

# Curriculum Alignment of Skinner Elementary Montessori and Washington State EALRs

## Physical, Life and Social Sciences: Grade 4– Age 9

Using manipulatives/ equipment, your child will be introduced to:

EALRs	Skinner Elementary Montessori
<p><b>EALR 1 – SYSTEMS:</b> The student knows and applies scientific concepts and principles to understand the properties, structures, and changes in physical, earth/space, and living systems.</p> <p><b>Component 1.1 Properties:</b> Understand how properties are used to identify, describe, and categorize substances, materials, and objects and how characteristics are used to categorize living things.</p> <p><b>Physical Systems-Properties of Substances</b> 1.1.2 Understand the relative position and motion of objects. <b>W</b></p> <p><b>Wave Behaviors</b> 1.1.3 Understand the behavior of sound in terms of vibrations and pitch and the behavior of light in terms of bouncing off, passing through, and changes in direction. <b>W</b></p> <p><b>Earth and Space Systems-Nature and Properties of Earth Materials</b> 1.1.5 Understand physical properties of Earth materials including rocks, soil, water, and air.</p> <p><b>Component 1.2 Structures:</b> Understand how components, structures, organizations, and interconnections describe systems.</p> <p><b>Systems Structure-Structure of Physical Earth/Space and Living Systems</b> 1.2.1 Analyze how the parts of a system go together and how these parts depend on each other. <b>W</b></p> <p><b>Earth and Space Systems-Components and Patterns of Earth Systems</b> 1.2.4 Understand that Earth’s system includes a mostly solid interior, landforms, bodies of water, and an atmosphere. <b>W</b></p> <p><b>Living Systems-Structure and Organization of Living Systems</b> 1.2.6 Understand that organisms can be a single cell or many cells that form parts with different functions. <b>W</b></p> <p><b>Molecular Basis of Heredity</b> 1.2.7 Understand the. Life cycles of plants and animals and the differences between inherited and acquired characteristics. <b>W</b></p> <p><b>Component 1.3 Changes:</b> Understand how interactions within and among systems cause changes in matter and energy.</p> <p><b>Physical Systems-Nature of Force</b> 1.3.1 Understand forces in terms of strength and direction. <b>W</b></p> <p><b>Forces to Explain Motion</b> 1.3.2 Understand that forces can change the motion of common objects. <b>W</b></p> <p><b>Earth and Space Systems-Hydrosphere and Atmosphere</b> 1.3.6 Understand weather indicators and understand how water cycles through the atmosphere. <b>W</b></p>	<p><b>Physical Science</b></p> <ul style="list-style-type: none"> <li>• Creation story</li> </ul> <p><b>Examining the Nature of Elements</b></p> <ul style="list-style-type: none"> <li>• Composition of the earth</li> <li>• Further details of the composition of the earth</li> <li>• Formation of mountains</li> <li>• Geography nomenclature</li> <li>• States of matter</li> <li>• Attraction and gravity</li> <li>• Different ways of combining</li> <li>• Saturation and super saturation</li> </ul> <p><b>The Sun and the Earth</b></p> <ul style="list-style-type: none"> <li>• Rotation of the earth</li> <li>• A.M. and P.M.</li> <li>• The time zone chart</li> <li>• Earth as a sphere and its result</li> <li>• Tilt of the axis</li> <li>• Zones</li> <li>• Zones work chart</li> <li>• Seasons work chart</li> <li>• Seasons and the two tropics</li> <li>• Protractor chart</li> <li>• Protection of the atmosphere and the rains</li> </ul> <p><b>Work of Air</b></p> <ul style="list-style-type: none"> <li>• Qualities of air</li> <li>• The winds</li> <li>• Land and sea breezes</li> <li>• Changes in the wind caused by the seasons</li> </ul> <p><b>Work of Water</b></p> <ul style="list-style-type: none"> <li>• Erosion</li> <li>• River model</li> <li>• Rains</li> <li>• Currents</li> <li>• Ocean waves</li> <li>• Wind as a sculptor</li> <li>• Summary on work of water</li> <li>• Spread of Vegetation</li> <li>• People of Different Zones</li> </ul> <p><b>Economic Geography</b></p> <ul style="list-style-type: none"> <li>• Interdependencies</li> <li>• Economic geography</li> </ul>

