

TEACHER MATERIALS - Blueberries

CONCEPTS:

Math, Science, and Technology
-Standard 4.6- Living Environment

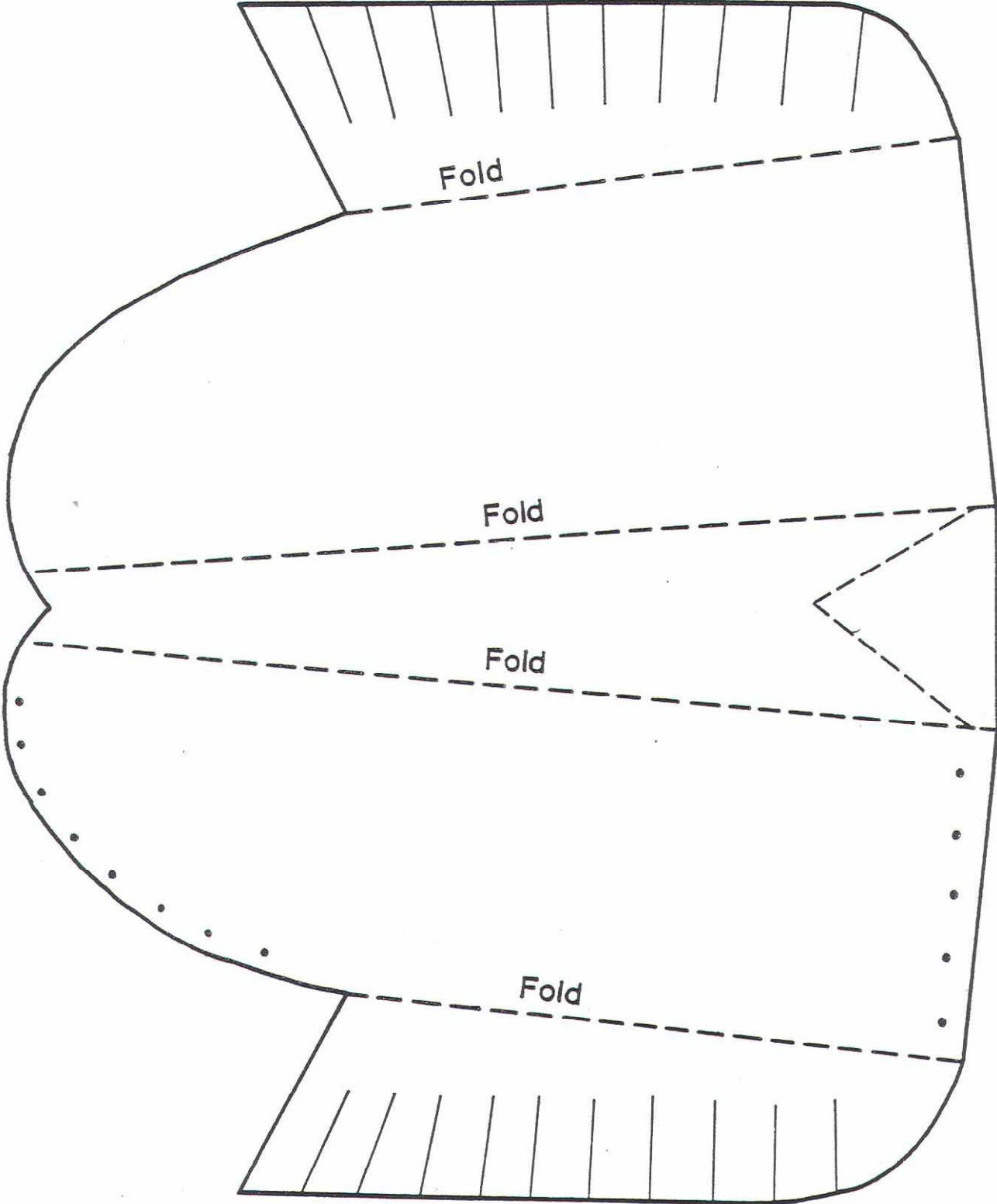
ELA
-Standard 1.1- Listening and Reading
Career Development

