

Ag in the Outfield

Objective

Students will identify sports items made from agricultural products. Students will measure baseballs. Students will read about baseball and test their comprehension by answering questions related to what they read. Students will use baseball cards and menus to find information and solve problems.

Background

The ancient Romans played a game similar to the game we know as baseball with balls made from strips of animal hide wrapped around reeds or wild grasses. An official baseball used in the major leagues today has a core made from four long strands of high quality wool. The core is surrounded by rubber or cork and covered with two pieces of white horse or cow hide, which is stitched together with exactly 216 stitches. Lower quality baseballs have cores made from cotton yarn.

The first bats used in the game were simply sturdy wooden sticks. Today an official bat is a smooth round stick made of one piece of solid wood. It must be no more than 2 3/4 inches in diameter at the thickest part and no more than 42 inches long. The best bats are made from the wood of northern ash trees. In recent years some manufacturers have started using maple, due to a shortage of the preferred northern ash. Bats break very easily near the handle or near the bat's trademark. There are no official records, but Bo Jackson may hold the record for bats broken intentionally.

Mitts vary according to the size of a player's hand or the position he or she plays. Quality mitts can cost from \$80 to \$230. The best mitts are made from natural materials, usually cow or kangaroo hide. Lower priced mitts are made from vinyl or nylon.

Language Arts (Comprehension, Research, Writing)

1. Read and discuss background.
 - Bring to class and display some of the equipment used in a baseball game.
 - Students will touch items and try to decide what they are made from.
 - Students will identify items made from an agricultural product.
 - Hold a brainstorming session about things that are associated with baseball.
 - Students will record all reasonable ideas.

Standards

GRADE 2

P.A.S.S.

Social Studies—1.2; 4.1

Visual Arts—3.1,2

Instructional Technology—5.2

Physical Education—2.1,12,13; 3.1

COMMON CORE

Math Process—MP.1,2,3,5

Math Content—2.MD.1,2,3,4,8,9;
2.G1

Language Arts—2.RIT.1,2; 2.W.2,
6, 7; 2.SL.2

GRADE 3

P.A.S.S.

Social Studies—1.1,2; 4.4

Visual Arts—3.1,2

Instructional Technology—5.2

Physical Education—1.5,9; 2.1,2;
3.3; 5.3

COMMON CORE

Math Process—MP.1,2,3,5

Math Content—3.OA.1,3,8;
3.MD.3,4

Language Arts—3.RIT.1,2,4;
3.RFS3.c, 4.a, 4.c; 3.W.2, 6, 7;
3.SL.2, 4; 3L.4.a

GRADE 4

P.A.S.S.

Social Studies—1.1; 4.2

Visual Arts—3.1

Instructional Technology—5.2

Physical Education—1.7; 2.4; 6.3

COMMON CORE

Math Process—MP.1,2,3,5

Math Content—4.OA.1, 2, 3;
4.MD.2, 4

Language Arts—4.RIT.1, 2, 3, 4, 8;
4.RFS.3, 4.a, 4.c; 4.W.2, 4, 6, 7, 8,
9; 4.SL.4; 4.L.1, 2, 4

Materials

wooden bats

baseballs

gloves and other baseball
equipment made from
agricultural products

2. Each student will select one agricultural product used in baseball and use online sources to research its history, use, where it is produced, etc.
—Students will share their research with the class.
3. Hand out reading comprehension page and the reading comprehension questions.
—Students will read the paragraphs and answer the questions.

