



# McLean County Farm Bureau Foundation

## 2019 Ag Science Grants

Application deadline: January 10, 2019

### Grant Guidelines

#### Ag Science Grant Description

McLean County Farm Bureau® Foundation offers special funding to support educational programs that provide hands-on learning opportunities and instruction related to agricultural science to McLean County youth. Eligible schools:

- Bloomington
- Blue Ridge
- Calvary Christian Academy
- Central Catholic High School
- Cornerstone Christian Academy
- Corpus Christi
- El Paso-Gridley
- Epiphany
- Hammit School
- Heyworth
- Holy Trinity
- ISU Lab Schools
- LeRoy
- Lexington
- McLean County Unit #5
- Olympia
- Prairie Central
- Ridgeview
- St. Mary's
- Trinity Lutheran
- Tri-Valley

*Please note: FFA Chapters are not eligible for an Ag Science Grant, but can apply for the [FFA Matching Grants](#) from McLean County Farm Bureau Foundation*

#### Grant Criteria

1. Grant projects must be directly related to agricultural science:

**Agricultural science** is defined as the application of soil, plant or animal sciences; computer science, mechanics or technology; and chemistry, physics or environmental sciences to the production of food, feed, fuel & fiber.

2. Grant funds must be used for educational purposes. Options include:
  - Ag Science Learning Kits (see attached list for suggested options)
  - Supplemental materials – books, equipment, supplies to go with a learning kit
  - Other ag science learning kit, supplies or materials

#### Grant Recipients

- Grant recipients will be required to complete a grant report with project results by June 1, 2019.
- Upon completion of the grant project please send a & thank you with any pictures or news clippings to:
  - McLean County Farm Bureau Foundation  
2242 Westgate Drive  
Bloomington, IL 61705
- Report, thank yous & pictures may also be submitted electronically to [anna@mcfb.org](mailto:anna@mcfb.org)

# Animal Science

## Lesson Kits

### About Farm Animals



Link:

<https://agclassroomstore.com/about-farm-animals-mini/>

Cost: \$8/kit

Materials for 35 students

Recommended for Grades:

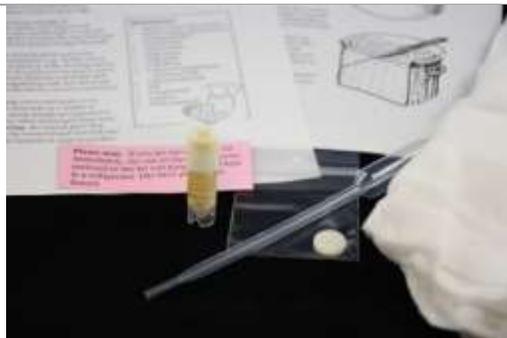
K	1	2					
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This kit contains a one-page coloring and activity sheet for kindergarten and first-grade students, complete with wool, felt, grain and other feed samples for students to paste into place.

# DNA/Biotechnology/Genetics

## Lesson Kits

### Biotech Cheese Kit



Link:

<https://agclassroomstore.com/biotech-cheese/>

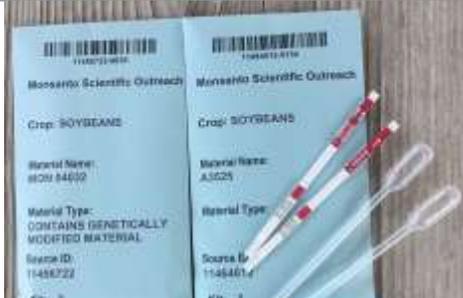
Cost: \$6/kit

Materials for 1 demonstration

Recommended for Grades:

6	7	8	9	10	11	12
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Make cheese in your classroom using the same fast methods as industry! This kit includes the recipe to make cheese, cheesecloth, and two different types of rennet - one from an organic animal source and one from a genetically modified yeast source. **You add water, powdered milk, and buttermilk (not included).**

<p><b><u>GM Soybean Seed Kit</u></b></p> 	<p>Cost: \$17/kit (on sale for \$7)</p> <p>Materials for 1 demonstration or lab group</p> <p>Recommended for Grades:</p> <table border="1" data-bbox="690 325 1458 378"> <tr> <td style="background-color: #c8e6c9;">9</td> <td style="background-color: #c8e6c9;">10</td> <td style="background-color: #c8e6c9;">11</td> <td style="background-color: #c8e6c9;">12</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>This kit includes testing materials to indicate which seed contains the protein responsible for making Roundup Ready® soybeans tolerant to the herbicide glyphosate. The kit includes:</p>	9	10	11	12				
9	10	11	12						
<p>Link: <a href="https://agclassroomstore.com/gm-soybean-seed/">https://agclassroomstore.com/gm-soybean-seed/</a></p>	<ul style="list-style-type: none"> <li>• 20 conventional soybeans</li> <li>• 20 GM "Roundup Ready"® soybeans</li> <li>• 2 QuickStix test strips</li> <li>• 4 weighing boats</li> <li>• 2 transfer pipettes</li> <li>• 2 reaction vials</li> <li>• 2 zip closure bags</li> </ul>								
<p><b><u>GM Leaf Test Kit</u></b></p> 	<p>Cost: \$17/kit (on sale for \$7)</p> <p>Materials for 1 demonstration or lab group</p> <p>Recommended for Grades:</p> <table border="1" data-bbox="690 871 1458 924"> <tr> <td style="background-color: #c8e6c9;">9</td> <td style="background-color: #c8e6c9;">10</td> <td style="background-color: #c8e6c9;">11</td> <td style="background-color: #c8e6c9;">12</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Students will use a leaf sample from both plant varieties to test for the presence of the <i>CP4 EPSPS</i> protein. Testing materials include:</p>	9	10	11	12				
9	10	11	12						
<p>Link: <a href="https://agclassroomstore.com/gm-soybean-seed/">https://agclassroomstore.com/gm-soybean-seed/</a></p>	<ul style="list-style-type: none"> <li>• 20 conventional soybeans</li> <li>• 20 GM "Roundup Ready"® soybeans</li> <li>• 2 QuickStix test strips</li> <li>• 2 stir sticks</li> <li>• 2 transfer pipettes</li> <li>• 2 microcentrifuge tubes</li> <li>• 2 micropestles</li> </ul>								
<p><b><u>Strawberry DNA Necklace</u></b></p> 	<p>Cost: \$40/kit</p> <p>Materials for 100 students</p> <p>Recommended for Grades:</p> <table border="1" data-bbox="690 1417 1458 1470"> <tr> <td style="background-color: #fff9c4;">7</td> <td style="background-color: #fff9c4;">8</td> <td style="background-color: #c8e6c9;">9</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Use this kit to extract strands of DNA from strawberries. Participating in the extraction of DNA will help familiarize students with one aspect of the work biotechnologists do. Strawberries not included. Kit includes:</p>	7	8	9					
7	8	9							
<p>Link: <a href="https://agclassroomstore.com/strawberry-dna-necklace/">https://agclassroomstore.com/strawberry-dna-necklace/</a></p>	<ul style="list-style-type: none"> <li>• 100 microcentrifuge tubes</li> <li>• 100 pieces of yarn</li> <li>• 40 transfer pipettes</li> <li>• Cheesecloth</li> <li>• Beakers &amp; cheesecloth</li> </ul>								

<b>Wheat Germ DNA Necklace</b>	Cost: \$22/kit						
	Materials for 35 students						
	Recommended for Grades:						
	3	4	5				
Link: <a href="https://agclassroomstore.com/wheat-germ-dna-necklace/">https://agclassroomstore.com/wheat-germ-dna-necklace/</a>	Use this kit to extract and observe strands of DNA from wheat germ. Kit includes test tubes, stir sticks, pipettes, microcentrifuge tubes, and yarn. Does not include wheat. Wheat bundles can be purchased for \$5 each: <a href="https://agclassroomstore.com/wheat-bundle/">https://agclassroomstore.com/wheat-bundle/</a>						

## Farm Equipment/Technology

### Lesson Kits

<b>Flybrix Quadcopter Kit</b>	Cost: \$149/kit						
	Materials for 1 quadcopter						
	Recommended for Grades:						
	7	8	9				
Link: <a href="https://flybrix.com/collections/flybrix-kits/products/quad-kit">https://flybrix.com/collections/flybrix-kits/products/quad-kit</a>	Each Quadcopter Kit includes: <ul style="list-style-type: none"> <li>• 1 Quadcopter brick set</li> <li>• 10 Motor arms in three different styles</li> <li>• 4 Quick connect motors</li> <li>• 16 Propellers in two sizes and colors</li> <li>• 1 Propeller wrench</li> <li>• 1 Pre-programmed and hackable flightboard</li> <li>• 1 USB data cord</li> <li>• 2380mAh high current batteries</li> <li>• 1 USB powered battery charger</li> </ul>						

<p><b>Remote Control Machines: Farm</b></p>	Cost: \$87.27						
	Materials to construct 4 types of equipment and 4 implements						
	Recommended for Grades:						
	1	2	3	4	5		
<p>Link: <a href="https://www.amazon.com/Thames-Kosmos-Remote-Control-Machines/dp/B07B7S3KW5">https://www.amazon.com/Thames-Kosmos-Remote-Control-Machines/dp/B07B7S3KW5</a></p>	Gain engineering design experience and learn about physics and simple machines and other scientific concepts related to farming.						
	<p>Manual: <a href="https://www.thamesandkosmos.com/manuals/full/620381_RCM%20Farm%20Manual%20Inside.pdf">https://www.thamesandkosmos.com/manuals/full/620381_RCM%20Farm%20Manual%20Inside.pdf</a></p>						