-Standard 3a.1- Basic Skills



- OBJECTIVES:**
1. By completing the blueberry maze activities, students will begin to understand the many factors that affect the production of small fruits.
 2. Students will be able to describe what affects a blueberry crop.
 3. Students will be able to understand some of the life cycle of the blueberry and our control of it to produce

Moccasin Pattern



Cut on lines

Moccasins

MATERIALS: 2 copies of the Moccasin patterns for each student --
made on brown construction paper to resemble
leather (deer hide)
yarn or string
hole punch or pencil
scissors

ACTIVITIES: Have the students:

1. Cut out the moccasins on the dark solid lines.
2. Fold moccasins on lines.
3. Punch holes where dots are.
4. Use yarn or string to lace up (sew) the moccasins.
5. Have the students decorate the moccasins if desired.
6. Have the students put on their moccasins to role play Indians.
7. Read the story "Wild Blueberries" and have the students pretend to be Indians looking for blueberries and be startled when they see the bear, freeze, then sneak away.

5. Mix completely.
6. Taste it. How do the students like it? Could they survive with this as their only food?

like the Indians did in dry weather. A food dehydrator is, of course, the shortest alternative. The Junior High or Senior High School Home and Career Skills teacher may have one available. The last alternative is an oven -- on warm (200°F or less). Purchasing other dried fruits such as raisins is also acceptable but will not give the students the total picture of food preparation for Native Americans.

3. **Dried meat** - Dried meat can also be prepared by air drying or drying in a food dehydrator or dried beef can be purchased. If it is salted, follow directions to soak it in hot water, rinse and redry to remove the salt.

INSTRUCTIONS:

- 1a. Heat the suet over a medium heat to melt it. Render out the fat.
 - b. Drain off the melted grease.
 - c. Discard the fat chunks.
 - d. Measure out 1/2 cup of melted suet.
- 2a. Using two hard, strong stones (make sure they don't crumble) or food grinder/blender/processor, chop and grind the dried beef into tiny particles.
 - b. Have the students work over cloth or paper towels if they are using stones to save all particles until you have one cup.
3. Do likewise with the dried fruit until you have one cup.
4. Pour the melted suet over one cup chopped/ground dried meat and one cup chopped/ground dried blueberries (more or less can be used as needed).

Pemmican

True Indian Method

MATERIALS: 1/2 cup melted beef suet
2 cups chopped dried blueberries
2 cups dried meat
clean, strong stones
1 round
1 flat
paper towels
pan
bowl
utensils to mix

The Easy Way

1/2 cup melted beef suet
1 cup raisins
1 cup beef jerky
handgrinder/blender/
food processor
pan
bowl

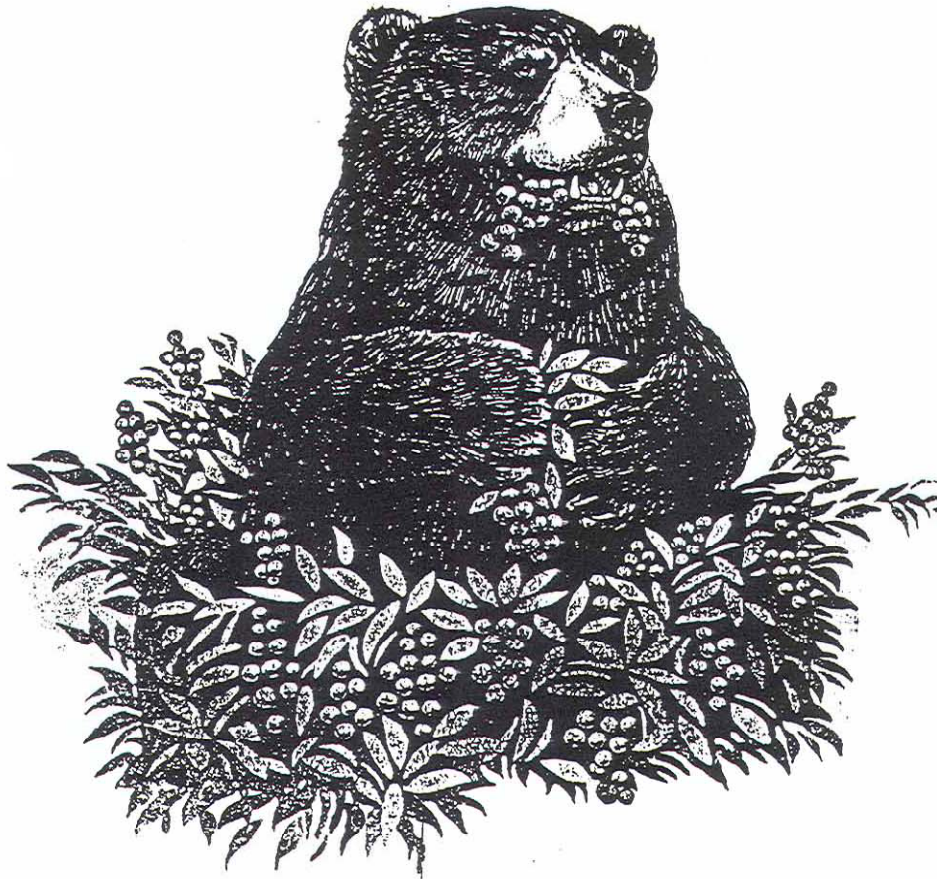
BACKGROUND: Pemmican was a food staple in the Indian diet. It was stored and used as food during hungry times or used as a travel food. Pemmican was made in quantity then stored in containers (usually closely woven baskets or leather bags) for long periods of time or transportation. The Indians would have used all sorts of meat and animal fat.

