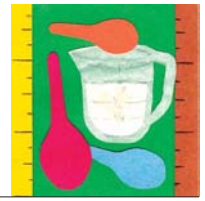




## Using “The Pizza Project” to Address Learning Standards



**THE FOLLOWING CHART** \* expands on the content of “The Pizza Project: Planning and Integrating Math Standards in Project Work,” which appeared in *Young Children* January 2003. The pizza project is an example of using practical strategies to maximize project experiences. The authors summarize the many ways in which the pizza project addressed benchmarks for state early learning standards. The chart that follows shows how the pizza project activities addressed state standards for mathematics.

\*Chart, adapted by permission of the publisher, from J.H. Helm and Sallee Beneke, *The Power of Projects: Meeting Contemporary Challenges in Early Childhood Classrooms, Strategies and Solutions* (New York: Teachers College Press; Washington, DC: NAEYC), © 2003 by Teachers College, Columbia University. All rights reserved.

## Pizza Project Activities That Helped Children Address Early Learning Standards

Content Area*	Math Knowledge and Skills per Illinois Early Learning Standards <a href="http://www.illinoisearlylearning.org/standards">www.illinoisearlylearning.org/standards</a>	Children's Activities Related to Standards
<b>NUMBER AND OPERATIONS</b>	Use concepts that include number recognition, counting, and one-to-one correspondence.	<ul style="list-style-type: none"> <li>• Made field sketches of kitchen tools and equipment</li> <li>• Played a numeral matching game based on pizza toppings (matched the numeral to the number of pepperoni pieces on a pizza slice)</li> <li>• Used simple recipes and recipe posters to make pizza</li> </ul>
	Count with understanding and recognize "how many" in sets of objects	<ul style="list-style-type: none"> <li>• Counted the wheels on a cart at the pizza parlor and recreated the cart in the classroom</li> <li>• Used tallies to count various things observed during fieldwork—e.g., the number of buckets of sausage, the number of wheels on a cart</li> </ul>
	Solve simple mathematical problems	<ul style="list-style-type: none"> <li>• Decided how long pieces of cardboard and paper should be in constructing classroom models of a pizza warmer and food grinder</li> <li>• Decided how many pizzas to order for the family pizza party</li> </ul>
	Explore quantity and number	<ul style="list-style-type: none"> <li>• Played a numeral matching game based on pizza toppings</li> <li>• Made tally marks on field drawings to record the number of buckets, cans, and wheels they saw at the pizza parlor</li> <li>• Used a tape measure in the construction of a pizza warmer and food grinder</li> <li>• Decided how many slices of pizza to order for the pizza party</li> </ul>
	Connect number words to quantities they represent using physical models and representations	<ul style="list-style-type: none"> <li>• Voted on project topics and recorded their choices on a voting chart</li> <li>• Used a tape measure in the construction of classroom models of a pizza warmer and food grinder</li> <li>• Discussed quantities of pizza to order for family pizza night</li> <li>• Played a numeral matching game based on pizza toppings</li> <li>• Followed a recipe to measure the ingredients used in pizza dough and sauce</li> </ul>
	Make comparisons of quantities	<ul style="list-style-type: none"> <li>• Voted on project topics and recorded the count on a voting chart</li> <li>• Grated paraffin and compared the sizes of the resulting piles</li> <li>• Tallied the quantities of different types of pizza to order for family pizza night</li> </ul>
<b>ALGEBRA</b>	Recognize, duplicate, and extend simple patterns, such as sequences of sounds and other shapes	<ul style="list-style-type: none"> <li>• Read along with predictable books such as <i>Hi, Pizza Man!</i></li> <li>• Drew pizza tools such as graters with rows of holes and dockers with sets of prongs</li> </ul>
<b>GEOMETRY</b>	Find and name locations with simple relationships such as <i>near</i>	<ul style="list-style-type: none"> <li>• Discussed what they saw on the field trip to the pizza parlor</li> <li>• Planned the placement of items in the classroom pizza parlor for dramatic play</li> <li>• Discussed photographs of the equipment and work areas in pizza parlor</li> </ul>

\*Math content areas from *Principles and Standards for School Mathematics*, by the National Council of Teachers of Mathematics, Chapter 4, "Standards for Grades Pre-K–2" (online at <http://standards.nctm.org/document/chapter4/index.htm>).

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<b>MEASUREMENT</b>	Demonstrate a beginning understanding using non-standard units and measurement words	<ul style="list-style-type: none"> <li>• Used a tape measure to measure in inches the length of a paper pattern for the pizza warmer model</li> </ul>
	Construct a sense of time through participation in daily activities	<ul style="list-style-type: none"> <li>• Participated in an extended, multistage project to plan and construct models of a food grinder and pizza warmer</li> <li>• Made and implemented plans for a family pizza night</li> </ul>
	Show understanding of and use comparative words	<ul style="list-style-type: none"> <li>• Grated paraffin and discussed which pile of grated wax was bigger</li> <li>• Discussed the voting chart and decided which topic had more votes</li> <li>• Discussed how high and how wide the pizza warmer and food grinder models should be</li> <li>• Built a pizza warmer and a food grinder using predetermined measurements</li> </ul>
	Use tools to measure	<ul style="list-style-type: none"> <li>• Measured using a yardstick and a tape measure to construct a pizza warmer and food grinder</li> </ul>
	Incorporate estimating and measuring activities into play	<ul style="list-style-type: none"> <li>• Grated paraffin and measured the resulting piles using dry measure cups and measuring spoons</li> <li>• Used recipes, measuring cups, pizza pans, and bowls in dramatic play area</li> </ul>
<b>DATA ANALYSIS AND PROBABILITY</b>	Sort and classify objects by a variety of properties	<ul style="list-style-type: none"> <li>• Made a pizza collage at the art table</li> <li>• Played a vegetable "feely game"</li> <li>• Played with a flannel board pizza and flannel pizza ingredients</li> <li>• Gussed pizza ingredients based on their smells</li> </ul>
	Solve problems using systems of numbers and their properties	<ul style="list-style-type: none"> <li>• Determined how many pieces of pizza to order for family pizza night</li> </ul>
	Describe qualitative change, such as growing <i>taller</i>	<ul style="list-style-type: none"> <li>• Experimented with yeast and the way it causes dough to rise</li> <li>• Observed that rotting tomatoes become flatter</li> <li>• Noted changes in pizza ingredients when they were baked (cheese melted and bubbled, crust turned brown)</li> </ul>
	Represent data using concrete objects, pictures, and graphs	<ul style="list-style-type: none"> <li>• Voted on project topics and recorded their choices on a voting chart</li> <li>• Talled the wheels and containers on field sketches</li> <li>• Sketched what they saw on the field trip site visit</li> <li>• Drew pizza tools</li> <li>• Sculpted clay models of pizza tools</li> <li>• Drafted plans for construction of models of pizza warmer and food grinder</li> <li>• Graphed the kinds of pizza each family eats and how many slices each family member would likely eat at the pizza party</li> </ul>
	Make predictions about what will occur	<ul style="list-style-type: none"> <li>• Predicted what would happen if tomatoes were not refrigerated, then tested the hypothesis</li> <li>• Predicted what would happen when cheese was heated in the oven</li> </ul>
	Pose questions and gather data about themselves and their surroundings	<ul style="list-style-type: none"> <li>• Predicted what they might see at the pizza parlor</li> <li>• Developed questions to ask on the pizza parlor field trip</li> <li>• Drew field sketches of tools, equipment, and supplies at the pizza parlor</li> </ul>