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<p><b>Living Systems-Life Process and the Flow of Matter and Energy</b>  1.3.8 Understand that living things need constant energy and matter. <b>W Interdependence of Life</b>  1.3.10 Understand that an organism’s ability to survive is influenced by the organism’s behavior and the ecosystem in which it lives. <b>W</b></p> <p><b>EALR 2 – INQUIRY:</b>  The student knows and applies the skills, processes, and nature of scientific discovery.</p> <p><b>Component 2.1 Investigating Systems:</b> Develop the knowledge and skills necessary to do scientific inquiry.  Investigating Systems</p> <p><b>Questioning</b>  2.1.1 Understand how to ask a question about objects, organisms, and events in the environment. <b>W</b></p> <p><b>Explaining</b>  2.1.3 Understand how to construct a reasonable explanation using evidence. <b>W</b></p> <p><b>Modeling</b>  2.1.4 Understand how to use simple models to represent objects, events, systems, and processes. <b>W</b></p> <p><b>Communicating</b>  2.1.5 Understand how to record investigations and explanations of objects, events, systems, and processes. <b>W</b></p> <p><b>Component 2.2 Nature of Science:</b> Understand the nature of scientific inquiry.</p> <p><b>Nature of Science-Intellectual Honesty</b>  2.2.1 Understand that all scientific observations are reported accurately and honestly even when the observations contradict expectations. <b>W</b></p> <p><b>Limitations of Science and Technology</b>  2.2.2 Understand that scientific facts are measurements and observations of phenomena in the natural world that are repeatable and/or verified by expert scientists. <b>W</b></p> <p><b>Evaluating Inconsistent Results</b>  2.2.3 Understand why similar investigations may not produce similar results. <b>W</b></p> <p><b>Evaluating methods of Investigation</b>  2.2.4 Understand how to make the results of scientific investigations reliable. <b>W</b></p> <p><b>Evolution of Scientific Ideas</b>  2.2.5 Understand that scientific comprehension of systems increases through inquiry. <b>W</b></p> <p><b>EALR 3 – APPLICATION:</b>  The student knows and applies science concepts and skills to develop solutions to human problems in societal contexts</p> <p><b>Component 3.1 Designing Solutions:</b> Apply knowledge and skills of science and technology to design solutions to human problems or meet challenges.</p> <p><b>Designing Solutions-Identifying Problems</b>  3.1.1 Understand problems found in ordinary situations in which scientific design can be or has been used to design solutions. <b>W</b></p>	<p><b>Life Science</b></p> <p><b>Plant</b></p> <ul style="list-style-type: none"> <li>• Needs of a plant</li> <li>• Plants grow to light</li> </ul> <p><b>Leaf</b></p> <ul style="list-style-type: none"> <li>• Main function of the leaf</li> <li>• Stomata and evaporation</li> <li>• Plants give off oxygen</li> <li>• Parts of a leaf</li> <li>• Different kinds of veins</li> <li>• Simple classification</li> </ul> <p><b>Roots</b></p> <ul style="list-style-type: none"> <li>• Main function</li> <li>• Parts of the root</li> <li>• Collaboration between leaves and roots</li> <li>• Other functions of roots: <ul style="list-style-type: none"> <li>-Holding the plant to the ground</li> <li>-Roots prevent erosion</li> </ul> </li> <li>• Other sensitivities of roots <ul style="list-style-type: none"> <li>-Roots dislike light</li> <li>-Roots grow towards the ground</li> </ul> </li> <li>• Varieties of roots</li> </ul> <p><b>Stem</b></p> <ul style="list-style-type: none"> <li>• Main function</li> <li>• Two main kinds of stem</li> <li>• Parts of a woody stem</li> <li>• Other parts of a woody stem</li> <li>• How water is moved up the stem</li> <li>• Varieties</li> </ul> <p><b>Flowers</b></p> <ul style="list-style-type: none"> <li>• Main function</li> <li>• Parts of the flower</li> <li>• Varieties in the parts</li> <li>• Flowers which invite one and all to come</li> <li>• Specialization of flowers to ensure pollination</li> </ul> <p><b>Fruits</b></p> <ul style="list-style-type: none"> <li>• Main function</li> <li>• Two kinds of fruits</li> <li>• Parts of a succulent fruit</li> <li>• Kinds of succulent fruits based on parts/flowers</li> <li>• Kinds of dry fruits</li> </ul> <p><b>Seeds</b></p> <ul style="list-style-type: none"> <li>• Main function</li> <li>• Parts of the seeds</li> <li>• Two main kinds</li> <li>• Simple classification</li> <li>• Seed dispersal</li> </ul>

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<p><b>Designing and Testing Solutions</b> 3.1.2 Understand how the scientific design process is used to develop and implement solutions to human problems. <b>W</b></p> <p><b>Evaluating Potential Solutions</b> 3.1.3 Analyze how well a design or a product solves a problem. <b>W</b></p> <p><b>Component 3.2 Science, Technology, and Society:</b> Analyze how science and technology are human endeavors, interrelated to each other, society, the workplace, and the environment.</p> <p><b>Science, Technology, and Society — All People Contribute to Science and Technology</b> 3.2.1 Understand that science and technology have been practiced by all peoples throughout history. <b>W</b></p> <p><b>Relationship of Science and Technology</b> 3.2.2 Understand that people have invented tools for everyday life and for scientific investigations. <b>W</b></p> <p><b>Careers and Occupations Using Science, Mathematics, and Technology</b> 3.2.3 Understand how knowledge and skills of science, mathematics, and technology are used in common occupations.</p> <p><b>Environmental and Resources Issues</b> 3.2.4 Understand how humans depend on the natural environment and can cause changes in the environment that affect humans' ability to survive. <b>W</b></p>	<p><b>Zoology</b></p> <ul style="list-style-type: none"> <li>• Body function material</li> </ul> <p><b>Introduction to Scientific Classification</b></p> <ul style="list-style-type: none"> <li>• Kingdom Vegetalia</li> <li>• Kingdom Animalia</li> </ul> <p><b>Life Science</b></p> <ul style="list-style-type: none"> <li>• Interdependencies</li> <li>• Ecosystems</li> </ul> <p><b>Social Studies/ Sciences</b></p> <ul style="list-style-type: none"> <li>• Coming of life</li> <li>• Black strip</li> <li>• Coming of human beings</li> <li>• Fundamental needs of human beings</li> <li>• Hand timeline</li> <li>• The clock of eras</li> <li>• First timeline</li> <li>• History question charts</li> <li>• Three phases of history</li> </ul>