HOW AND WHERE TO GET INGREDIENTS:

1. **Beef suet** - beef suet is a particular type of fat which can be purchased in butcher shops or grocery meat counters. It is most readily found during winter when it is purchased to feed birds. You may need to request that it be saved (in advance) for your use. Grocery stores or butchers shops may be willing to donate it if they learn this is for classroom use.
2. **Dried blueberries or cherries** - Blueberries or cherries may be dried by spreading them out much

out a blueberry patch. As the fruit ripened from the valley up to the mountains, the bears would move right along with it.

Sometimes both the Indians and the bears would arrive on the scene at the same time, giving the Indians a "thrill." We can only hope the Indians were satisfied by the amazing sight of a 600 pound bear, carefully combing the bushes, scooping up great pawfulls of fresh fruit, building immense strength on thousands of tiny blueberries, oblivious to everything else.



Wild Blueberries

Long before explorers ever laid eyes on America, keen brown eyes roamed the magnificent forests searching for hidden patches of a small green bush, heavy with beautiful blue berries.



It's hard to say who took the greatest delight in discovering this wild feast--people or animals. The Indians held the tiny berries in almost a religious awe.

It was a delicious food, fresh off the bush. It was dried and pounded into meats to make pemmican. Pemmican helped the Indians get through the long, cold winter months. They used it as a medicine. They believed fresh blueberry juice cured "old coughs." Tea made from blueberry roots relaxed women in childbirth.

