Iowa in a Pocket Lesson Plan

Submitted by: Iowa Farm Bureau Federation
2010-11 Ag in the Classroom Advisory Committee

Grade Level: K-2 - may also be adapted for preschool or older students

Objectives:

- The students will sort pictures by classifying various attributes.
- The students will identify objects as living and non-living.
- The students will identify the basic needs of both plants and animals.

Overview:

In this lesson, students will identify attributes of living and non-living. They will also look at what needs are different in that of plants and animals. As a culminating activity, the student will sort pictures into living and non-living groups. They will then sort the living pictures into plants and animals. The students will make two crafts in which a wheel will display various animals in a barn, as well as various plants and seeds in a grain bin. Depending on the familiarity of the material and student comprehension, Days 1, 2, 3, and 4 may need additional reinforcement of concepts. For older or higher achieving students, enrichment activities are included.

Materials:

Each student is to receive the following on Day 5

- Iowa map template
- 8x11” sheet of plain white paper or construction paper
- Barn & Wheel template
- Grain Bin & Wheel template
- Sheet 1 for Day 5 (pictures of plants, animals and various non-living items)
- Two brads
- Scissors
- Glue

Optional Enrichment activities: Sheet 2 and Sheet 3

Optional Lessons: Shortcut – appropriate for preschool
- Barn Color Sheet
- Grain Bin Color Sheet
- Barn & Grain Bin - Optional Wheels
Procedure:

Day 1

- The teacher will guide the students in making a class word web of living things.
- The class will discuss the characteristics of the words on the board that identify them as living things.
  - The teacher is to record all valid student answers. The class will then look at all the answers and with the teacher’s guidance, re-make a list that has teacher-desired attributes (living things grow, they change, they need food/nutrients and they need water...)
- As a class, the students will then sort on the board the living and non-living pictures. The teacher will have various pictures of both classifications. One student at a time will choose one picture to sort. As the child sorts the picture, he or she will tell the class why he or she believes it belongs in the chosen category. The teacher will reinforce desired attributes at this time.

Day 2

- The teacher and the students will make a list of what they think humans need to survive. The class will look at each item and decide if they could live without the item. If they decide they can, the teacher will cross the item out. Looking at the same list, the students will think about if their pets would need the same things as humans (they should).
- The students will then watch the “The Needs of An Animal” video on the following website to reinforce the needs of animals. http://www.youtube.com/watch?v=j2fRMhYP5n8&feature=related
  The class will look at their list to see what changes they need to make or celebrate their answers themselves.
- Each child will then choose an animal and draw a picture of that animal, making sure the four needs are represented in the picture (food, shelter, water and air). Air may be demonstrated in showing wind, or not at all, depending on the teacher’s decision.

Day 3

- The class will begin by reviewing what an animal needs to survive. The teacher will record the four needs on the board. The teacher will then ask the students to think about plants and what they need to grow. Is there anything we need that plants also need?
- The teacher will record all valid answers of the students. When the teacher believes there are enough examples, or the students run out of ideas, the class will look at all ideas and decide which are truly necessary. The teacher will cross out those that are not necessary.
- The class will then look at several pictures of plants. As a class they will identify how each need is being fulfilled for the plant.
- The class will then watch the online video, “Plants Need Water Man,” on the website below. The teacher will explain how the plant looks dead. The teacher will stop the
video halfway through and have the students look at what need they do not see represented (water). The teacher will give the students time to identify the other needs in the video and the one left out. The teacher will not give the students the answer, but allow the students to continue watching the video.
http://www.youtube.com/watch?v=xEp_OoF4dY

- At the conclusion of the video, the class will revisit what needs the plant originally had and what need the plant was missing. The class will discuss what happens when a plant does not have all five needs.
- **Optional activity**- The teacher may decide to plant several lima beans to show how each plant need is essential. The class will plant five beans. One will be given all the needs of a plant, while the others will each be denied one need. One will be placed in a closet so it does not have sunlight. One will be placed in a cup without soil. One will be sealed in a baggy so as not to have air. One will be planted in a pre-existing flowerpot that is full (so the bean will not have space to grow). One will never be watered. The students will observe how each need truly is necessary to the plant’s survival.

**Day 4**

- The teacher and the students together will identify the basic needs of animals and then plants. The class will together create a Venn Diagram comparing and contrasting the needs of plants and animals. The teacher may decide to have the students follow along with their own Venn Diagram, or complete one of their own as extra practice once the class has completed one together.

