



BOE Approved 8/18

# Cliffside Park Public Schools

# Kindergarten

## Mathematics

**Topic Name: Topic 13: Analyzing, Comparing, and Creating Shapes**

**Topic 14: Describe and Compare Measurable Attributes**

**Resource: enVision Math 2.0, Pearson, 2016**

**Duration: May**

**Topic 13 (9 days)**

**Topic 14 (8 days)**

## Enduring Understandings

### Topic 13

- 2-D shapes can be sorted and identified by their attributes.
- Objects shaped like spheres, cones, and cylinders can roll. Objects shaped like cubes, cones, and cylinders can stack and slide.
- The flat surfaces of many solid figures have specific 2-D shapes.
- Good math thinkers know what the problem is about. They have a plan to solve it. They keep trying if they get stuck.
- You can make 2-D shapes by putting together two or more 2-D shapes.
- When building a given 2-D shape, the shape must exhibit all of the attributes of the shape.
- 3-D shapes can be combined to make other 3-D shapes.

### Topic 14

- When you compare by length or height, you are thinking about how long or tall objects are. Objects can be compared by length or height to see which is longer/taller and which is shorter.
- When you compare by capacity, you are thinking about how much objects hold. Objects can be compared by capacity to see which holds more and which holds less.



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- When you compare by weight, you are thinking about how heavy objects are. Objects can be compared by weight to see which is heavier and which is lighter.
- Objects have measurable attributes that can be recognized and described.
- Good math thinkers are careful about what they write and say, so their ideas about math are clear.

## Essential Questions

### Topic 13

- How can solid figures be named, described, compared, and composed?

### Topic 14

- How can objects be compared by length, height, capacity, and weight?

## Focus of Standards

Student Outcomes	Skills	Assessments	Resources
<b>Topic 13</b> <ul style="list-style-type: none"> <li>• I can analyze and compare 2-D shapes.</li> <li>• I can analyze and compare 3-D shapes</li> <li>• I can analyze and compare 2-D and 3-D shapes.</li> <li>• I can analyze, compare, and make different 2-D</li> </ul>	<ul style="list-style-type: none"> <li>• Solving problems</li> <li>• Understanding concepts</li> <li>• Reasoning</li> </ul>	<b>Formative</b> <ul style="list-style-type: none"> <li>• Diagnostic assessment</li> <li>• Exit tickets</li> <li>• Round robin group work</li> </ul>	<b>Envision Math 2.0</b>  <b>Digital</b> <ul style="list-style-type: none"> <li>• <i>Student and Teacher eTexts</i></li> <li>• <i>Interactive Math</i></li> </ul>



<p>and 3-D shapes using math.</p> <ul style="list-style-type: none"> <li>• I can make 2-D shapes using other 2-D shapes.</li> <li>• I can build 2-D shapes that match given attributes.</li> <li>• I can use materials to build 3-D shapes.</li> </ul> <p><b>Topic 14</b></p> <ul style="list-style-type: none"> <li>• I can compare objects by length and height.</li> <li>• I can compare objects by capacity.</li> <li>• I can compare objects by weight.</li> <li>• I can use attributes to describe different objects.</li> <li>• I can use words to describe how an object can be measured.</li> <li>• I can solve math problems about objects with measurable attributes by using precision.</li> </ul>		<ul style="list-style-type: none"> <li>• Analysis of homework</li> <li>• Class polls <ul style="list-style-type: none"> <li>◦ Show of hands: 1 for all set, 2 for just ok, 3 for help</li> </ul> </li> <li>• One thing I learned/One thing I need work on</li> </ul> <p><b>Summative</b></p> <ul style="list-style-type: none"> <li>• End topic tests</li> <li>• Post group topic</li> <li>• EOY tests</li> <li>• SGO tests</li> </ul> <p><b>Benchmark</b></p> <ul style="list-style-type: none"> <li>• Diagnostic Assessment</li> <li>• Pearson benchmark tests</li> </ul> <p><b>Alternative</b></p> <ul style="list-style-type: none"> <li>• Math diagnosis and intervention system 2.0</li> <li>• Reteaching Set</li> <li>• Online Learning <ul style="list-style-type: none"> <li>◦ Games</li> </ul> </li> <li>• Higher Order Thinking Problems</li> <li>• Leveled homework</li> </ul>	<p><i>story</i></p> <ul style="list-style-type: none"> <li>• <i>Home-School Connection</i></li> </ul> <p><b>Classroom Math Materials</b></p> <ul style="list-style-type: none"> <li>• Counters</li> <li>• Connecting cubes</li> <li>• Tape</li> <li>• Cube trains</li> <li>• Objects of different sizes</li> <li>• Different sized cups</li> <li>• Balance scale</li> <li>• Paper bag</li> <li>• Measuring cups, books</li> <li>• Number cards 0 - 10</li> <li>• Number cards 11 - 20</li> <li>• Double ten-frame</li> <li>• Place-value blocks</li> </ul>
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		<ul style="list-style-type: none"> <li>and practice</li> <li>• Center games</li> <li>• One on one conferencing</li> </ul>	
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### Vocabulary

#### Topic 13

Roll, slide stack, flat surface

#### Topic 14

Height, length, longer, shorter, taller, capacity, balance scale, heavier, lighter, weights, weight, attribute,

### NJ Student Learning Standards

#### Topic 13

#### Geometry

**K.G.A.3** Identify shapes as two dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

**K.G.B.4** Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).

**K.G.B.5** Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

**K.G.B.6** Compose simple shapes to form larger shapes. For example, “Can you join these two triangles with full sides touching to make a rectangle?”