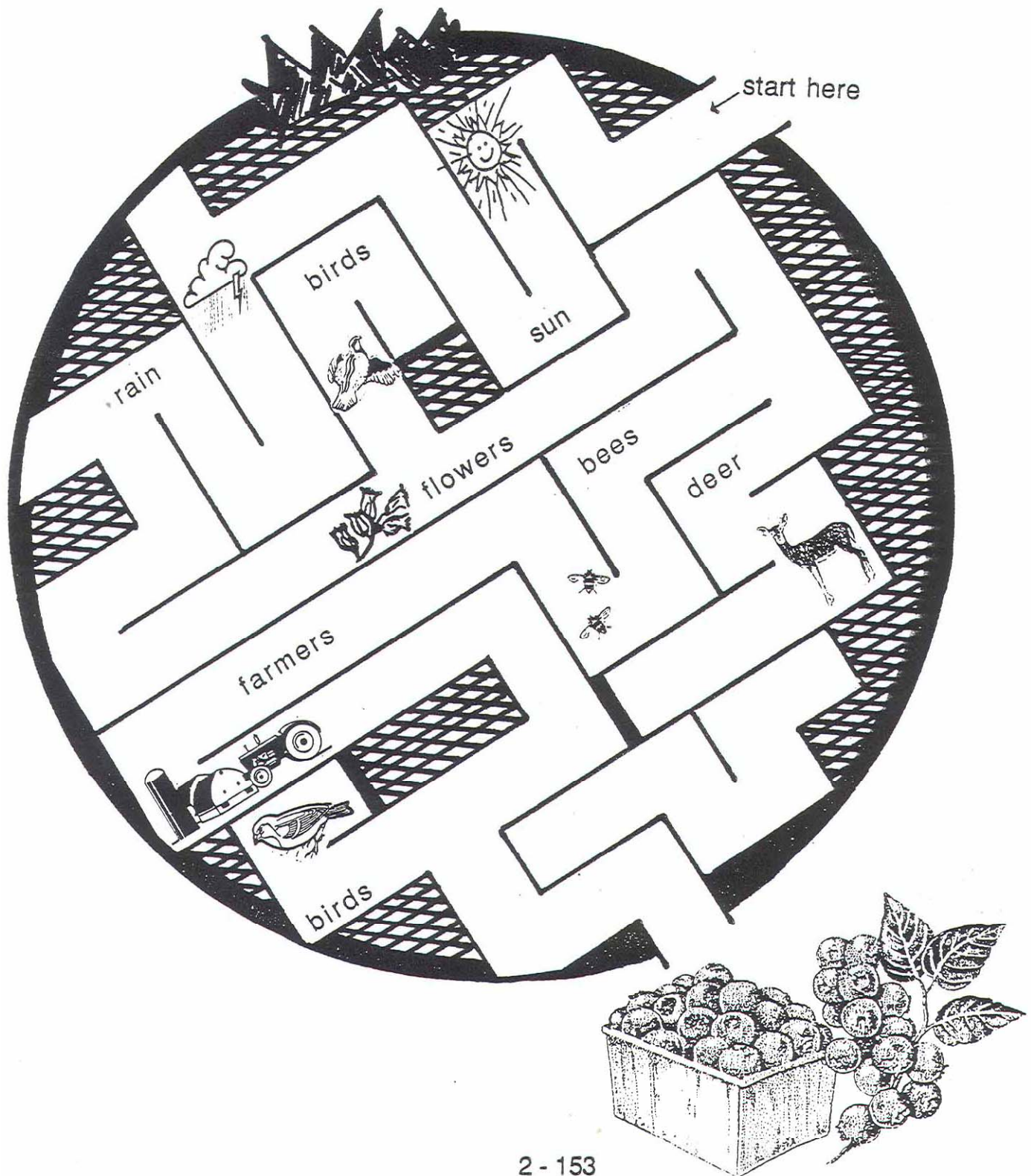
And it was a mystery! On top of every blueberry was a five pointed star. Around the glowing campfire the elders told of the time of starvation when the great spirit sent down the "star berries" to relieve the hunger of his children, a blessing.

The bears were somewhat less starry-eyed about the blueberry, but every bit as determined to be the first to discover it.

When the rich, tangy little berry was in season, the bears would settle for nothing else. Wild bears would lumber along 10 to 15 miles a day to sniff

Name _____

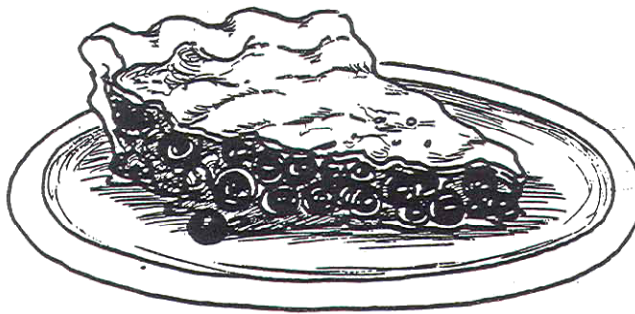
Help Jeremy find his way to the basket of blueberries by travelling through the blueberry maze. Stop at each stage which helps the blueberry grow. Avoid the deer and birds which stop your path.



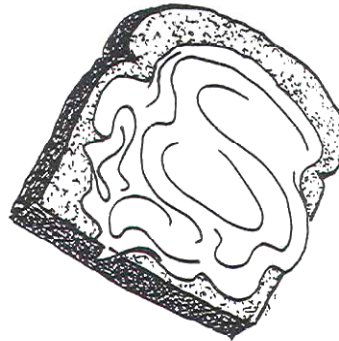
The berries are sold fresh, frozen or canned.



