

## Natural Resources and Agriculture Standard

These Standards address sustainability and management of natural resources and agriculture and were adopted by the State Board of Education in 2005. With the adoption of NGSS in 2014 these Standards are no longer required to be part of curriculum, but are still a critical part of Vermont science and social learning. Included below each are possible connections between the Natural Resources and Agriculture Standards and NGSS.

Grades PreK-4	Grades 5-8	Grades 9-12
<p><b>7.16a.</b> Identify natural and agricultural resources and where they come from (e.g., wildlife, fish, plant, rock, water, soil, minerals, sunlight, and air), and distinguish between natural resources and things made by humans (e.g., sand vs. cement, milk vs. ice cream, wheat vs. bread, sap vs. syrup, wildlife).  <b>PreK-2-Goal 1, K-LS1-1</b> (e.g. habitat); <b>2-LS2-1; 2-ESS-2; 2-ESS2-3; 2-LS4-1; 3-LS1-1; 3-LS3-1; 3-LS4-2; 3-LS4-3; 4-LS1-1; 4-LS1-1; 4-ESS3-1</b></p>	<p><b>7.16.aa.</b> Identify and investigate the natural resource and agricultural areas in Vermont and the products and markets for each (e.g., interaction of major natural communities, fish and wildlife, water and earth resources; locate farming regions and products).  <b>5-PS1-3; 5-PS3-1; 5-LS1-1; 5-ESS3-1; MS-PS3-4; MS-LS1-5; MS-LS2-4; MS-ESS2-4; MS-ESS3-4; MS-ETS1-1</b></p>	<p><b>7.16.aaa.</b> Identify, investigate, and analyze the major natural communities and resources that exist within Vermont and the New England region, and evaluate the attributes, distribution, and current issues related to each (e.g., regional processes that influence our natural resources, such as the introduction of zebra mussels into Vermont waters; watershed issues; acid rain).  <b>HS-PS3-1; HS-LS1-5; HS-LS2-5; HS-LS2-6; HS-ESS2-2; HS-ESS3-1</b></p>
<p><b>7.16b.</b> Identify the benefits of agriculture and natural resources (e.g., public health, public welfare, recreation, safe food).  <b>K-PS3-1; 1-PS4-3; 1-LS1-1; 2-ESS2-3; 4-LS1-2; 4-ESS3-1</b></p>	<p><b>7.16.bb.</b> Describe the effects of the inter-relationships among multiple natural resources and agricultural practices (e.g., forestry management, wildlife population management, nutrient and pesticide use).  <b>5-LS2-1; 5-ESS2-1; MS-LS1-4; MS-LS2-2; MS-LS2-5; MS-LS3-3</b></p>	<p><b>7.16.bbb.</b> Evaluate how science and technology are used to maximize benefits and understand natural resource and agricultural systems (e.g., genetic diversity of species promotes disease resistance in natural populations, bioengineering of seeds provides improved crop production).  <b>HS-PS2-6; HS-PS3-3; HS-PS3-4; HS-LS2-7; HS-LS2-8; HS-LS3-1; HS-LS3-3; HS-LS4-6; HS-ESS2-6; HS-ESS3-4; HS-ESS3-6</b></p>

Grades PreK-4	Grades 5-8	Grades 9-12
<p><b>7.16c.</b> Identify actions individuals and families can take to help manage natural resources and agriculture (e.g., walking on established trails, fishing and hunting in season, picking up litter, recycling, purchasing locally grown agricultural products).</p> <p><b>PreK-4-Goal 1, K-ESS2-2; K-ESS3-3; 1-LS1-2</b> (Do not disturb baby animals.); <b>2-ESS2-1; K-2-ETS1-1; 3-PS2-4</b> (e.g., cow magnets); <b>3-LS4-4; 3-ESS3-1; 4-PS3-4</b> (wind turbine or waterwheel); <b>4-ESS3-2; 3-5-ETS1-1</b></p>	<p><b>7.16.cc.</b> Describe how management and development practices affect resource conservation and agricultural systems (e.g., People decide when and how to harvest trees, fish, and wildlife; where to plant and how to grow crops; where to preserve wild areas; where to locate businesses and homes; and how farm practices can reduce their impacts on streams).</p> <p><b>5-ESS3-1; 3-5-ETS1-1; MS-PS1-6; MS-PS3-3; MS-LS2-1; MS-LS3-1; MS-LS4-5</b></p>	<p><b>7.16.ccc.</b> Evaluate how science, technology and social/economic principles are used by individuals, private groups and governments to make informed decisions about natural resources and agricultural management (e.g., purchasing a fuel efficient car, managing farm and urban nutrients/ crops; establishing town zoning, pollution emission standards, hunting and fishing regulations or adding /removing a species – like the peregrine falcon – from Vermont’s endangered and threatened species list).</p> <p><b>HS-LS4-3; HS-LS4-5; HS-ESS2-3; HS-ESS2-5; HS-ESS2-6; HS-ESS3-2; HS-ESS3-3; HS-ETS1-1</b></p>