



Agricultural Stewardship

Students will learn how farmers care for the resources for which they are responsible.

Note: The specific indicators will be determined to some extent by the particular classroom guest and/or particular farm visit undertaken. The following indicate likely outcomes and indicators.

Outcomes:

RW 4.1 Analyze the strategies Saskatchewan people have developed to meet the challenges presented by the natural environment.

RW 4.2 Investigate the importance of agriculture to the economy and culture of Saskatchewan.

RW 4.3 Assess the impact of Saskatchewan resources and technological innovations on the provincial, national, and global community.

Indicators:

RW4.1 f. Investigate the technological evolution of farming practices in Saskatchewan, including crop variety development, pesticide and herbicide use, and soil and water conservation. List the challenges and opportunities climate presents for residents of Saskatchewan.

RW4.1g. Research past and present technologies used to withstand the Saskatchewan climate.

RW4.2 b. Research production practices of various types of crop and livestock farms.

RW4.2 c. Identify various farm stewardship practices (e.g., how farmers care for the land, animals, water supply, natural vegetation, and air quality).

RW4.2 e. Identify agricultural products used in daily life in Saskatchewan.

RW4.2 f. Trace the steps of a food product from the farm to the plates of consumers, and identify the various careers that contribute to this process in the agriculture and food processing industries.

RW4.2 g. Analyze the significance of Saskatchewan agricultural commodity exports to the province.

RW 4.3.c Identify the natural resources and industries found in the local community, and analyze their impact upon the community.

RW4.3 f. Examine the environmental impact of the development of natural resources on the local community, the province, and the world.



About two
45 minute
classes over
two days

MATERIALS NEEDED:

- * chart paper
- * art supplies
- * Handout 18.1 &
18.2



Questions to Guide Inquiry:

1. How do Saskatchewan farmers care for their land and livestock?
2. Why is it important for farmers to practice good stewardship?
3. How have farming practices changed?
4. Why have farming practices changed?

Teacher Background

If possible, arrange for an area farmer, rancher, agronomist, or research scientist to visit the classroom OR arrange for a visit to a local farm, ranch, or research facility. Share and discuss the outcomes and indicators of the lesson with the guest/facility indicating that agricultural stewardship is the focus.

As farmers with families whose livelihood and way of life are very close to the land, farmers understand the importance of healthy soil, water, and air. They and their families depend on the environment to create a healthy place to live as well as the right conditions to grow crops and raise livestock. Through farm groups, they invest in environmental research and help develop programs to communicate the latest findings to members. In all provinces across Canada a voluntary program called the Environmental Farm Plan is helping farmers review their operations for environmental concerns and set goals and timelines for improvements. Saskatchewan is committed to the careful and responsible management of the natural habitat. Environmental farm planning goes hand in hand with good farm management, and will help enhance Saskatchewan's reputation for safe and environmentally sustainable food production. (Adapted from the Saskatchewan website: www.agriculture.gov.sk.ca)

See <http://olc.spsd.sk.ca/de/pd/instr/strats/kwl/index.html> for information on the KWL strategy.

See www.teachervision.fen.com/skill-builder/problem-solving/48546.html for information on the Think Aloud strategy.



Before Activity

Engage students by having them create the magic square from the Agriculture in the Classroom website. This square poses four questions:

1. What do you call a field that has been cultivated and not seeded?
2. Why do farmers put manure on their fields?
3. Which grains produce ethanol gas and bio-diesel?
4. Why would a farmer plant a row of trees in the middle of a field?

The answers are all provided inside the square. Indicate to students that these are topics that your guest speaker will know more about. If the class is going on a trip to a local farm instead of having a guest into the classroom, then indicate these are topics they can explore during their visit.

See Handout 18.1, the Magic Square.

During Activity

Continue your discussion of stewardship branching into stewardship on the farm. Ask students to consider why farmers need to be stewards of their land and livestock. Ask them to suggest what good stewardship farmers might practise on their farms and ranches. Gather ideas on the board possibly starting with the ones from the Magic Square. Some others might be: composting, controlling invasive weeds, livestock management and health, and water pollution.

Use the K-W-L instructional strategy (see Handout 18.2). Students record some examples of farming stewardship that have been previously discovered by the class and record them in the “What I Think I Know” column. Invite students to generate questions they have about farm stewardship prior to the in-class visit or field trip in the “Want to Know” column. Model some possible questions that might be posed.

Students will learn more about local agriculture through a classroom visit by an area farmer, agronomist, or research scientist (or a class field trip to see a local farming operation).

After the in-class visit or field trip, have students independently fill in the right hand column about what they learned from their experience. Students submit the KWL.

After Activity

Activity One

Students will sit in a circle for a Think Aloud. Each student will respond to any one of the following stems as an object (something associated with the topic) is passed clockwise around the circle.

- 🗣️ I think the most important thing I learned was that....
- 🗣️ I did not know before that...
- 🗣️ I wonder why....
- 🗣️ It was interesting because....
- 🗣️ I thought that....

A nation that destroys its soils destroys itself.



Activity Two

Students will generate an illustrated thank you letter on chart paper for the guest speaker/tour guide.

