

# 2009 NAEP Science Framework Compared to Washington State Science

**Point of View: State Science Assessment Lead**

- **Washington State Standards and Assessment**
- **Digesting the 2009 Science NAEP Framework**
- **A Comparison for State Assessment Literacy**



# Washington's Science Essential Academic Learning Requirements



# Washington Assessment of Student Learning (WASL) in Science

## Scenario Test Map

Point-balanced in Physical, Earth/Space, & Living Systems



1	Investigating a Physical System
2	Investigating an Earth/Space System
3	Investigating a Living System
4	Designing a Solution
5	Analyzing a System
6	Analyzing a System

Also, there is a Pilot Scenario with 5 items toward the end of a session.

# 2005 WA Grade Level Expectations and WASL Item Specifications

**EALR 2 — INQUIRY:** The student knows and applies the skills, processes, and nature of scientific inquiry.  
**Component 2.1 Investigating Systems:** Develop the knowledge and skills necessary to

3	4	5
<b>Understand how to construct a reasonable explanation using evidence. W</b>		
<ul style="list-style-type: none"><li>■ (3, 4, 5) Generate a scientific conclusion including supporting data from an investigation (e.g., grass grows taller with more light; with only 2 hours of light each day, grass grew 2 centimeters in two weeks, but with 6 hours of light, grass grew 8 centimeters).</li><li>■ (3, 4, 5) Describe a reason for a given conclusion using evidence from an investigation.</li><li>■ (4, 5) Generate a scientific explanation of observed phenomena using given data.</li><li>■ (5) Predict what logically might occur if an investigation lasted longer or was changed.</li></ul>		

## Grade Level Expectation: IN03 Explaining

**Grades 3-5:** Understand how to construct a reasonable explanation using evidence.

### Evidence of Learning

*WASL and Classroom:*

Given a description of a scientific investigation, items may ask...

- Identify or **write a conclusion**, including supporting data, which answers the investigative question or ...
- Identify or describe a reason for a given conclusion using evidence from an investigation.
- and d.

# 2009 NAEP Science Framework

## Differences:

- Size: >Twice the size, 71 vs. 162 pgs; Many more item targets, 33 at G4, 43 at G8, and 49 at G12 compared to 24 at G5, G8, and G10)
- Content and Practices vs. Systems, Inquiry, & Application
- Items all content and practice vs. One Target per Item including 10 Inquiry and 5 Application
- Content Statements vs. GLEs with Evidences of Learning

## Similarities:

- Same Science Concepts and Processes!
- Same Items Types & Almost Scenarios



2008 WA Core Concepts	2009 NAEP Framework
<b>Physical Systems</b>	<b>Physical Science</b>
Energy Transfers Conservation of Matter Forces to Explain Motion	Energy Matter Motion
<b>Earth &amp; Space Systems</b>	<b>Earth &amp; Space Science</b>
Components & Patterns of ES Patterns & Interactions of ES Interactions in the Solar System	Earth Structure Earth System Earth in Space & Time
<b>Living Systems</b>	<b>Life Science</b>
Life Process, Matter & Energy Interdependence of Life Biological Evolution	Structures & Functions of Living Systems Changes in Living Systems <b>Note:</b> All test items are coded as science content.
<b>Inquiry in Science</b>	<b>Science Practices</b>
Planning, Explaining, & Evaluating Investigations	Identifying Science Principles Using Science Principles
<b>Application of Science</b>	Using Scientific Inquiry Using Technological Design
Designing & Evaluating Solutions Environmental Issues	<b>Note:</b> Each test item for a particular science content is also classified as one science practice.

# 2003-07 Science WASL Results with 2005 NAEP Science

