Unit 6 Classify and Count Data, Describe and Compare Measurable Attributes

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Title Section

Department of Curriculum and Instruction

Belleville Public Schools

Curriculum Guide

Mathematics Kindergarten

Unit 6: Classify and Count Data, Describe and Compare Measurable Attributes

Belleville Board of Education

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Unit Overview

Unit 6 will focus on a variety of topics:

Topic 5 focuses on:

- Classify up to 10 objects into two given categories, count the number of objects in each of those categories, and then sort the categories by count. (count the number of objects in the categories.)

Topic 14 focuses on:

- Introducing measurement by teaching objects can be directly compared by length, height, capacity, or weight.
- Objects can be described by measurable attributes and that some objects can be described by more than one measurable attribute.

CCSS/NJCCCS

Please link all standards that apply in this section within the curriculum of the unit being written. Please include all Common Core

and New Jersey Core Curriculum Standards.

MA.K.CC.B	Count to tell the number of objects.
MA.K.CC.B.5	Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
MA.K.CC.C.6	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
MA.K.CC.C.7	Compare two numbers between 1 and 10 presented as written numerals.

Exit Skills

By the end of Kindergarten Mathematics, students in the Belleville Public Schools will be able to:

- **Represent and compare whole numbers, initially with sets of objects. Students will also work toward fluency in addition and subtraction with whole numbers within 5:**

In Kindergarten students develop a foundation for numbers; they learn to count to 100 and write numbers to 20. Attention is given to numbers 11-20, with an emphasis on tens and ones, to build a foundation for place value understanding. Students begin to add and subtract in kindergarten. They represent quantities to solve problems, and they model simple joining and separating situations with sets of objects or eventually with equations such as 5 + 2 = 7 and 7 – 2 = 5. Students use strategies to add and subtract such as quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

- **Describe shapes and space:**

Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons; and three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

Enduring Understanding

Topic 5 focuses on:

1. Objects can be classified into two categories,based on whether they have or do not have a particular attrribute.
2. Each group can be counted.
3. Data can be sorted and compared in a variety of ways.
4. Objects can be sorted by putting those with a particular attribute in one group and those without the attribute in another group.
5. The groups can be counted and the categories can be compared by count.

6. Good math thinkers use math to explain why they are right. They can talk about the math that others do too.

Topic 14 focuses on:

1. When comparing by length or height, you are thinking about how long or tall objects are.
2. Objects can be compared by length or height to see which is longer/ taller and which is shorter
3. 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.
4. 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.
5. Objects have measurable attributes that can be recognized and described.
6. Good math thinkers are careful about what they writer and say, so their ideas about math are clear.

Essential Questions

How can classifying data help answer questions?
How can objects be compared by length, height, capacity, and weight?

