.1—3.1.3

Examples of questions students might generate for inquiry projects

- What happens to the speed of the rollers if you increase the slope of the ramp?
- How many loops can you put in a runway and still have the marble get to the end?
INVESTIGATION 3: ROLLERS

PART 1: ROLLING WHEELS

Use teacher observation along with new student sheets nos. 10a, 10b and 10c, called K-2 Inquiry or Design Project, and K-2 Project (continued), found on pages 24 - 26 to assess students’ ability to follow a plan and draw a conclusion. This is an opportunity to model the process of planning an investigation as a class using the format that will be used to plan independent investigations at the end of the module.

For example, when the children observed that the wheel-and-axle system with unequal sized wheel curves as it rolls down the ramp, the teacher could pose the question “What makes the wheel and axle system curve as it rolls?” If the children think that it is because the bigger wheel is heavier, then the investigative question could be “What would happen if more small wheels are added to the side with the small wheel? Will the wheel-and-axle system roll straight?”

Complete part 1 formulating a question and making a plan to investigate this idea together as a class. See sample plan on page 18. Using the plan, students should work in their groups to carry out the investigation, recording their results and drawing a conclusion.

Teacher Observation and Student Sheet—10b

Planning and Conducting Safe Investigations. Understand how to plan and conduct simple investigations following all safety rules. (GLE 2.1.2)

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>independently follows the plan to perform the investigation, and accurately measures and records results.</td>
</tr>
<tr>
<td>✔</td>
<td>with minimal assistance follows the plan to perform the investigation, and accurately measures and records results.</td>
</tr>
<tr>
<td>–</td>
<td>with teacher guidance follows the plan to perform the investigation, and accurately measures and records results.</td>
</tr>
</tbody>
</table>
Teacher Observation and Student Sheet—10c

**Explaining.** Understand how to construct a reasonable explanation using evidence. (GLE 2.1.3)

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>forms a reasonable conclusion, cites data and explains how data supports conclusion (for example, states that the axle does not curve because the large wheel weighs more because it curves the same with 1 small wheel as it does with 4 small wheels, and the 4 small wheels weigh more than the 1 large wheel).</td>
</tr>
<tr>
<td>✔</td>
<td>forms a reasonable conclusion and refers to data or information learned.</td>
</tr>
<tr>
<td>−</td>
<td>does not form a reasonable conclusion and/or does not refer to data or information learned.</td>
</tr>
</tbody>
</table>
Sample Plan
Question:
Does adding more small wheels to the side with the small wheel make the wheel-and-axle system (that has a large wheel on one side and a small wheel on the other) roll straight?
Prediction: I think that if I add more small wheels to the side with the small wheel, I can make it roll straight.

Materials:
- 4 small wheels
- 1 large wheel
- 1 straw
- 1 ramp
- balance scale

Procedure:
1) I will make an axle that has a small wheel on one side and a large wheel on the other side.
2) Then I will roll it down the ramp and record my results on the table.
3) Then I will add another small wheel to the side with the small wheel.
4) Then I will roll and record my results.
5) I will repeat steps three and four - adding a 3rd and 4th wheel.
6) I will compare the weight (mass) of the small wheels to the large wheel using the balance scale.

<table>
<thead>
<tr>
<th># of small wheels</th>
<th># of large wheels</th>
<th>How it rolled</th>
<th>Which weighs more</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INVESTIGATION 3: ROLLERS
PART 2: ROLLING CUPS

Interview students to assess their understanding of systems.

<table>
<thead>
<tr>
<th>Teacher Observation—Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structure of Physical Earth/Space and Living Systems.</strong> Understand that things are made of parts that go together. (GLE 1.2.1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>can identify parts of the rolling system, which includes cups and a ramp; can make predictions such as a higher ramp will make the cup roll faster; can predict the direction a cup will roll before it goes down the ramp.</td>
</tr>
<tr>
<td>✓</td>
<td>can identify parts of the system; needs some prompting to make predictions.</td>
</tr>
<tr>
<td>–</td>
<td>cannot identify parts or make predictions.</td>
</tr>
</tbody>
</table>

**NOTE:** Assessment for Part 1 of this investigation is anecdotal notes.
INVESTIGATION 3: ROLLERS
PART 3: ROLLING SPHERES

Use student sheet no. 10 called Marble Runways.

