



SEP Lab Protocols
Aligned with
Washington State's
Essential Academic Learning Requirements
&
Grade Level Expectations

In order to help SEP teachers in unit planning and curriculum design, all SEP lab protocols and kits are aligned with Washington State's Essential Academic Learning Requirements (EALRs) and the Grade Level Expectations (GLEs). This document is designed as a resource for SEP teachers using the supplied kits and protocols. The chart references the specific GLEs addressed in the specific lab activities. Most activities align with GLEs for grades 6-10, except where noted. Whereas, the focus of this document is matching SEP curricula with the Science EALRs, teachers are also encouraged to reference the **Washington State Learning Goals** and other sections of the EALRs which address reading, writing, and mathematics.

The specific GLEs noted in the chart refer to the document printed in 2005 titled, Science K-10 Grade Level Expectations: A New Level of Specificity. These are available on line at www.k12.wa.us.

Science EALRs and Components addressed in SEP lab protocols and kits as designed for classroom use:

EALR 1-SYSTEMS: The student knows and applies scientific concepts and principles to understand the properties, structures and changes in physical, earth/space, and living systems.

Component 1.1 Properties: Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize things.

Component 1.2 Structures: Understand how components, structures, organizations, and interconnections describe systems.

Component 1.3 Changes: Understand how interactions within and among systems cause changes in matter and energy.

EALR 2-INQUIRY: The student knows and applies the skill, processes, and nature of scientific inquiry.

Component 2.1 Investigating Systems: Develop the knowledge and skills necessary to do scientific inquiry.

Component 2.2 Nature of Science: Understand the nature of scientific inquiry.

EALR 3-APPLICATION: The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts.

Component 3.1 Designing Solutions: Apply knowledge and skills of science and technology to design solutions to human problems or meet challenges.

Component 3.2 Science, Technology, and Society: Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.

Washington State Learning Goals

Read with comprehension, **write** with skill, and **communicate** effectively and responsibly in a variety of ways and settings.

Know and apply the core concepts and principles of mathematics, social, physical, and life sciences; civics and history; geography; arts; and health and fitness.

Think analytically, logically, and creatively and integrate experience and knowledge to form reasoned judgments and solve problems.

Understand the importance of work and how performance, effort and decisions directly affect **future career and educational opportunities**.

Specific GLEs that apply to SEP lab protocols and extensions as designed:

* Indicates GLE applies to 10th grade only.

EALR		Systems									Inquiry									Application						
SEP Lab	GLE	1.1.1	1.1.6	1.2.2	1.2.3*	1.2.6	1.2.7	1.3.8	1.3.9	1.3.10*	2.1.1	2.1.2	2.1.3	2.1.4	2.1.5	2.2.1	2.2.3	2.2.4	2.2.5	3.1.1	3.1.2	3.1.3	3.2.1	3.2.2	3.2.4	
Electrophoresis Exploration		•		•							•		•		•									•	•	
Dye/Indicator		•		•	•						•	•	•		•		•	•	•					•	•	
DNA 1 & 2			•			•					•	•	•		•	•	•	•	•					•	•	
Column Chromatography		•			•						•	•	•		•	•	•	•	•					•	•	
Genes R Us (Bacterial Transformation)			•			•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	
Fruit Fly Kit			•			•	•	•		•		•	•		•	•										
DNA Extraction		•	•		•	•					•	•	•	•	•									•	•	
Elephant Project		•	•				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•