Math (Number Sense, Measurement, Data Analysis, Geometry)

1. Bring several different brands of baseballs for students to examine.
—Students will measure the circumference of each baseball and predict what is inside.
—Students will split the baseball open and identify the materials they find inside.
—Students will estimate the length of the yarn that forms the core, then unwind and measure it.
—Is the core made from wool or cotton yarn?
2. Students will count the stitches in each of a variety of recreational balls and graph the results.
3. The traditional soccer ball's outer covering consists of 12 pentagons and 20 hexagons of leather sewn together. Bring a soccer ball to class.
—Students will identify each of the polygons.
—Students will use pipe cleaners to make the skeleton of a soccer ball, using the polygons they have identified.
4. Bring an assortment of recreational balls (basketball, tennis ball, golf ball, softball, soccer ball) to class.
—Students will take turns throwing each of the balls and measure where the ball hits.
—Students will graph the results
5. Draw a chalk or flour circle in the grass.
—Students will take turns tossing different kinds of balls into the circle.
—Students will predict which way the balls will bounce and collect and analyze data. Try the same exercise in different parts of the playground.
6. Students have a sunflower seed spitting contest and measure distance by having a sunflower seed spitting contest.
—Each student will spit a sunflower seed.
—Students will use a variety of means (a ruler, their feet, etc.) to measure the distance their seeds travelled. Students may use a variety of means to measure the distance-
—Make a class graph to compare the distance each student's seed travelled.
7. Hand out the math worksheet.
—Students will complete the math problems. (Answers: 1. 37 in 2000; 2. catcher; 3. 1988; 4. 1987; 5. .270; Incavigila broke 2400 bats for a total cost of \$60,000.)

Visual Arts (Expression)

1. Traditional pennants were made from wool material and attached to small wooden dowels. They featured the name of the baseball team and its mascot. Fans would wave the pennants to show support.
 - Students will design pennants for existing or imaginary baseball teams.
 - Display your students' creations in the library to promote books about baseball or famous players.

Physical Education

1. Divide up your class, and play a baseball game.

Extra Reading

- Harzog, Brad, and Melanie Rose, *H is for Home Run: A Baseball Alphabet*, Sleeping Bear, 2004.
- Jacobs, Greg, *The Everything Kids' Baseball Book: From baseball history to player stats—with lots of homerun fun in between*, Adams, 2010.
- Kelley, James E., *Baseball*, DK Children, 2010.
- Murphy, Frank, and Richard Walz, *Babe Ruth Saves Baseball*, Random House, 2005.

Vocabulary

core—a central part

cork—the elastic tough outer tissue of the cork oak tree

reed—any of various tall slender grasses of wet areas that have stems with large joints

natural—not made or changed by humans

nylon—any of numerous strong tough elastic synthetic materials used especially in textiles and plastics

official—prescribed or permitted by authority

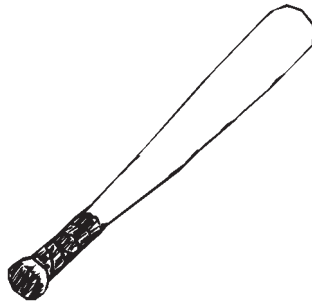
quality—grade of excellence

sturdy—firmly built or made

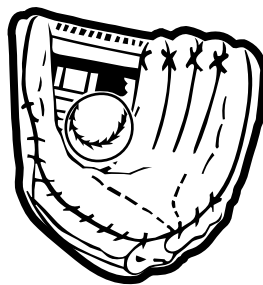
vinyl—a polymer of a vinyl compound or a product (as a textile fiber) made from such a polymer

Ag is in the Outfield

- 1 When did the game of baseball begin? The ancient Romans played a game similar to the game we know as baseball with balls made from strips of animal hide wrapped around reeds or wild grasses. Today, an official baseball used in the major leagues has a core made from four long strands of high quality wool. Wool comes from sheep. The core is surrounded by rubber or cork and covered with two pieces of white horse or cow hide. The cover is stitched together with exactly 216 stitches. Lower quality baseballs have cores made from cotton yarn. The materials used to make the baseball—sheep wool, horsehide, cowhide and cotton—are all agricultural products from Oklahoma farms and ranches.



- 2 What about the bat? The first bats used in the game were simply sturdy wooden sticks. Today an official bat is a smooth round stick made of one piece of solid wood. It must be no more than $2\frac{3}{4}$ inches in diameter at the thickest part and no more than 42 inches long. The best bats cost about \$25 and are made from the wood of northern ash trees. In recent years some manufacturers have started using maple, due to a shortage of the preferred northern ash. Ash and maple trees grow in many parts of Oklahoma.