Assessment

Teacher Checklist

- ✓ Did student appear to understand the information contained in the Magic Square?
- ✓ Could student contribute meaningfully to the initial discussion on farm stewardship?
- ✓ Could student recall information for the “What I Know” column?
- ✓ Did student generate meaningful questions for the “Want to Know” column?
- ✓ Could student express knowledge and understanding in the Think Aloud?

Lesson Resources

This site discusses a U.S. initiative to deal with hunger issues. www.agweb.com/farmersfeedingtheworld/stewardship_in_action.aspx

The Millenium Promise is an NGO dedicated to supporting the achievement of the Millennium Development Goals to halve extreme poverty by 2015. www.millenniumpromise.org

Cross Curricular Connections

ELA

Students are writing and representing with a specific audience, purpose, and situation in mind.

Science

This lesson also addresses the following Science outcome: HC4.3. Assess the effects of natural and human activities on habitats and communities, and propose actions to maintain or restore habitats



Further Investigation

Arrange a visit to the Saskatchewan Science Centre's, Richardson Ag-grow-land. Details at www.sasksciencecentre.com/

Visit the University of Saskatchewan: AgBio Discovery Program. For more information contact: <http://agbio.usask.ca/index.php?page=agbio-discovery-camps>

Individual students collect recent articles and pictures dealing with local agricultural issues. (Articles may need to be collected and distributed to students). Small groups of students pool their resources and examine the clippings. Are there common themes appearing? Which show the idea of good stewardship the best? Are there any that trouble the group? Each group will share some of its observations with the rest of the class.

Investigate one or two of the following sites with your students:

-  For information on animal care issues visit www.facs.sk.ca/
-  This site contains links to many aspects of agricultural stewardship in Saskatchewan. www.agriculture.gov.sk.ca



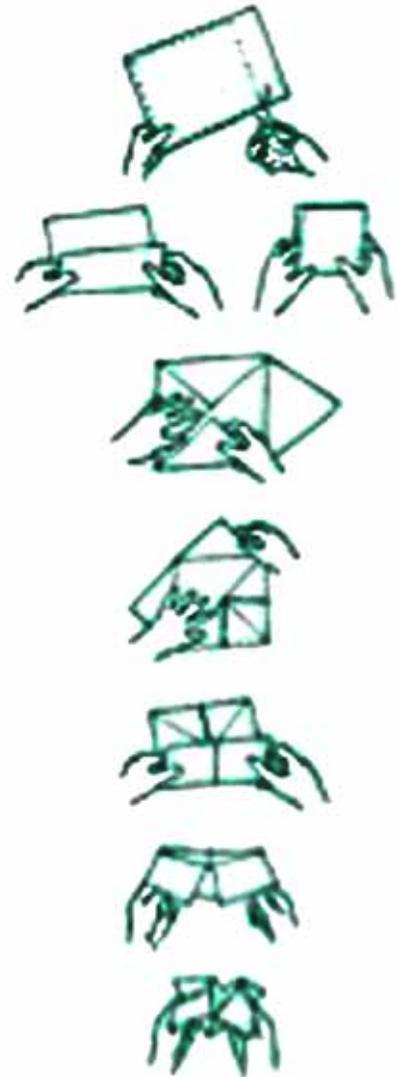
Paper Folding Activity

Instructions

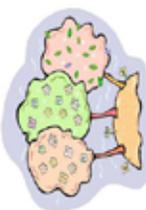
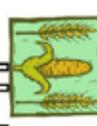
1. Cut along dotted line of square.
2. With picture facing upwards, fold paper in half twice.
3. Unfold, flip over, fold four corners towards the middle.
4. Flip again and fold the corners again towards the middle.
5. Fold in half and slide both of your index fingers and thumbs under each of the four outer flaps.
6. Pinch your fingers together and push the top corners of the flaps toward the centre.

To Play

Answer one of the questions on the top flaps—there are four possible answers inside. Lift the flap and learn more.





<p>Renewable Fuel Which grains produce ethanol and bio-diesel gas?</p>  <p>belt</p>	<p>Summer-fallow</p>  <p>Soil</p> <p>With advancements in technology, farmers often do not practice summer-fallowing as it could lead to soil erosion. Erosion and drought could be disastrous to a farm.</p>	<p>Trees Why would a farmer plant a row of trees in the middle of a field?</p>  <p>Canola &</p>
<p>Trees</p>  <p>Trees prevent soil erosion, hold moisture, create oxygen, and shelter a farm and open fields from wind.</p>	<p>Renewable Fuels Ethanol (Wheat) and Bio-Diesel (Canola) are environmentally friendly fuels. When blended with gas they reduce harmful emissions by 30%.</p> 	<p>Manure</p> 
<p>Manure Why do farmers put manure on their fields?</p>  <p>Shelter-</p> <p>lizer</p>	<p>Manure</p>  <p>Manure adds nutrients to the soil. Plants grow healthy and strong when manure is used as fertilizer. It is also an organic or natural way to fertilize crops.</p>	<p>Wheat</p>  <p>Ferti</p> <p>Soil What do you call a field that has been cultivated and left unseeded?</p>



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K What I think I KNOW	W What I WANT to learn	L What I have LEARNED