Student Sheet—Marble Runways

Nature of Force. Know that a push or a pull is a force on an object but some forces can act without touching an object. (GLE 1.3.1)

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>says that only the second runway will work for sure, that there is enough of a slope at the beginning to build up enough speed to go through the loop and the rest continues downhill, that the first runway doesn’t have enough slope at the beginning to get around the loop, and that the last runway may or may not make it, because the end is just about as high as the middle hill.</td>
</tr>
<tr>
<td>✓</td>
<td>says that all the runways will work because they start at a position higher than where they end.</td>
</tr>
<tr>
<td>–</td>
<td>appears to decide based on random criteria rather than steepness of slope, and so forth.</td>
</tr>
</tbody>
</table>
INQUIRY OR DESIGN PROJECT

The inquiry or design project has been included to help students meet the Investigating Systems and Designing Solutions GLEs. Use the three K/2 inquiry or design project sheets and materials from the FOSS kit, adding materials as needed or possible to complete a project. See examples of inquiry questions at the bottom of each At A Glance page.

Look for opportunities to model the use of these sheets to answer students’ questions, explore their ideas, or challenge misconceptions throughout the module. At least once in each module, teachers should model an inquiry or design project and at least once each year, students should have the opportunity to independently explore their own questions.

<table>
<thead>
<tr>
<th>Inquiry or Design Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigating Systems: GLEs 2.1.1–2.1.5</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>Designing Solutions: GLEs 3.1.1–3.1.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>with minimal guidance completes an inquiry project: completes the student sheets to represent work.</td>
</tr>
<tr>
<td>✔</td>
<td>with guidance completes an inquiry project; completes student sheets to represent work.</td>
</tr>
<tr>
<td>–</td>
<td>cannot follow directions for completing an independent inquiry project.</td>
</tr>
</tbody>
</table>

Score If the student...

<table>
<thead>
<tr>
<th>Score</th>
<th>If the student...</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>with minimal guidance completes an inquiry project: completes the student sheets to represent work.</td>
</tr>
<tr>
<td>✔</td>
<td>with guidance completes an inquiry project; completes student sheets to represent work.</td>
</tr>
<tr>
<td>–</td>
<td>cannot follow directions for completing an independent inquiry project.</td>
</tr>
</tbody>
</table>

K/2—New Student Sheet
Will the marble roll all the way through the runway?

___ Yes     ___ No   (Circle the place the marble will stop.)

___ Yes     ___ No   (Circle the place the marble will stop.)

___ Yes     ___ No   (Circle the place the marble will stop.)
K/2 INQUIRY OR DESIGN PROJECT PLANNING

Choose one question starter.

What would happen if ________________________

__________________________________________

__________________________________________

Can I make a ____________ that ________________

__________________________________________

__________________________________________

Make a prediction. I think that ___________________

__________________________________________

List your materials (attach a page with a drawing or list).
K-2 PROJECT (continued)

Part 2: Recording

1. What did you do? __________________________

2. What did you measure? ______________________

3. What did you observe? ______________________

Results: (Draw or describe what happened.)

<table>
<thead>
<tr>
<th>Start of Investigation</th>
<th>End of Investigation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part 3: Conclusion

Did it do what you predicted? How do you know?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
END-OF-MODULE ASSESSMENT

This assessment is used as an evaluative tool after all the investigations have been completed. Below are the materials you will need if you use the performance assessment.

MATERIALS FOR THE PERFORMANCE ASSESSMENT

- Tagboard squares (heavy-weight paper such as old file folders), 13 cm x 13 cm (5” x 5”) *

  1 Craft stick
  4 Clothespins
  1 Cra� stick
  4 Clothespins
  4 Scissors *
  1 Pencil *
  1 Assessment sheet no. 4 called Performance Assessment

MATERIALS FOR THE WRITTEN ASSESSMENT

  1 Assessment sheet nos. 5–6 called Written Assessment

* Supplied by the teacher

☐ Use the duplication master to make copies.
**GETTING READY**

1. **SCHEDULE THE ASSESSMENT**

   You may need to give the assessment in two sessions: one for the performance item and one for the written items. Read through Steps 2 and 3 below before deciding how you will proceed.

2. **ADMINISTER THE PERFORMANCE ITEM**

   Set up one or several identical assessment stations around the classroom. Instruct students to choose one piece of heavy-weight paper to make a shape and balance it. Give them about 10 minutes to create a shape and balance it, then have them return to their desks to answer the questions on the sheet. If you are working with young students who have not yet developed adequate writing skills, you may want to conduct an interview instead, and write what students dictate on the student sheet.

   Plan another activity for students who are waiting their turn to work at the assessment station.

