

educational curriculum materials:  
bringing baseball to the classroom



grand slam school day 2012  
elementary school version

This curriculum addresses Michigan's Grade Level Content Expectations (GLCE) and has been reviewed by the Michigan Department of Education.

2012 Grand Slam School Day

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\* These tasks must be completed at the ballpark.

# Lugnuts Math

Please answer the following questions. You may use a calculator if you brought one with you. Some of the answers will need to be gathered from around the ballpark.

1. Using the Kids Value Priced Menu, how much money would you need to purchase a hot dog, 12 oz. soda pop and peanuts?

2. Go to the concession stand at the top of section E or L for this question:

Your parents have given you \$20.00 to spend on food for the game. You head to the concession stands and order a kids hot dog, a slice of cheese pizza, and a 12 oz. soda pop. How much money would you have left over?

3. A player's batting average is equal to the number of hits divided by at-bats. A good batting average is over .260. A terrific batting average is over .300.

Last season, star outfielder Jacob Marisnick collected 144 hits in 508 at-bats. What was his batting average for the season?

4. A pitcher's earned run average (ERA) is discovered by multiplying the total number of earned runs allowed by nine (for the nine innings in a baseball game) and dividing that total by the pitcher's total innings pitched. (Earned runs are runs that score without benefit of a defensive error.)

Example: In 2011, Casey Lawrence pitched 76 innings and allowed 34 earned runs.  
 $34 \times 9 / 76 = 4.03$  ERA

In 2011, Dustin Antolin pitched 19 innings and allowed 5 earned runs. What was Ryan's earned run average?

# Lugnuts Math

5. Whenever a player scores a run, he has to run 90 feet to each base, adding up to 360 feet to get around the bases.

Using today's game as an example, add up all the runs scored by both teams and determine the number of feet run by each team.

6. Take a look at the Lugnuts roster. Each player is either a pitcher, catcher, infielder, or outfielder. Add up the total number of players at each position. Then figure out what percentage of the team plays each position.

	Number	Percent
Pitchers:	_____	_____
Catchers:	_____	_____
Infielders:	_____	_____
Outfielders:	_____	_____
Total:	_____	100%

7. If the Lugnuts play 70 home and 70 road games in 2012 and they win  $\frac{3}{5}$  of their home games and  $\frac{1}{2}$  of their road games, how many wins will the team end up with for the season?

**Answer = 77 Wins (42 Home + 35 Road)**



# Baseball Scramble

Part of the fun of going to a Lugnuts baseball game is learning the words used during the game. See if you can figure out what the mixed-up baseball terms are below!

untb	lbudoe	kalw	albl	rrero	negsli
tba	moeh	igb gul	gnslnai	BIR	eksrit
emho urn	ogvel	drnga	tlgusun	egma	lesablab

## Good Lugnuts Have Good Grammar

Read the following story about Big Lug. Correct any mistakes that you find in spelling, punctuation, or capitalization.

Big Lug iz 7 feat of baseball luv and the Lugnuts' biggest fan! you'll sea him dance on the dugout at every lansing lugnuts gam Make sure to give him a big hugg when you see him because big lug loves kids of all ages!

# The Science of Weather

The Lugnuts rely on more than talent. They need the help of Mother Nature to even take the field. In this exercise, the Lugnuts need your help. Show them what the weather was like during the game you saw and then also for the next couple of days afterwards.

Describe what the weather was like by drawing in the boxes below.

**The weather on the day of the Lugnuts game**



**The weather on the day after the Lugnuts game**



**The weather on the second day after the Lugnuts game**



# Physics: How Does a Baseball Curve?

During the course of a Lugnuts' game, pitchers throw many types of pitches to the batters they face. These pitches include a hard, straight pitch, called a fastball, and a wide variety of pitches that move or change course as they approach the plate, like a curveball, slider, or knuckleball. How does a pitcher throw a curveball? Look at the diagram below and then answer the questions.

## *Introducing... the Curveball*

The diagram shows how you would grip a baseball in order to throw a curveball. When throwing this type of pitch, a pitcher can make a baseball curve up to 17.5 inches in the time it takes a ball to get to the plate. It takes about half a second for a baseball to get to home plate from the pitcher's mound.

