McLean County Farm Bureau Foundation

2020 Ag Science Grants

Application deadline: January 22, 2020

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, 2020.
- 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

2020 Recommended Lesson Kits for Ag Science Grants
Application will be available at www.mcfb.org/foundation

Animal Science

Lesson Kits

About Farm Animals

Link: https://agclassroomstore.com/about-farm-animals-mini/

Cost: $10/kit

Materials for 35 students

Recommended for Grades:

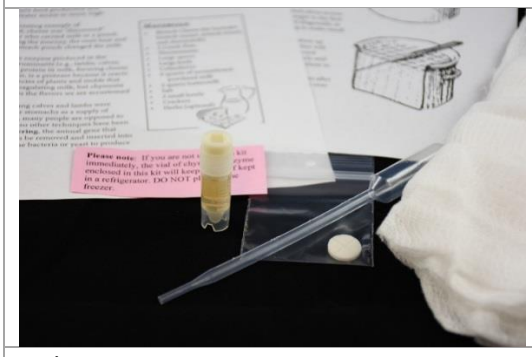
K	1	2					

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	

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)**.

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Food Evolution DVD

Cost: $95 (educational license)

Copy of the DVD

Recommended for Grades:

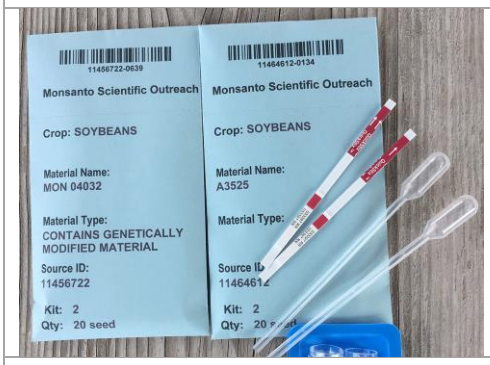
7	8	9	10	11	12		

F OOD EVOLUTION takes a look at the controversy surrounding GMOs. Academy Award® nominated director Scott Hamilton Kennedy explores the issue from Hawaiian papaya groves to Ugandan banana farms to cornfields in Iowa.
Educational Guide:
https://www.foodevolutionmovie.com/wp-content/uploads/2019/01/FoodEvolution_EducationalGuide_Excerpts.pdf

Link:
https://www.foodevolutionmovie.com

GM Soybean Seed Kit

Cost: $17/kit (on sale for $7)



Materials for 1 demonstration or lab group

Recommended for Grades:

9	10	11	12				

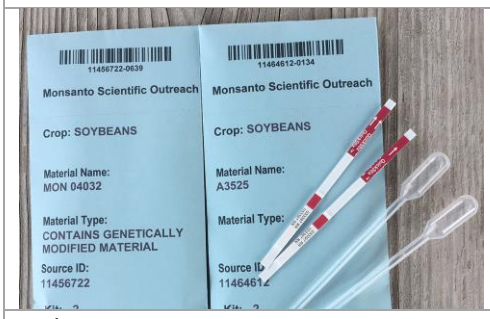
This kit includes testing materials to indicate which seed contains the protein responsible for making Roundup Ready® soybeans tolerant to the herbicide glyphosate. The kit includes:

- 20 conventional soybeans
- 20 GM "Roundup Ready"® soybeans
- 2 QuickStix test strips
- 4 weighing boats
- 2 transfer pipettes
- 2 reaction vials
- 2 zip closure bags

Link:
https://agclassroomstore.com/gm-soybean-seed/

GM Leaf Test Kit

Cost: $17/kit (on sale for $7)



Materials for 1 demonstration or lab group

Recommended for Grades:

9	10	11	12				

Students will use a leaf sample from both plant varieties to test for the presence of the *CP4 EPSPS* protein.
Testing materials include:

- 20 conventional soybeans
- 20 GM "Roundup Ready"® soybeans
- 2 QuickStix test strips
- 2 stir sticks
- 2 transfer pipettes
- 2 microcentrifuge tubes
- 2 micropestles

Link:
https://agclassroomstore.com/gm-soybean-seed/

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Strawberry DNA Necklace

Cost: $40/kit

Materials for 100 students

Recommended for Grades:

7	**8**	**9**					

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:

- 100 microcentrifuge tubes
- 100 pieces of yarn
- 40 transfer pipettes
- Cheesecloth
- Beakers & cheesecloth

Link: https://agclassroomstore.com/strawberry-dna-necklace/

Wheat Germ DNA Necklace

Cost: $22/kit

Materials for 35 students

Recommended for Grades:

3	**4**	**5**					

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: https://agclassroomstore.com/wheat-bundle/

Link: https://agclassroomstore.com/wheat-germ-dna-necklace/

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Farm Equipment/Technology

Lesson Kits

Flybrix Quadcopter Kit

Cost: $149/kit

Materials for 1 quadcopter

Recommended for Grades:

7	8	9					

Each Quadcopter Kit includes:

- 1 Quadcopter brick set
- 10 Motor arms in three different styles
- 4 Quick connect motors
- 16 Propellers in two sizes and colors
- 1 Propeller wrench
- 1 Pre-programmed and hackable flightboard
- 1 USB data cord
- 2380mAh high current batteries
- 1 USB powered battery charger

Link:
https://flybrix.com/collections/flybrix-kits/products/quad-kit

Remote Control Machines: Farm

Cost: $87.27

Materials to construct 4 types of equipment and 4 implements

Recommended for Grades:

5	6	7	8				

PLEASE NOTE: Teachers who ordered this kit last year found it to be challenging/harder than it looks. Some partnered with high school ag students for help in assembling the machines.

Gain engineering design experience and learn about physics and simple machines and other scientific concepts related to farming.

Link:
https://www.amazon.com/Thames-Kosmos-Remote-Control-Machines/dp/B07B7S3KW5

Manual:
https://www.thamesandkosmos.com/manuals/full/620381_RCM%20Farm%20Manual%20Inside.pdf

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Plants/Gardening/Soils

Lesson Kits

Desktop Greenhouses

Cost: $40/kit

Materials for 36 students (working in groups of 2)

Recommended for Grades:

3	**4**	**5**					

Do plants need light? Students will investigate the importance of light to plants by creating desktop greenhouses.

Kit includes clear plastic cups with lids, black plastic cups, black electrical tape, black card stock, Jiffy 7 peat pellets, alfalfa seeds, white 5mm LED lights, 3-volt coin cell batteries

Link:
https://agclassroomstore.com/desktop-greenhouses/

Grains & Legumes of the World Kit

Cost: $10/kit

Materials for 40 students (working in groups of 4)

Recommended for Grades:

4	**5**	**6**	**7**	**8**	**9**		

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.

Link:
https://agclassroomstore.com/grains-and-legumes-of-the-world/

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Rapitest Soil Test Kit

Cost: $24.75

Materials for 40 tests - 10 tests each for pH, nitrogen, phosphorus, and potash

Recommended for Grades:

4	**5**	**6**	**7**	**8**			

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.

Link:
https://www.carolina.com/environmental-science-soil-studies/rapitest-soil-test-kit/665404.pr?question=

Serious Cereal Science Kit

Cost: $50/kit

Materials for 40 students (working in groups of 4)

Recommended for Grades:

6	**7**	**8**					

The Serious Cereal Science Kit includes seed samples and laminated worksheets.

Samples of corn, wheat, rice, and quinoa seeds.

Link:
https://agclassroomstore.com/serious-cereal-science/

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Soil Science Kit

Cost: $180/kit

Materials for classroom of 30

Recommended for Grades:

4	**5**	**6**					

A comprehensive introduction to soil! Students will gain a thorough understanding of soil formation, soil composition, and soil chemistry, as well as how soil factors into plant growth and ecosystems.

Link:
https://www.enasco.com/p/Nasco-Elementary-Soil-Classroom-Kit%2BSB48134

Wisconsin Fast Plants Kit

Cost: $83.50/kit

Materials for 32 students

Recommended for Grades:

6	**7**	**8**	**9**	**10**	**11**	**12**

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).

- Super-fast generation cycle of 35 to 40 days
- Virtually maintenance-free
- Cross-discipline applications

Be sure to check the list of what's included

Link:
https://www.carolina.com/wisconson-fast-plants-life-cycle-growth-and-development/wisconsin-fast-plants-growth-development-and-reproduction-classroom-kit/158702.pr?question=

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Renewable Energy

Lesson Kits

Ethanol Biofuel Kit

Cost: $130/kit

Materials for 32 students (8 groups of 4)

Recommended for Grades:

9	10	11	12				

- Learn about alcohol fermentation and the role of enzymes
- Investigate the ethanol production process with enzymatic digestion
- Use scientific methodology to compare yeast fermentation of different concentrations

Be sure to check the list of what's included

Link:
https://www.carolina.com/carolina-ecokits/carolina-ecokits-ethanol-biofuel/FAM_187216.pr