## Plants/Gardening/Soils

### Lesson Kits

<p><b>Grains &amp; Legumes of the World Kit</b></p>	Cost: \$10/kit						
	Materials for 40 students (working in groups of 4)						
	Recommended for Grades:						
	4	5	6	7	8	9	
<p>Link: <a href="https://agclassroomstore.com/grains-and-legumes-of-the-world/">https://agclassroomstore.com/grains-and-legumes-of-the-world/</a></p>	<p>This hands-on activity explores grains and legumes common in global agricultural production—barley, dent corn, popcorn, oats, rice, wheat, soybeans, lentils, and pinto beans. Students create their own journals that include important facts, descriptions, and samples of the seeds of these crops. Contains seed samples and grains and legumes information cards.</p>						

<p><b><u>Rapitest Soil Test Kit</u></b></p> 	<p>Cost: \$24.75</p> <p>Materials for 40 tests - 10 tests each for pH, nitrogen, phosphorus, and potash</p> <p>Recommended for Grades:</p> <table border="1" data-bbox="695 338 1382 390"> <tr> <td style="background-color: #d9ead3;">4</td> <td style="background-color: #d9ead3;">5</td> <td style="background-color: #d9ead3;">6</td> <td style="background-color: #d9ead3;">7</td> <td style="background-color: #d9ead3;">8</td> <td></td> <td></td> <td></td> </tr> </table> <p>Soil testing in 3 easy steps. Just mix soil with water, pour liquid into comparator, and add contents of capsule to instantly compare color for test reading.</p>	4	5	6	7	8			
4	5	6	7	8					
<p>Link:  <a href="https://www.carolina.com/environmental-science-soil-studies/rapitest-soil-test-kit/665404.pr?question=">https://www.carolina.com/environmental-science-soil-studies/rapitest-soil-test-kit/665404.pr?question=</a></p>									
<p><b><u>Serious Cereal Science Kit</u></b></p> 	<p>Cost: \$50/kit</p> <p>Materials for 40 students (working in groups of 4)</p> <p>Recommended for Grades:</p> <table border="1" data-bbox="695 909 1382 961"> <tr> <td style="background-color: #d9ead3;">6</td> <td style="background-color: #d9ead3;">7</td> <td style="background-color: #d9ead3;">8</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>The <u>Serious Cereal Science Kit</u> includes seed samples and laminated worksheets.</p> <p>Samples of corn, wheat, rice, and quinoa seeds.</p>	6	7	8					
6	7	8							
<p>Link:  <a href="https://agclassroomstore.com/serious-cereal-science/">https://agclassroomstore.com/serious-cereal-science/</a></p>									
<p><b><u>Wisconsin Fast Plants Kit</u></b></p> 	<p>Cost: \$83.50/kit</p> <p>Materials for 32 students</p> <p>Recommended for Grades:</p> <table border="1" data-bbox="695 1493 1382 1545"> <tr> <td style="background-color: #d9ead3;">6</td> <td style="background-color: #d9ead3;">7</td> <td style="background-color: #d9ead3;">8</td> <td style="background-color: #d9ead3;">9</td> <td style="background-color: #d9ead3;">10</td> <td style="background-color: #d9ead3;">11</td> <td style="background-color: #d9ead3;">12</td> <td></td> </tr> </table> <p>Make growth, development, and reproduction real for students with this Fast Plants® kit. Studies include measuring and quantifying germination, pollination, and seed development. Experiment times vary (3 to 40 days).</p> <ul style="list-style-type: none"> <li>▪ Super-fast generation cycle of 35 to 40 days</li> <li>▪ Virtually maintenance-free</li> <li>▪ Cross-discipline applications</li> </ul> <p>Be sure to check the list of what's included</p>	6	7	8	9	10	11	12	
6	7	8	9	10	11	12			
<p>Link:  <a href="https://www.carolina.com/wisconsin-fast-plants-life-cycle-growth-and-development/wisconsin-fast-plants-growth-development-and-reproduction-classroom-kit/158702.pr?question=">https://www.carolina.com/wisconsin-fast-plants-life-cycle-growth-and-development/wisconsin-fast-plants-growth-development-and-reproduction-classroom-kit/158702.pr?question=</a></p>									

# Renewable Energy

## Lesson Kits

<b><u>Ethanol Biofuel Kit</u></b>	Cost: \$130/kit							
	Materials for 32 students (8 groups of 4)							
	Recommended for Grades:							
	9	10	11	12				
Link: <a href="https://www.carolina.com/carolina-ecokits/carolina-ecokits-ethanol-biofuel/FAM_187216.pr">https://www.carolina.com/carolina-ecokits/carolina-ecokits-ethanol-biofuel/FAM_187216.pr</a>	<ul style="list-style-type: none"> <li>▪ Learn about alcohol fermentation and the role of enzymes</li> <li>▪ Investigate the ethanol production process with enzymatic digestion</li> <li>▪ Use scientific methodology to compare yeast fermentation of different concentrations</li> </ul> Be sure to check the list of what's included							