- 3 Mitts vary according to the size of a player's hand or the position he or she plays. Quality mitts can cost from \$80 to \$230. The best mitts are made from natural materials, usually cow or kangaroo hide.

As you can see, in the game of baseball, Agriculture is in the Outfield!

Name _____

Ag in the Outfield

Please color in the correct answer for each question below.

1. In paragraph 1, what word means “very old” or “belonging to a time long ago?”
 similar official ancient rubber
2. In paragraph 2, what word means “something approved by someone in authority?”
 solid official ancient diameter
3. The author’s purpose for writing this article is:
 entertainment persuasion information
4. You might find this article in
 an entertaining story
 a book containing baseball facts
 a book of poetry
5. During ancient times, the Roman baseball was made from:

6. In the major leagues, the baseball has a core made of:

7. Name three agricultural products mentioned in paragraph 1.

8. An official baseball bat must be no longer than _____ inches.
9. Name two different types of trees that could be used to make a bat.

10. The best mitts are made from natural materials, usually _____ hide or _____ hide.

Oklahoma Ag in the Classroom is a program of the Oklahoma Cooperative Extension Service, the Oklahoma Department of Agriculture, Food and Forestry and the Oklahoma State Department of Education.

Name _____

Ag in the Outfield (answers)

Please color in the correct answer for each question below.

- In paragraph 1, what word means “very old” or “belonging to a time long ago?”
 similar official ancient rubber
- In paragraph 2, what word means “something approved by someone in authority?”
 solid official ancient diameter
- The author’s purpose for writing this article is:
 entertainment persuasion information
- You might find this article in
 an entertaining story
 a book containing baseball facts
 a book of poetry
- During ancient times, the Roman baseball was made from strips of animal hide wrapped around reeds or wild grasses.
- In the major leagues, the baseball has a core made of four long strands of high quality wool.
- Name three agricultural products mentioned in paragraph 1.

wool or sheep, horse, cow, cotton
- An official baseball bat must be no longer than 42 inches.
- Name two different types of trees that could be used to make a bat.
ash, maple
- The best mitts are made from natural materials, usually cow hide or kangaroo hide.

Name _____

Ag in the Outfield

The answers to these questions can be found on the baseball card at left.

				Mike Stanley
Catcher, Texas Rangers		Bat	Home	
Ht. 6'1", Wt. 185 lb.	<u>Year</u>	<u>Avg.</u>	<u>Runs</u>	<u>Hits</u>
Bats: R Throws: R	1986	.333	1	10
Born: 6/25/63	1987	.273	6	59
No. 1 catcher after being promoted from OKC 89ers in 1987.	1988	.229	3	57
Signed with Rangers out of U. of Florida.	1989	.246	1	30
Suffered hamstring injury in 1988.				
Home: Ft. Lauderdale, FL				

1. How old is Mike Stanley? _____
2. What position does he play? _____
3. What year was Stanley injured? _____
4. What year did the Rangers baseball club install Stanley as a catcher? _____
5. Calculate Mike Stanley's batting average for the years 1986-89. _____



Oklahoma State University baseball great Pete Incavigila (1982-85) is tough on bats. In one year, including games and practice, he broke 200 dozen bats. Bats cost around \$25 each.

How many bats did Incavigila break? Write out the math equation and solve it.

What was the cost of all the broken bats? Write out the problem and solve it.

Eat some agricultural products at the ballpark. You have \$7.50 to spend on food. Calculate what you can buy from the chart at right, and list your choices below.



<u>food</u>	<u>price</u>
hot dog	2.25
drink	lg-1.50-xlg-2.75
popcorn	2.00
peanuts	1.50
pretzels	1.50
nachos	2.00



Official baseballs must measure no less than 9 inches and no more than 9 1/4 inches in circumference. Find the circumference of a golf ball, basketball, soccer ball, and tennis ball. Write your answers, from smallest to largest, on a separate sheet of paper.