Learning Objectives

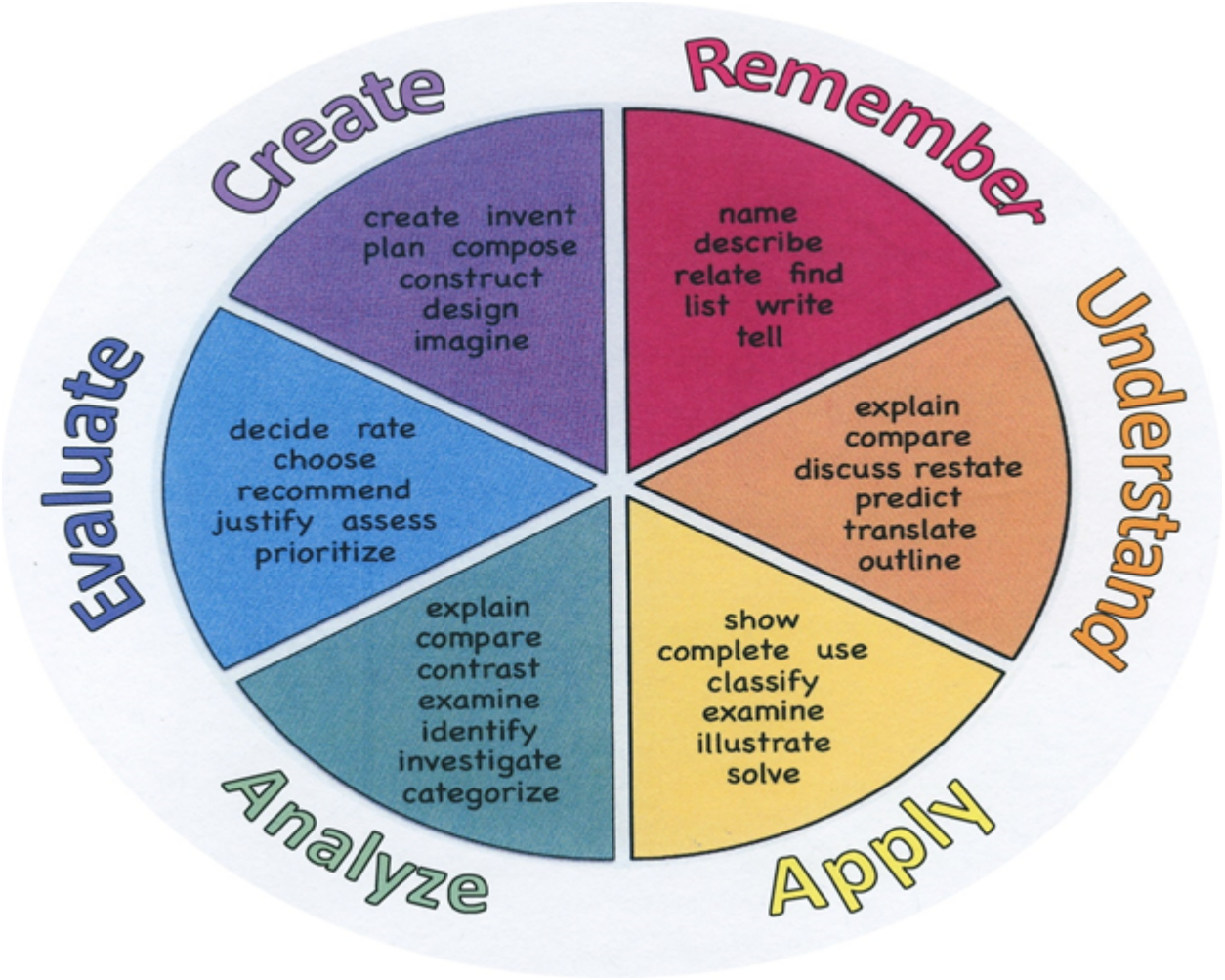
- **Identify**long, short objects, heavy and light.
- Using measuring cups, have students **record** with tallies how many cups needed to fill in a larger capacity container.
- **Locate** object to compare in height,weight and length.

Action Verbs

Below are examples of action verbs associated with each level of the Revised Bloom's Taxonomy. These are useful in writing learning objectives, assignment objectives and exam questions.

Remember	Understand	Apply	Analyze	Evaluate	Create
Choose	Classify	Choose	Categorize	Appraise	Combine
Describe	Defend	Dramatize	Classify	Judge	Compose
Define	Demonstrate	Explain	Compare	Criticize	Construct
Label	Distinguish	Generalize	Differentiate	Defend	Design
List	Explain	Judge	Distinguish	Compare	Develop
Locate	Express	Organize	Identify	Assess	Formulate
Match	Extend	Paint	Infer	Conclude	Hypothesize
Memorize	Give Examples	Prepare	Point out	Contrast	Invent
Name	Illustrate	Produce	Select	Critique	Make
Omit	Indicate	Select	Subdivide	Determine	Originate

Recite	Interrelate	Show	Survey	Grade	Organize
Select	Interpret	Sketch	Arrange	Justify	Plan
State	Infer	Solve	Breakdown	Measure	Produce
Count	Match	Use	Combine	Rank	Role Play
Draw	Paraphrase	Add	Detect	Rate	Drive
Outline	Represent	Calculate	Diagram	Support	Devise
Point	Restate	Change	Discriminate	Test	Generate
Quote	Rewrite	Classify	Illustrate		Integrate
Recall	Select	Complete	Outline		Prescribe
Recognize	Show	Compute	Point out		Propose
Repeat	Summarize	Discover	Separate		Reconstruct
Reproduce	Tell	Divide			Revise
	Translate	Examine			Rewrite
	Associate	Graph			Transform
	Compute	Interpolate			
	Convert	Manipulate			
	Discuss	Modify			
	Estimate	Operate			
	Extrapolate	Subtract			
	Generalize				
	Predict				