3. **ADMINISTER THE WRITTEN ITEMS**

   Assessment items in content areas such as science usually require a high level of reading. If you feel that students will have a difficult time reading the items on their own, make an overhead transparency and read each item and its possible answers (when appropriate) aloud. Have students mark their answers and move on to the next item, working together through the assessment, item by item.

   Some second graders may be able to complete the written items on their own. In this case, you can have them work on the written items until it is their turn to work at the performance station.
SCORING THE ASSESSMENTS

PERFORMANCE ASSESSMENT

Give students a + if they make a shape and balance it. They should draw a picture that shows the shape and the clothespins attached low; the written answer should include something about the fact that the counterweights (clothespins) need to be down low for the shape to balance.

Give students a √ if they make a shape and balance it. They should draw a picture that shows the clothespins in a reasonable place so that the shape would balance. They write about the shape balancing but do not include a generalization about where counterweights should be placed.

Give students a – if they are unable to draw or write about what they did.
WRITTEN ASSESSMENT

Item 1.

Item 2. Circle the shapes on each end. (The middle shape will not balance.)

Item 3. It is steady, not falling over; or there are counterweights (clothespins) attached low.

Item 4. straight, zigzag, round and round, back and forth, fast, slow, spinning, rolling

Item 5. A force is needed to start an object moving.

Item 6. The first ramp shows the path of roller C, the second ramp of roller A, and the third ramp of roller B.
# Balance and Motion Blueprint

## K-2 Grade Level Expectations (GLE) Assessment Opportunities

<table>
<thead>
<tr>
<th>SYSTEMS</th>
<th>FORMATIVE</th>
<th>SUMMATIVE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Properties of Substances.</strong> Understand simple properties of common natural and manufactured materials and objects. (GLE 1.1.1)</td>
<td>Inv. 1, Pt. 2</td>
<td>6</td>
<td>Covered in several other modules.</td>
</tr>
<tr>
<td><strong>Motion of Objects.</strong> Understand the position and motion of common objects. (GLE 1.1.2)</td>
<td>Inv. 1, Pt. 3, 4 Inv. 1, Pt. 4</td>
<td>4</td>
<td>Important to cover in this module.</td>
</tr>
<tr>
<td><strong>Structure of Physical Earth/Space and Living Systems.</strong> Understand that things are made of parts that go together. (GLE 1.2.1)</td>
<td>Inv. 2, Pt. 2 Inv. 3, Pt. 2</td>
<td>Performance Assessment 1, 2, 3, 6</td>
<td>Covered in several other modules.</td>
</tr>
<tr>
<td><strong>Nature of Force.</strong> Know that a push or a pull is a force on an object but some forces can act without touching an object. (GLE 1.3.1)</td>
<td>Inv. 2, Pt. 1 Inv. 3, Pt. 3</td>
<td>5</td>
<td>Important to cover in this module.</td>
</tr>
<tr>
<td><strong>Forces to Explain Motion.</strong> Know that pushes and pulls can change the motion of common objects. (GLE 1.3.2)</td>
<td>Inv. 2, Pt. 3</td>
<td>5</td>
<td>Important to cover in this module.</td>
</tr>
</tbody>
</table>

### Inquiry

<table>
<thead>
<tr>
<th>INQUIRY</th>
<th>FORMATIVE</th>
<th>SUMMATIVE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planning and Conducting Safe Investigations.</strong> Understand how to plan and conduct simple investigations following all safety rules. (GLE 2.1.2)</td>
<td>Inv. 3, Pt. 1</td>
<td></td>
<td>Assessed throughout the grades in inquiry projects.</td>
</tr>
<tr>
<td><strong>Explaining.</strong> Understand how to construct a reasonable explanation using evidence. (GLE 2.1.3)</td>
<td>Inv. 3, Pt. 1</td>
<td></td>
<td>Assessed throughout the grades in inquiry projects.</td>
</tr>
</tbody>
</table>

### Inquiry or Design Project

<table>
<thead>
<tr>
<th>INQUIRY OR DESIGN PROJECT</th>
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<th>COMMENTS</th>
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</thead>
<tbody>
<tr>
<td><strong>Investigating Systems:</strong> GLEs 2.1.1—2.1.5 or Designing Solutions: GLEs 3.1.1—3.1.3</td>
<td>Inv. 3, Pt. 3</td>
<td></td>
<td>All Wrapping Up sections. Assessed throughout grades in inquiry projects.</td>
</tr>
</tbody>
</table>