A baseball curves because of the 216 red stitches made of cotton that hold a baseball together. In addition to holding the ball together, they hold a thin layer of air around them as they spin.

A curveball is thrown with more top spin, allowing air to flow around the bottom of the ball than the top. This causes the air to move faster around the bottom of the ball, creating less pressure, allowing the ball to drop or curve.

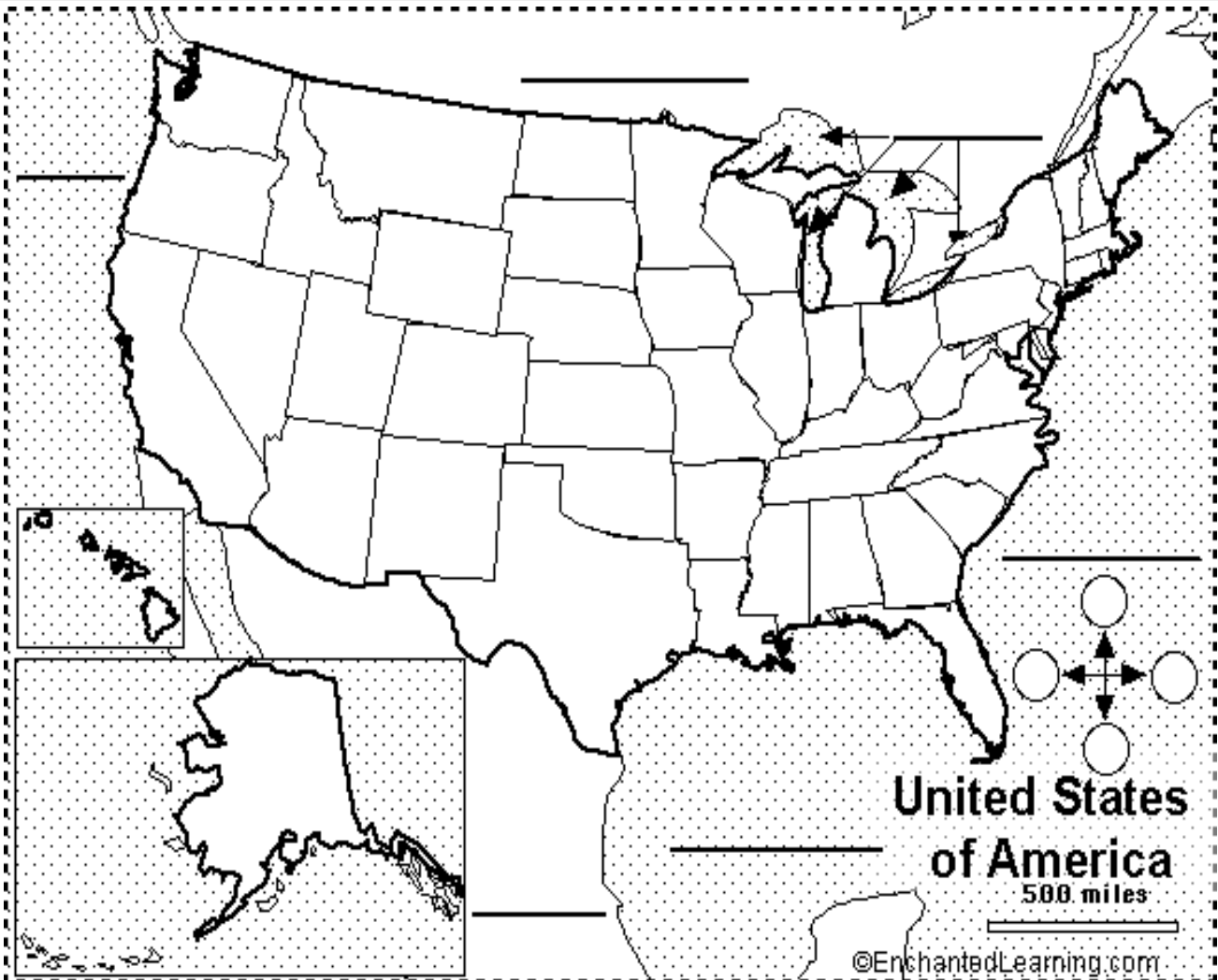
The curveball generally travels between 70 to 80 miles per hour and will rotate 1900 times in a minute.