Interdisciplinary Connections

SCI.K-2.5.1.2	All students will understand that science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. The four Science Practices strands encompass the knowledge and reasoning skills that students must acquire to be proficient in science.
SCI.K-2.5.1.2.A	Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world.
SCI.K-2.5.1.2.B	Students master the conceptual, mathematical, physical, and computational tools that need to be applied when constructing and evaluating claims.
CCSS.ELA-Literacy.R.K	Reading
TECH.8.1.2	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Alignment to 21st Century Skills & Technology

Key SUBJECTS AND 21st CENTURY THEMES

Mastery of key subjects and 21st century themes is essential for all students in the 21stcentury.

Key subjects include:

- English, reading or language arts
- World languages
- Arts
- Mathematics
- Economics
- Science
- Geography
- History
- Government and Civics

21st Century/Interdisciplinary Themes

- Civic Literacy
- Environmental Literacy
- Financial, Economic, Business and Entrepreneurial Literacy
- Global Awareness
- Health Literacy

21st Century Skills

- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy
- Life and Career Skills
- Media Literacy

Technology Infusion

Smartboard

Lap-Top

Differentiation

- NJDOE: Instructional Supports and Scaffolds for Success in Implementing the Common Core State Standards http://www.state.nj.us/education/modelcurriculum/success/math/k2/

- Monitor progress, reteach as needed, and extend student thinking.
- Assess to identify students needs and then provide appropriate support.
- As needed, provide more instruction that is on level or below grade level for the students who are struggling.
- Use vocabulary cards, vocabulary activities, vocabulary review, and vocabulary glossary.

- Utilize **Quick Check** in order to determine differentiation of instruction. **Assess and differentiate** page will prescribe the differentiated instruction activity.

Special Education

- printed copy of board work/notes provided
- additional time for skill mastery
- assistive technology

- behavior management plan
- Center-Based Instruction
- check work frequently for understanding
- computer or electronic device utilizes
- extended time on tests/ quizzes
- have student repeat directions to check for understanding
- highlighted text visual presentation
- modified assignment format
- modified test content
- modified test format
- modified test length
- multiple test sessions
- multi-sensory presentation
- preferential seating
- preview of content, concepts, and vocabulary
- reduced/shortened reading assignments
- Reduced/shortened written assignments
- secure attention before giving instruction/directions
- shortened assignments
- student working with an assigned partner
- teacher initiated weekly assignment sheet
- Use open book, study guides, test prototypes

ELL

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarif
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning;
- allowing students to correct errors (looking for understanding)
- allowing the use of note cards or open-book during testing
- decreasing the amount of workpresented or required
- having peers take notes or providing a copy of the teacher's notes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using computer word processing spell check and grammar check features
- using true/false, matching, or fill in the blank tests in lieu of essay tests

Intervention Strategies

- allowing students to correct errors (looking for understanding)
- teaching key aspects of a topic. Eliminate nonessential information
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning
- allowing students to select from given choices
- allowing the use of note cards or open-book during testing
- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.
- decreasing the amount of workpresented or required
- having peers take notes or providing a copy of the teacher's notes
- marking students' correct and acceptable work, not the mistakes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using authentic assessments with real-life problem-solving
- using true/false, matching, or fill in the blank tests in lieu of essay tests
- using videos, illustrations, pictures, and drawings to explain or clarify

Evidence of Student Learning-CFU's

Please list ways educators may effectively check for understanding in this secion.

- Admit Tickets
- Anticipation Guide
- Common benchmarks
- Compare & Contrast
- Create a Multimedia Poster
- Define
- Describe
- Evaluate
- Evaluation rubrics
- Exit Tickets
- Explaining
- Fist- to-Five or Thumb-Ometer
- Illustration

- Journals
- KWL Chart
- Newspaper Headline
- Outline
- Question Stems
- Quickwrite
- Quizzes
- Red Light, Green Light
- Self- assessments
- Socratic Seminar
- Study Guide
- Teacher Observation Checklist
- Think, Pair, Share
- Think, Write, Pair, Share
- Top 10 List
- Unit tests

Primary Resources

enVision math teacher's edition book 1 and 2.

Ancillary Resources

www.teacherspayteachers.com