



Grades 7 – 9

The following are some of the examples of where the **Content** of the new curriculum lends itself to incorporating Agriculture into your classroom. These **Content** pieces can be paired with any number of **Curricular Competencies** to create engaging lessons/activities/projects to satisfy course requirements.

Course	Content Connections for Agriculture themes	Activity/Program Suggestions
<p>Science 7</p>	<ul style="list-style-type: none"> • Survival needs – all organisms need space, food, water and access to resources in order to survive • Organisms have evolved over time • Natural selection • First Peoples knowledge of changes in biodiversity over time • Evidence of climate change over geological time and the recent impacts of humans <ul style="list-style-type: none"> ○ The interconnectedness of plants and animals and their local environment ○ Eg. Changes to harvesting dates, changes to schedules due to early/late ripening and runs, lowered water levels in creeks, rivers and lakes, change in humidity impacts the ability to preserve salmon etc. <p>Sample Curricular Elaboration Questions:</p> <ul style="list-style-type: none"> • How do living things change over time and how do these changes affect biodiversity? • How do people and their practices impact Earth and its climate? 	<p>BCAITC Programs</p> <ul style="list-style-type: none"> • Spuds in Tubs <ul style="list-style-type: none"> ○ Simulate climate change on potatoes grown in tubs • Planting a Promise <ul style="list-style-type: none"> ○ Use daffodils to investigate plant growth cycles and survival needs • Harvest Bin <ul style="list-style-type: none"> ○ Use the raised planter beds to start a school garden and facilitate the lessons below • Pencil Patch <ul style="list-style-type: none"> ○ Self-guided stations help students understand various aspects of the garden <p>Lesson Ideas</p> <ul style="list-style-type: none"> • Experiment with how watering affects plants (students choose a variable to change: water, temp, amount, size of drops, time of day, etc) • Experiment with how plants grow when seeds are clustered vs. when they are spaced apart. • Match pollinators with their flowers and discuss co-evolution • Have a guest speaker talk about the agricultural history of the area. • Have students research harvest dates in your area and then create a graph to show the changes over the years.

<p>Science 8</p>	<ul style="list-style-type: none"> • Characteristics of life – living things respire, grow, take in nutrients, produce waste, respond to stimuli and reproduce • Photosynthesis and cellular respiration • The relationship of micro-organisms with living things <ul style="list-style-type: none"> ○ Viruses and bacteria can cause disease and can also be used in industry (eg. Production of cheese and salami) and agriculture (eg. Production of striped tulips) <p>Sample Curricular Elaboration Questions:</p> <ul style="list-style-type: none"> • How do humans and micro-organisms interact? 	<p>BCAITC Programs</p> <ul style="list-style-type: none"> • Spuds in Tubs <ul style="list-style-type: none"> ○ Simulate climate change on potatoes grown in tubs • Planting a Promise <ul style="list-style-type: none"> ○ Use daffodils to investigate the characteristics of life • Harvest Bin <ul style="list-style-type: none"> ○ Use the raised planter beds to start a school garden and facilitate the lessons below • Pencil Patch <ul style="list-style-type: none"> ○ Self-guided stations help students understand various aspects of the garden and how it relates to the characteristics of life <p>Lesson/Activity Ideas</p> <ul style="list-style-type: none"> • Experiment with how watering affects plants (students choose a single variable to change: water temperature, amount, size of drops, time of day etc) • Monitor transpiration of a plant using a plastic bag over a leaf. Test in different locations (ex. Shade vs direct sun). • Experiment with sprouting potatoes – and their response if you place them with apples. Have students extend this to shipping/delivery of fruits and vegetables. • Investigate the properties of soil (measure N, P, K and pH) and how that relates to plant growth • Use the metaphor of a recipe to teach photosynthesis • Have students research the production cycle for a food that uses bacteria (yogurt, cheese, root beer, etc) then have them make that food.
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<p>Science 9</p>	<ul style="list-style-type: none"> • Sexual Reproduction • Asexual reproduction – fission, budding, cloning, spores, grafting • Matter cycles within biotic and abiotic components of ecosystems <ul style="list-style-type: none"> ○ Eg. Water, nitrogen, carbon, phosphorous, etc ○ Human impacts on sources and sinks (eg. Climate change, deforestation, agriculture etc) ○ Bioaccumulation and biomagnification • Sustainability of systems • First Peoples knowledge of interconnectedness and sustainability <p>Sample Curricular Elaboration Questions:</p> <ul style="list-style-type: none"> • How do matter and energy move through ecosystems? • How do First Peoples view the cycling of matter and energy? 	<p>BCAITC Programs</p> <ul style="list-style-type: none"> • Spuds in Tubs <ul style="list-style-type: none"> ○ Simulate climate change on potatoes grown in tubs ○ Use soil from tubs for N, P, K testing • Planting a Promise <ul style="list-style-type: none"> ○ Dissect daffodil bulb ○ Dissect flower • Harvest Bin <ul style="list-style-type: none"> ○ Use the raised planter beds to start a school garden and facilitate the lessons below • Pencil Patch <ul style="list-style-type: none"> ○ Self-guided stations help students understand various aspects of the garden and how it relates to matter cycles and sustainability <p>Lesson/Activity Ideas</p> <ul style="list-style-type: none"> • Have students test a variety of plants to see if they can be grown from cuttings (violets, ivy, geraniums) • Have students read seed packets to help plan and map a garden. • Have students analyze various soil samples (pH, N, P, K) • Have students identify soil deficiencies from various plant pictures. • The Nitrogen Cycle game • Experiment with how watering affects plants (students choose a single variable to change: water temperature, amount, size of drops, time of day etc) • Demo how cover crops can minimize soil erosion using a blow dryer, and watering can to mimic wind and rain. Have students identify what types of agricultural practices can help to minimize soil erosion. • Use an aquaponics system to investigate the nitrogen cycling and its effect on the a system
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