They are made into pies,



blueberry muffins, or jam.



Which way do you like blueberries best? Draw it here:

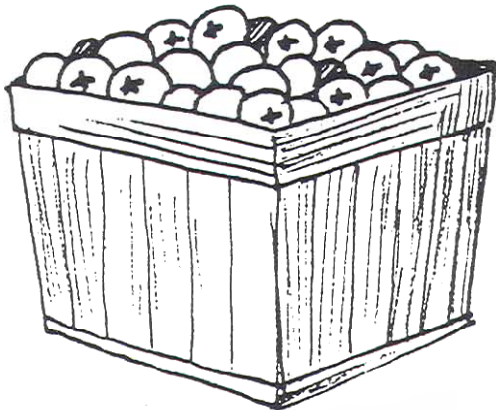
In the spring the bushes have tiny, white flowers. Bees visit the flowers looking for sweets. They help the flowers to make the fruit by moving the plant's pollen from flower to flower.



The blueberries grow and ripen. Birds and deer love to eat the berries. The farmer must stop them from eating all the berries. Many farmers cover their blueberry bushes with netting.



In August when the berries are very blue, they are ready to be picked by hand or machine. It takes many blueberries to fill a quart.



Blueberries

Blueberries may be grown on a farm or they may grow wild. Blueberries grow on bushes. Some are tall bushes. These are called highbush blueberries. These highbush blueberries are the large, juicy berries we buy in the store.



Other blueberries grow on short bushes. These are called lowbush blueberries. These are the blueberries that are often canned or put into muffin mixes.



Most wild blueberries are low bush blueberries.

- ACTIVITIES:**
1. Have the students read page 6 in "The Source" and the accompanying story "Blueberries."
 2. Have students complete the blueberry maze which follows and that in "The Source" on page 7.
 3. Discuss what might happen if a blueberry bush didn't get enough sun or rain, or if lots of birds lived nearby, or if deer ate the blueberry bushes. Have students write sentences describing the different effects on the blueberry bush.
 4. Complete the Moccasin activity before proceeding. See pages 2-159 through 2-160. Have the students wear their moccasins to pretend they are Indians looking for blueberries.
 5. Read the story "Wild Blueberries" aloud to the class.
 6. Have each student give the story their own title and make a drawing of the story. The drawing could be of blueberries, blueberries on a bush, Indians picking and/or eating blueberries or of a bear doing likewise.
 7. Have each student write a three line poem about either the Indian or bear in the story with the blueberries. Ask the students to use colors in their poem. The poems may or may not rhyme.
 8. Have the students make pemmican to accompany this lesson.

ADDITIONAL RESOURCES:

Blueberries For Sal by Robert McCloskey.
Hiawatha's Kind Heart, Walt Disney Beginning Reader,
Vol. 15. BantamBooks.
Hiawatha's Bear Hunt, Walt Disney. Random House.

blueberries.

4. The student will begin to gain an understanding for the close link of the American Indian (Native American) to both the natural world and their spiritual life.
5. The student will use language to express themselves.
6. Each student will give the story "Wild Blueberries" a title of their own making.
7. The students will make moccasins and pemmican.

BACKGROUND: Blueberries are an increasingly popular small fruit crop in the Northeastern states. Related to the cranberry, the blueberry requires a slightly acidic soil and a yearly cold period for flower production. The type of blueberry most often thought of as wild blueberry is the lowbush blueberry. The lowbush blueberry is low growing, most often harvested by hand and used for processing. Today's cultivated highbush variety bears larger fruit which facilitates the use of machine harvesting. Most of this variety supplies the fresh market. Birds and deer are prime predators on a blueberry crop and may represent the biggest management problem for most growers.

Blueberries were a staple of the American Indian in the Northeast. The tiny berry was dried and pounded into meats (to make pemmican), used as seasonings for soups and stews, and made into teas. The root of the blueberry bush was a known anti-spasmodic and was used by Indian and Colonial women alike to ease the difficulty of childbirth. This remedy can be found as late as an 1813 medical book. The Indians also used it as a cure for "old colds." (The juice of fresh berries contains vitamin C so it may have been an effective treatment for respiratory ills.)