



## “The Shape of the Game”

*Children combine common shapes to create a model baseball field or other part(s) of a baseball stadium.*

### Reference to Tennessee Mathematics Standards:

- ✓ Mathematical Processes: Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely (GLE 0006.1.6)
- ✓ Numbers and Operations: Count objects in a set and use numbers, including written numerals to 25 (GLE 0006.2.1)
- ✓ Geometry and Measurement: Interpret and describe the physical world with geometric ideas and vocabulary. (GLE 0006.4.1)
- ✓ Data, Probability, and Statistics: Use various representations to display and compare data (GLE 0106.5.1)

### Reference to Common Core Standards:

- ✓ G.K.1 Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
- ✓ CC.K.1 Know number names and the count sequence. Count to 100 by ones and by tens.

### Objectives:

The child will observe and identify common shapes in the environment; to combine shapes to make a new whole, to develop concepts of properties of shapes, especially the constancy of the properties regardless of orientation of the shape.

### Materials:

Pictures of baseball fields/stadiums, (in lieu of, or in addition to, experience with a real field); pattern blocks, building blocks or parquetry blocks; paper versions of those blocks (commercial or child-made)

### Before the Game:

Begin a collection of items, which will be used to build a model after the game. Practice identifying shapes in the environment by noting those in the classroom, the playground and at home (homework assignment?). Similar shapes should be available in the classroom which would also be found at the stadium. Look for what might be found at the game by looking at pictures of baseball fields or talking about children’s previous experiences with baseball fields from playing, watching TV or seeing games before.

### At the Game:

Examine the baseball field to find shapes such as circles, squares, spheres, triangles, rectangles, ovals and other shapes. Students can record their findings by drawing on pad, listing, reporting to a recorder (adult) or by reporting back after the game. Be sure to draw attention to the baseball diamond.... it IS a square! Have children stand at various places when taking their seats to see the square from a variety of perspectives. Have each child tally the number of shapes that he/she identifies at the field. Incorporate actual landmarks and their shapes, which can be seen to and from the stadium as well as during the game.

**Concern:** Provide enough chaperones. Younger students may have trouble with recording information.

### Beyond the Game:

Children can work in teams to make a drawing or model of a baseball field, stadium, scoreboard or portion of any of those using a combination of simple shapes. These can be made using pattern blocks, building blocks, tangrams, parquetry blocks or any combination of those. Paper versions or photographs can record the work. Children should be able to name the shapes they used and what they represented. Use any gathered data to create a variety of graphs (pie, bar, line) and interpret the information.

Provide students a sheet with a baseball diamond and other shapes and have the students determine how many of a shape (square, triangle, etc.) will fill the diamond.



### “Keeping Score”

Children monitor the game and record the score, and add at the end to get the total score.

**Reference to Tennessee Mathematics Standards:**

- ✓ GLE0006.2.4 Understand addition as "putting together" and subtraction as "breaking apart."
- ✓ CU0006.2.13 Add and subtract single-digit numbers whose total or difference is between 0 and 10.

**Reference to Common Core Standards:**

OA.K.1 Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. Represent addition and subtraction with objects, fingers, mental images, drawings (drawings need not show details, but should show the mathematics in the problem), sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

**Objectives:**

The child will record events using the charts:

Team	1 <sup>st</sup> inning	2 <sup>nd</sup> inning	3 <sup>rd</sup> inning	4 <sup>th</sup> inning	5 <sup>th</sup> inning	6 <sup>th</sup> inning	7 <sup>th</sup> inning	8 <sup>th</sup> inning	9 <sup>th</sup> inning	Totals:
Redbirds										
Visitors										

Home Runs	
Redbirds	Visitors
Tally:	Tally:
Total:	Total:

Fastest Pitches	
Redbirds	Visitors
Speeds:	Speeds:

**Materials:**

Paper, pencil, and the charts (included below)

**Before the Game:**

Talk about the structure of a baseball game (nine innings, outs, home runs, etc.). Familiarize students with the charts and what they will be doing.

**At the Game:**

Assist students during the first innings to make sure they are recording correctly. Help students understand events during the game.



**Appendix, Lesson 2**

Keep track of the score for each inning:

Team	1 <sup>st</sup> inning	2 <sup>nd</sup> inning	3 <sup>rd</sup> inning	4 <sup>th</sup> inning	5 <sup>th</sup> inning	6 <sup>th</sup> inning	7 <sup>th</sup> inning	8 <sup>th</sup> inning	9 <sup>th</sup> inning	Totals:
Redbirds										
Visitors										

Keep track of the home runs for each team. In the “tally” box, make a mark each time a home run is made. Use the “total” box at the end of the game to mark the total number of home runs.

Home Runs	
Redbirds	Visitors
Tally:	Tally:
Total:	Total:

Find the “pitch speed” display, and watch it for ten pitches. What was the fastest speed?

Fastest Pitches	
Redbirds	Visitors
Speeds:	Speeds:
Fastest:	Fastest: