

# Measurement and Data

*A MyStemKits Curriculum Unit*

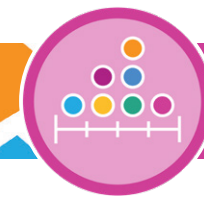
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Grades: *K-1*

Subjects: *Mathematics*

Strands: *Measurement and Data, Counting and Cardinality*

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# Measurement and Data

A MyStemKits Curriculum Unit

## Introduction

The MyStemKits.com K – 1 Measurement and Data Lessons consist of a complete set of lessons aligned to the Common Core State Standards (CCSS) for mathematics. This comprehensive set of lessons addresses the entire measurement and data domain for kindergarten and addresses many of the measurement and data standards for first grade as well.

## Utilized 3D Kits

### Animal Attributes Kit



K-5  
6-8

Science  
Mathematics

Introduce students to collecting, classifying, and representing data using this sample of animals found in the natural world. Compare the numbers of eyes, legs, and horns/antennae and graph this data by placing the animals on our provided templates!

1 Standards-Driven Lesson Plan

### Exploring Measurable Attributes Kit



K-5

Science  
Mathematics

Compare various measurable attributes to introduce the concept of independent variables and practice measuring and classifying objects. Also serves as a great tool to guide students through the transition from nonstandard to standard units.

11 Standards-Driven Lesson Plans

### Measuring with Length Units Kit



K-5

Mathematics

Introduce students to measurement with unlabeled cm and inch units and rulers to guide students from non-standard units of measure to standard units and traditional rulers.

7 Standards-Driven Lesson Plans

## Color Key

All kits and lesson plans have been color-coded so you can more-easily find those relevant to you.

Mathematics

Interdisciplinary

Science



## Lesson Plans: Kindergarten

### Exploring Measurable Attributes

Students explore the measurable attributes of a variety of objects. Attributes include continuous variables such as weight, length, and volume, as well as discrete variables such as the number of arms on a starfish or rungs on a ladder.

**Standards Addressed**  
CCSS.MATH.CONTENT.K.MD.A.1 CCSS.MATH.PRACTICES: 2  
CCSS.MATH.CONTENT.K.MD.A.2

**3D Kits Utilized**  
Exploring Measurable Attributes Kit

Grades: K

Strands: Measurement and Data

### Comparing Measurable Attributes

Students directly compare two objects with a measurable attribute in common to decide which has more or less of the attribute. They are introduced to comparison terms (e.g., longer and more) and use these terms to describe their conclusions.

**Standards Addressed**  
CCSS.MATH.CONTENT.K.MD.A.2 CCSS.MATH.PRACTICES: 2

**3D Kits Utilized**  
Exploring Measurable Attributes Kit

Grades: K

Strands: Measurement and Data

### Introducing Length Measure

Students are introduced to the concept of length measure by using multiple copies of an unspecified length unit to measure the lengths of a number of items. They describe and record the length of each item numerically.

**Standards Addressed**  
CCSS.MATH.CONTENT.K.MD.A.2 CCSS.MATH.PRACTICES: 2, 5, 6

**3D Kits Utilized**  
Exploring Measurable Attributes Kit  
Measuring with Length Units Kit

Grades: K

Strands: Measurement and Data

### Measuring and Comparing

Students continue to measure lengths using an unspecified unit describing lengths numerically. In addition, they compare lengths of objects by both physical side-by-side comparisons and numerical comparisons.

**Standards Addressed**  
CCSS.MATH.CONTENT.K.MD.A.2 CCSS.MATH.PRACTICES: 2, 5, 6  
CCSS.MATH.CONTENT.CC.C.6

**3D Kits Utilized**  
Measuring with Length Units Kit

Grades: K

Strands: Counting and Cardinality,  
Measurement and Data

### Counting and Classifying

Students classify objects based on a discretely measure attribute (e.g., the number of arms of a starfish). They sort categories by count, and count the number of objects in each category.

