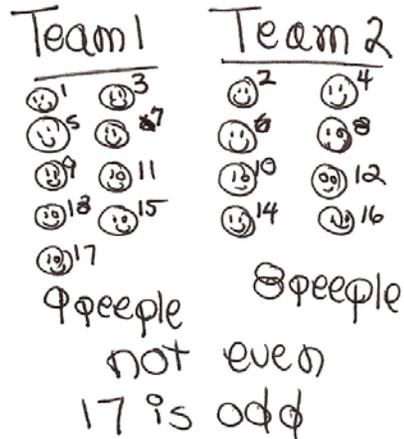


Domain: OPERATIONS AND ALGEBRAIC THINKING	Cluster: Work with equal groups of objects to gain foundations for multiplication.	
2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.		
Notes to Teacher:		
<p>Notice that the standard states that students are to use objects to make this determination. Students who have only learned to determine whether a number is even or odd by looking at its ones digit are often unable to transfer that knowledge to any useful purpose. With sufficient practice manipulating objects into two equal sets, students will begin to discover patterns that will be much more useful to them in real-world applications. After repeated practice with objects, teachers can guide students to see that each even number can be expressed as the sum of two equal addends. This knowledge will be the first step toward relating repeated addition to multiplication. Teachers should resist the urge to proceed with symbolic representations of multiplication at this point. Students need numerous experiences with forming multiple equal sets and repeated addition before symbols and/or vocabulary for multiplication are introduced. Please note that this cluster of standards states that students will be gaining the foundation for multiplication.</p>		
Task	Explanation/Comments	Sample Student Work
<p>There are 17 children in Mrs. Smith's class. Can she make two equal teams for a game of kickball?</p> <p>Is the number 17 even or odd?</p> <p>Draw a picture to show how you solved this problem.</p> <p>If the number 23 is even, write an addition equation to show how many children are on each team.</p>	<p>Encourage children to share their thinking and listen to the thinking of others.</p>	 <p>Team 1 Team 2</p> <p>☺¹ ☺³ ☺² ☺⁴ ☺⁵ ☺⁷ ☺⁶ ☺⁸ ☺⁹ ☺¹¹ ☺¹⁰ ☺¹² ☺¹³ ☺¹⁵ ☺¹⁴ ☺¹⁶ ☺¹⁷</p> <p>9 people 8 people</p> <p>not even</p> <p>17 is odd</p>