#### Topic 14

#### Measurement and Data

**K.MD.A.1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

**K.MD.A.2** Directly compare two objects with a measurable attribute in common, to see which object has “more of/”less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.

### Standards for Mathematical Practice

**MP1. Make sense of problems and persevere in solving them.**

**MP2. Reason abstractly and quantitatively.**



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**MP3. Construct viable arguments and critique the reasoning of others.**

**MP4. Model with mathematics.**

**MP5. Use appropriate tools strategically.**

**MP6. Attend to precision.**

**MP7. Look for and make use of structure.**

**MP8.** Look for and express regularity in repeated reasoning.

### **Career Ready Practices**

**CRP1.** Act as a responsible and contributing citizen and employee.

**CRP2.** Apply appropriate academic and technical skills.

**CRP3.** Attend to personal health and financial well-being.

**CRP4. Communicate clearly and effectively and with reason.**

**CRP5.** Consider the environmental, social and economic impacts of decisions.

**CRP6.** Demonstrate creativity and innovation.

**CRP7.** Employ valid and reliable research strategies.

**CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.**

**CRP9.** Model integrity, ethical leadership and effective management.

**CRP10.** Plan education and career paths aligned to personal goals.

**CRP11.** Use technology to enhance productivity.

**CRP12.** Work productively in teams while using cultural global competence.

### **NJSLS Technology Standards**

#### **8.1 Educational Technology**

**E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.**

8.1.2.E.1 Use digital tools and online resources to explore a problem or issue.

#### **8.2 Technology Education, Engineering, Design, and Computational Thinking**

**E. Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.**

8.2.2.E.1 List and demonstrate the steps to an everyday task.



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## Interdisciplinary Connections

NJSLS for ELA and Science are introduced, developed, and practiced in the context of learning math content and engaging in mathematical practices.

### ELA

- RI.K.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.
- NJLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- L.K.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

### Science

- K-PS2-1 Scientists use different ways to study the world.
- K-LS1-1 Scientists look for patterns and order when making observations about the world.

## NJSLS: 21st Century Life and Careers

**Key Subjects and 21st Century:** Themes Mastery of key subjects and 21st century themes is essential to student success. Key subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics. In addition, schools must promote an understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into key subjects:

- Relate the following standards to careers that involve mathematics

9.2.4.A.1 Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals

9.2.4.A.4 Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes.



<b>Integrated Differentiation/Accommodations/Modifications</b> <i>(Alternate Modes of Instruction and Support)</i>		
<b>Modifications to Support Gifted and Talented Students</b>	<b>Modifications to Support English Language Learners</b>	<b>Modifications to Support Our Learners (Students with IEPs/504s and At-Risk Learners)</b>
<p>Provide appropriate challenge for wide ranging skills and development areas.</p> <p>Participate in inquiry and project-based learning units of study</p> <p>Assigning roles within partnerships</p> <p>Differentiated supports: content, process, product, environment</p>	<p>Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)</p> <p>Pair visual prompts with verbal presentations</p> <p>Front load and immerse students in literacy and language experiences related to content</p> <p>Provide students with visual models, sentence stems, concrete objects, and hands-on materials.</p> <p>Model procedures for life skills.</p> <p>Collaboration between ELL and general education teacher to maximize learning</p>	<p>Review student individual educational plan and/or 504 plan.</p> <p>Establish procedures for accommodations and modifications for assessments as per IEP/504.</p> <p>Establish procedures for modification of classwork and homework as per IEP/504.</p> <p>Modify classroom environment to support academic and physical needs of the students as per IEP/504.</p> <p>Provide appropriate accommodations, instructional adaptations, and/or modifications as determined by the IEP or 504 team.</p> <p>Differentiation through content, process, product, environment</p> <p>Provide Title I services to students not meeting academic standards in ELA and/or Math.</p> <p>Provide instructional adaptations and interventions in the general education classroom.</p> <p>Modify classroom environment to support student needs.</p>



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		<p>Differentiated instruction</p> <p>Basic Skills</p> <p>Intensive individual intervention</p>
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**Sources**  
 New Jersey Student Learning Standards (2016) <http://www.state.nj.us/education/cccs/2016/math/standards.pdf>  
 New Jersey Student Learning Standards: Technology (2014) - <http://www.state.nj.us/education/cccs/2014/tech/8.pdf>  
 New Jersey Student Learning Standards: ELA (2014) - <https://www.state.nj.us/education/cccs/2016/ela/k.pdf>  
 New Jersey Science and Engineering Practices - <https://www.state.nj.us/education/aps/cccs/science/resources/QRk2.pdf>  
 New Jersey Career Awareness, Exploration, and Preparation - <https://www.state.nj.us/education/cccs/2014/career/92.pdf>  
 Pearson enVision 2.0 (2016) <https://www.pearsonrealize.com/index.html#/>