**Standards Addressed**  
CCSS.MATH.CONTENT.K.MD.B.3 CCSS.MATH.PRACTICES: 2, 6

**3D Kits Utilized**  
Exploring Measurable Attributes Kit

Grades: K

Strands: Measurement and Data

### Measuring and Classifying

Students directly compare two objects with a measurable attribute in common to decide which has more or less of the attribute. They are introduced to comparison terms (e.g., longer and more) and use these terms to describe their conclusions.

**Standards Addressed**  
CCSS.MATH.CONTENT.K.MD.B.3 CCSS.MATH.PRACTICES: 2, 6

**3D Kits Utilized**  
Exploring Measurable Attributes Kit  
Measuring with Length Units Kit

Grades: K

Strands: Measurement and Data



Lesson Plans: First Grade

Direct Length Comparison

Students review direct length comparisons as they directly compare the lengths of two objects and use the terms longer, shorter, and equal to describe their conclusions.

*Standards Addressed*  
CCSS.MATH.CONTENT.1.MD.A.1      CCSS.MATH.PRACTICES: 6

Grades: 1

Strands: Measurement and Data

*3D Kits Utilized*  
Exploring Measurable Attributes Kit

Indirect Length Comparison

Students directly compare the lengths of three objects and order them by length. Then they indirectly compare the lengths of two objects using a third object.

*Standards Addressed*  
CCSS.MATH.CONTENT.1.MD.A.1      CCSS.MATH.PRACTICES: 2

Grades: 1

Strands: Measurement and Data

*3D Kits Utilized*  
Exploring Measurable Attributes Kit

Reviewing Length Measure

Students review the concept of length measure by using multiple copies of an unspecified length unit to measure the lengths of a number of items. They compare the lengths of three objects numerically and order the objects according to their lengths.

*Standards Addressed*  
CCSS.MATH.CONTENT.1.MD.A.1      CCSS.MATH.PRACTICES: 2, 5, 6  
CCSS.MATH.CONTENT.1.MD.A.2

Grades: 1

Strands: Measurement and Data

*3D Kits Utilized*  
Exploring Measurable Attributes Kit  
Measuring with Length Units Kit

Introducing Rulers and Inches

Students transition from measuring length using an unspecified unit to measuring length in inches using a specially designed ruler marked off in one-inch intervals with no scale given (the no scale/one-inch ruler from the MyStemKits.com Measuring with Length Units Kit). They use this ruler to measure the lengths of a variety of objects and express the lengths numerically in inches.

*Standards Addressed*  
CCSS.MATH.CONTENT.1.MD.A.1  
CCSS.MATH.PRACTICES: 2, 5, 6

Grades: 1

Strands: Measurement and Data

*3D Kits Utilized*  
Exploring Measurable Attributes Kit  
Measuring with Length Units Kit

Measuring with a Conventional Ruler

Students transition from using the no scale/one-inch ruler from the MyStemKits.com Measuring with Length Units kit to using a conventional ruler. They practice using the conventional ruler to measure the lengths of objects both in the real-world and on paper.

*Standards Addressed*  
CCSS.MATH.CONTENT.1.MD.A.1      CCSS.MATH.PRACTICES: 2, 5, 6

Grades: 1

Strands: Measurement and Data

*3D Kits Utilized*  
Exploring Measurable Attributes Kit  
Measuring with Length Units Kit

Working with Discrete Data

Students classify objects based on a discretely measured attribute. They organize their classifications and represent them in a graph. They ask and answer questions about the total number of data points, the number of data points in each category, and the differences in the number of data points across categories.

*Standards Addressed*  
CCSS.MATH.CONTENT.1.MD.C.4      CCSS.MATH.PRACTICES: 2, 6

Grades: 1

Strands: Measurement and Data

*3D Kits Utilized*  
Animal Attributes Kit

Working with Measurement Data

Students classify objects based on a continuously measured attribute (e.g., the length of a caterpillar). They organize their classifications and represent them in a graph. They ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

*Standards Addressed*  
CCSS.MATH.CONTENT.1.MD.C.4      CCSS.MATH.PRACTICES: 2, 6

Grades: 1

Strands: Measurement and Data

*3D Kits Utilized*  
Exploring Measurable Attributes Kit  
Measuring with Length Units Kit

