

Unpacked South Dakota State Mathematics Standards

Purpose: In order for students to have the best chance of success, standards, assessment, curriculum resources, and instruction must be aligned in focus, coherence, and rigor. Unpacked standards documents are intended to help align instruction to the focus, coherence, and rigor of the South Dakota State Mathematics Standards. The standards have been organized in clusters as they are not so much built from topics, but rather woven out of progressions. Not all content in a given grade is emphasized equally in the mathematics standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction. Neglecting standards will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade.

Domain: Measurement and Data		Grade Level: 1
1.MD.A Cluster: Measure lengths indirectly and by iterating length units		
Learners are making sense of measurement, including the rules of measuring (end to end with no gaps or overlaps), comparing objects, and naming lengths.		
<p>**This is a MAJOR cluster. Students should spend the large majority of their time (65-85%) on the major work of the grade. Supporting work and, where appropriate, additional work should be connected to and engage students in the major work of the grade.</p> <p>1.MD.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.</p> <p>1.MD.2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.</p>		
Aspects of Rigor: (Conceptual, Procedural, and/or Application)		
Conceptual Understanding	Procedural Fluency	Application
Make direct comparisons between two objects such as finding objects that are the same length, longer than, or shorter than. (1.MD.1)	Order three objects by length Compare the lengths of the two objects indirectly by using a third object (1.MD.1)	
Understand that the length of an object is the number of same-size length units that span it with no gaps end to end (1.MD.2)	Be able to state the length of the object with a whole number (representing the number or units) (1.MD.2)	
Enacting the Mathematical Practices - Evidence of Students Engaging in the Practices		
<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. <ul style="list-style-type: none"> • Recognize that an object can be used to name a unit of length • Express length with a whole number, even when the unit lengths are not a perfect whole. 2. Reason abstractly and quantitatively. <ul style="list-style-type: none"> • Reason about the data and solving problems with the information from the data: what has the most, least, relationships, etc. 3. Construct a viable argument and critique the reasoning of others. 		

- Ask and answer questions about data
 - Explain reasoning (measurement, time, money, and data)
- 4. Model with mathematics.**
 - Use data to solve everyday problems
 - 5. Use appropriate tools strategically.**
 - Use standard and non-standard measurement tools to express length
 - 6. Attend to precision.**
 - Measure end-to-end without gaps
 - Organize and represent data
 - 7. Look for and make use of structure.**
 - Tell time with specific vocabulary such as “half past the hour”
 - Know five pennies are the same as a nickel and ten pennies are the same as a dime
 - Use tally marks to keep track when counting data sets
 - 8. Look for and express regularity in repeated reasoning.**
 - Use a clock to tell time and notice that 60 minutes makes one hour

Vertical and Horizontal Coherence and Learning Progressions

Previous Learning Connections

Kindergarten learners are able to describe measurable attributes of objects, such as length **(K.MD.1)** They use this knowledge to 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. **(K.MD.2)**

Current Learning Connections

First grade learners are thinking about ways to measure objects and how to express that measurement using whole numbers. Learners make the connection between non-standard objects and more standard measurement tools. This knowledge allows learners to state length units in whole numbers and make direct and indirect comparisons of objects.

Future Learning Connections

Second grade learners are making decisions about the tools they use to measure the length of an object by selecting and using tools such as a yardstick, meter stick, rulers, tape measures, etc. **(2.MD.1)** They measure to determine how much longer one object is than another and can express the length difference in terms of a standard length unit **(2.MD.4)**

Vocabulary (Key Terms Used by Teachers and Students in this Cluster):

- Measure
- Length
- Standard
- Non-standard
- End-to-end
- Overlaps
- Gaps

Relevance, Explanations, and Examples:

Iterating - repeating a process

NOTE: While using a non-standard or standard unit of measurement, learners must understand that you have to measure end to end with no gaps or overlaps.