**Day 5**

- The teacher will review with the students the differences between living and non-living. The teacher will also briefly review the needs of both plants and animals. All of these items should be recorded on the board and left for the students’ reference.
- The teacher will distribute the Iowa Map template for the students to cut out and make their pockets. Pockets are made by gluing or stapling the Iowa Map template to the white 8x11” piece of paper or construction paper on three sides leaving the top open. The pocket is now done. The teacher will also hand out the **barn**, **bin**, and **wheel** (circle) templates for the students to cut out. Cut out barn and bin along dotted lines. Cut the door for each along dotted lines and fold the flap up (according to the example already completed by the teacher). Each student should write his or her name on each item.
- The teacher will hand out sheet 1 (pictures of plants, animals and various non-living items). The students are to cut out each picture rectangle and then sort the animals into living and non-living pictures.
- Glue the non-living images onto the outside of the Iowa pocket.
- The pictures of the living things are to remain out. At this time the teacher may decide, based on the academic level of the students, to go over each item and identify each as living or non-living as well as discuss why.
- The students are to write the needs of animals on the back of the barn and the needs of plants on the back of the grain bin.
• The students will then sort their living pictures into groups of plants and animals.
• When all images have been sorted, the student should glue 4 pictures on the appropriate wheel with each picture fitting into the rectangle on the wheel, facing out when lifting the door flap. There will be 3 extra pictures for the barn. Students can choose which 4 go in the barn and which 3 are glued on the front of the barn. Now the wheels should be attached by pushing the brad through the dot above the door on the barn and then through the dot in the middle of the wheel. The same process is to be used on the grain bin. Once completed, the wheel will turn showing each image that appropriately belongs in either the grain bin or barn.
• The barn and grain bin can then be placed inside the Iowa pocket to take home.
• **Optional/Shortcut Activity:** Based upon the age and skill level of the students, the teacher may opt to use the coloring templates of the barn and grain bin. Wheel templates have been prepared for the color sheets with the animals and the grain items already printed on them. You can still make the wheel with the brad but this will omit the cutting and gluing.

**Pre and Post Bulletin Board Activities:**

**STATIONARY**

Put a picture of the large barn and grain bin on the bulletin board. You could use the one from the flash drive or find another. The pictures of the Iowa products can be arranged around these two buildings. The pictures should be the ones that are going to be used in the lesson. Again you could use the ones on the flash drive or have the students cut pictures from magazines that show Iowa products to use on the display.

**INTERACTIVE**

Use the same large barn and grain bin. This time the pictures can be placed where the students can reach them (along the bottom of the bulletin board works best for this). As the discussion flows, let the students put each picture in the correct building. Another way to use it would be to let the students rearrange the pictures and then one at a time the pictures are organized according to the information the students have learned.

**Enrichment activities:**

For older or higher-achieving students, Sheet 2 may be given out. This will require the students to decide which plants belong in the grain bin and which animals belong in the barn. For example the deer does not belong in a barn and a tree does not belong in a grain bin.

Another idea for older students is to find by-products from each of the plants or animals. See Sheet 3 for examples.
Related Books:

**All Kinds of Farms** (Book - Grades K-2) *Young readers will learn about different types of farms and what they grow.* © 2004 (Capstone Press)

**Cows Have Calves** (Book - Grades K-3) *Young researchers can learn about farm animals’ life cycles.* © 2000 (Compass Point Books)

**Harvest Time** (Book - Grades 1-2) *Young readers will learn how different crops are harvested.* © 2002 (Compass Point Books)

**Iowa** (Book - Grades K-2) *Introduce your young readers to Iowa. Learn basic geographic facts along the way.* © 2004 (Scholastic Inc.)

Related Websites:

Explains the needs of animals. You may want to check it out.

http://www.bbc.co.uk/schools/scienceclips/ages/6_7/plants_animals_env.shtml
This site talks about the plants and animals in the local environment. It allows students to interact by choosing and sorting which reinforces memory skills. A must check out site. Be sure to check out the older sites as well; that reinforce knowledge of food chains, health and growth, helping plants grow and life cycles.

Iowa Educational Resource Guide has a wide variety of materials for teachers. Check out this site.

www.agclassroom.org/kids/stats/iowa.pdf

Other Teacher Resources:

The following information was taken from the 2009 Agricultural Statistics, published in August 2009, so it is from the 2008 statistical year. This all pertains to:

**Iowa Crops:** corn for grain ranks 1st, corn for silage ranks 8th, oats rank 6th, soybeans rank 1st, oats rank 7th, alfalfa hay ranks 9th, total acres of principal crops harvested (corn, oats, sorghum, barley, wheat, rice, rye, soybeans, flaxseed, peanuts, sunflowers, cotton, all hay, dry beans, potatoes, sweet potatoes, tobacco, sugarcane and sugar beets) Iowa ranks 1st.


This unit can be adapted to any state. Be creative and have fun!

Assessment:

The teacher will look at the barn and grain bin wheel to see that the student has placed the animals in the barn, and plants in the grain bin, as well as having written the appropriate needs on the grain bin and barn. The teacher will check to make sure all non-living items were glued to the Iowa pocket.
<table>
<thead>
<tr>
<th>turkey</th>
<th>bed</th>
<th>corn</th>
<th>computer</th>
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<tbody>
<tr>
<td>television</td>
<td>wheat</td>
<td>chicken</td>
<td>cell phone</td>
</tr>
<tr>
<td>oats</td>
<td>cow</td>
<td>toothbrush</td>
<td>goat</td>
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<tr>
<td>desk</td>
<td>pig</td>
<td>horse</td>
<td>house</td>
</tr>
<tr>
<td>soybeans</td>
<td>pencil</td>
<td>sheep</td>
<td>tractor</td>
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Barn Instructions

Cut barn along dotted line and then cut both lines on either side of the door. Lift door to top line.

Cut the wheel around the solid line.

With barn on top of the wheel, line up dot on barn with dot on wheel and insert brad through both dots.

Glue one object in each triangle.
Cut grain bin along dotted line and then cut both lines on either side of the door. Lift door to top line.

Cut the wheel around the solid line.

With grain bin on top of the wheel, line up dot on barn with dot on wheel and insert brad through both dots.

Glue one object in each square.