**CURVEBALL**  
Palm is turned inward with a release like you're pulling down on the ball. Sidespin and backspin should be imparted with wrist, not elbow.

1. When a pitcher throws a curveball, what is the furthest distance he can make the ball curve? \_\_\_\_\_
2. What part of a baseball helps make a ball curve? \_\_\_\_\_
3. Creating less \_\_\_\_\_ on the bottom of the baseball allows it to curve.

# Where Do the Lugnuts Come From?



One of the great things about checking out a Lansing Lugnuts game is that often the Lugnuts roster is made up of players from all over the United States. Sometimes we get players on the team from other parts of the world.

In this exercise, take a look at the Lugnuts roster and place marks on the states that American players come from and then answer the following questions.

What state is most represented on the 2012 Lugnuts? \_\_\_\_\_

Which American-born Lugnuts player had to travel the farthest to play in Lansing?  
\_\_\_\_\_

Circle the home states of all of the Lugnuts players that play in today's game.

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# North Carolina and Baseball



The state of North Carolina may not host a Major League baseball team, but it does serve as the home of ten different Minor League baseball teams. Using the map above, please answer the following questions about North Carolina.

1. What is the capital of North Carolina?
2. What state borders North Carolina to the west?
3. What state borders North Carolina to the north?
4. How tall is Mt. Mitchell on the west side of the state?
5. Which ocean borders North Carolina?
6. What are the islands to the east of the state called?
7. What river runs near the city of Wilmington?

# Baseball in Michigan

The state of Michigan has a long, rich history with the game of baseball. Several members of the Baseball Hall of Fame were born in Michigan, while many others spent time playing here. Below is a list of players or people who were influential to baseball in Michigan. Research each baseball legend and find out information about their careers, then match them with their accomplishments.

## Person

## Fact

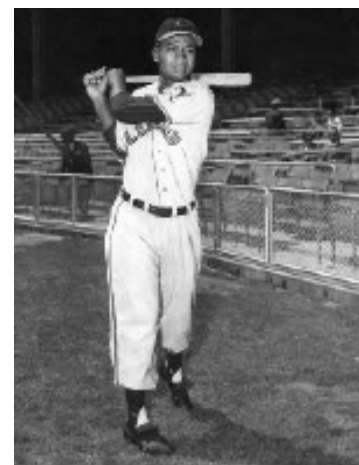
- |                       |  |
|-----------------------|--|
| _____ Sparky Anderson | A. Nicknamed the “Georgia Peach”                   |
| _____ Larry Doby      | B. The longtime broadcaster for the Tigers         |
| _____ Ty Cobb         | C. Lansing native and pitching star for the Braves |
| _____ Al Kaline       | D. Hall of Famer nicknamed “Prince Hal”            |
| _____ Ernie Harwell   | E. The first black player in the American League   |
| _____ Hal Newhouser   | F. Managed the Tigers to the Championship in 1984  |
| _____ John Smoltz     | G. Known as “Mr. Tiger” in Detroit                 |



*Al Kaline*



*Ty Cobb*



*Larry Doby*



# The Grand Slam School Day Scoop

Have any questions about Grand Slam School Day?

All the answers you need and lots of other great information is just a click away!

Check out [www.lansinglugnuts.com](http://www.lansinglugnuts.com) and click on the link called Grand Slam School Day information, located on our home page.

Here are some elements you'll find to assist you:

- ◆ **Who will be there:** check out which other schools will be attending GSSD the day your school is there.
- ◆ **What to bring:** helpful reminders about what not to forget.
- ◆ **Other activities:** besides a baseball game, there will be other events going on you may want to tune into.
- ◆ **Jr. Press:** after the game students will write articles about what they saw and learned from talking with players. If you are not a part of Jr. Press, but would still like to submit a story, this is the place for you.
- ◆ **Photos:** look at the fun from other Grand Slam School Days.