Curriculum Sample Template
Max. 8 Pages

Grade Level	2	**Content Area**	Math
Course Title (grades 9-12 Only)	N/A		
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	At this point in the year, students will have developed strong number sense; they will know how to identify and write whole numbers through 999, count forward and backward to 999, order at least three whole numbers, and compare two whole numbers through 999. They will also have the ability to add and subtract one- and two-digit numbers with and without regrouping. They will know how to apply their operations skills to solve word problems. These skills, especially comparing whole numbers, will be critical for mastering the skills in this unit.		
Alignment to Program of Instruction *Briefly outline methods of instruction found in this sequence of lessons that align to the Program of Instruction described in A.3.*	These math lessons will serve as the "Math Content Lesson" as described in the Program of Instruction. A large focus for math content lessons is developing conceptual understanding, which is accomplished in these lessons through the variety of hands-on activities designed to help students develop a deep understanding of measuring objects using a variety of units. These lessons follow the direct instruction model, including setting a purpose for learning, introduction to new material, guided practice, independent practice, and closure. Additionally, these lessons use authentic approaches as they utilize materials that students interact with on a daily basis and set an authentic purpose for learning each day. This unit is a critical prerequisite to learning to measure objects in inches and centimeters, which will directly follow this unit.		
Standard Number and Description *List the Number* and the full description for the Required Standard or Science Performance Objective listed in section A.6.*	Grade: 2 Domain: Measurement & Data (MD) Strand: Measure and estimate lengths in standard units Standard: #2 - Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. 2.MD.2 Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.		
Materials/Resources Needed	Large assortment of classroom objects for comparison stations, unifix cubes, beans, paperclips, rulers, paper strips, pink erasers, reading books, whiteboards and markers, sticky notes, chart paper, independent practice worksheets, graphic organizers to record measurements		

* ***Standard Number****: For English Language Arts (Reading and Writing), use Grade, Strand, Standard (e.g., 3.RI.2). For K-8 Math, use Grade, Domain, Standard (e.g., 6.EE.7). For HS Math, use Conceptual Category-Domain, Standard (e.g., A-REI.6). For Science, use Grade, Strand, Concept, PO (e.g., 4.1.3.1).*

Lesson (add as needed)	Instructional Strategies	Student Activities
1	**Objective:** Students will be able to make comparisons (i.e., longer/shorter/about the same) of two or more objects based on some measurable attribute. **Introduction to New Material (10 minutes):** Teacher holds up two stacks of unifix cubes, one longer than the other, and asks students to be good mathematicians and notice as many things about the sticks as they can. Teacher encourages students to use words like taller, longer, shorter, etc. Teacher takes out a tape measure and a ruler and tells students we are going to work on understanding what it means to measure something. Teacher and students discuss why measuring is important and how we use it in our daily lives (i.e. getting feet measured for shoes, objects measured for home construction projects). Teacher informs students that the first step in learning measurement is being able to **compare** two or more objects. When we compare, we are deciding which objects are **taller, shorter,** or **longer**. Teacher defines each word and gives examples (i.e. when we talk about what's tallest we are talking about something that is vertical). Teacher holds up two objects at a time and models comparing those two objects using the vocabulary words taller, shorter, and longer. Teacher repeats this a few times with various objects.	Students listen actively and respond to the teacher's questions. Students discuss why measuring is important and how they use it in their daily lives. Students listen actively as the teacher models comparing objects.
	Guided Practice (10 minutes): Teacher will ask students to help him/her compare an assortment of objects, some immediately tangible and some not (i.e., which is longer, this bean or this pencil? Which is shorter, our school building or our hamster?) Teacher assigns each object a one or a two and asks students to hold up that many fingers to indicate their answers. Teacher will distribute sticky notes and ask students to put their names on them and number them one through three. Teacher will present three pairs of two objects, and ask students to write down which in the pair is longer, shorter, and taller. Teacher will collect sticky notes to use as a final check for understanding and will quickly determine which students need further help.	All students answer questions about comparing two objects by holding up fingers as asked. Students will write down their final checks for understanding on their sticky notes and give the sticky notes to the teacher.

	Independent Practice (20 minutes): Teacher sets expectations and directs students to independently visit different stations, with a graphic organizer, to compare pairs of objects. While most of the students are completing the independent practice, the teacher will work with students who did not demonstrate mastery of the objective on the final check for understanding. Teacher will work with students until they demonstrate mastery of the objective, then release students to complete the independent practice. **Closure (5 min):** Teacher will bring students back together. Teacher will tell students to imagine a time when they needed to measure something and volunteer responses. Teacher will tell students that they are now one step closer to measuring those objects themselves.	Students visit various stations as directed by the teacher. At each station, students compare a pair of objects and record their comparisons using the vocabulary words, taller, shorter, and longer in their graphic organizers. Meanwhile, students who did not demonstrate mastery work with the teacher in a small group. As students demonstrate mastery, students are released to independent practice. Students will share times when they needed to measure things in real life as directed by the teacher. Students will listen actively as other students share their responses.
2	**Objective:** Students will be able to measure objects using a variety of measuring units (paperclips, strips of paper, beans, etc.). **Introduction to New Material (10 minutes):** Teacher reminds students that this week we are learning how to measure objects so that we can measure things in real life! Teacher will quickly show students two objects and ask students to describe the objects to their partners using the vocabulary words taller, shorter, and/or longer that they learned yesterday. Teacher will prompt several students to share their responses. Teacher will tell students that today we will learn how to measure objects using a variety of different units. Teacher tells students that today we are going to use paperclips, unifix cubes, pink erasers, beans, and our reading books to measure items. Teacher tells students that when we match items like these to an object to compare them, we are creating a number called a measurement – for example, we will determine that one pencil is some number of beans long and some number of paper clips long, etc. In this case, whatever object we are measuring with is called our unit. Teacher models measuring a book using paperclips. Teacher describes how he/she is measuring by lining up the units back-to-back to make sure there are not any gaps in between. Teacher records the length of the book (using paperclips as the unit) on chart paper. Teacher repeats modeling with a few additional objects and various units. Teacher asks students to share with a partner how he/she is measuring the objects (lining objects up back-to-back, lining the objects up on their	Students look at the two objects and describe the objects to their partners using the vocabulary words taller, shorter, and/or longer. Students share responses with the class as directed by the teacher while other students listen actively. Students listen attentively as the teacher models. Students listen attentively as the teacher models. Students share with their partners, describing how the teacher is measuring the objects. Several students share their responses while other students listen actively.

	longest sides, etc.). Teacher asks several students to share their responses. **Guided Practice (15 minutes):** Teacher tells students that they will practice measuring a variety of objects using different units. Teacher reminds students to make sure they are lining up the units carefully so they get a correct measurement. Teacher prompts students to find their partners and begin visiting the stations around the room. Each station has an object to measure and a unit with which to measure the object. Teacher reminds students to record their measurements on their papers. Teacher circulates as students work to ask probing questions and to correct any misconceptions. Teacher brings the class back together and passes out independent practice worksheets. Teacher asks students to complete the check for understanding problem on the worksheet, using the units on their tables to measure the given objects. Teacher quickly circulates to determine which students have mastered the objective and which students require further practice. **Independent Practice (15 minutes):** Teacher directs students to complete the independent worksheet, measuring a variety of classroom objects using the units on their tables. Meanwhile, teacher pulls a small group of students who require additional assistance with the objective based on data from the check for understanding. Teacher works with these students in further guided practice and releases students to independent practice once they demonstrate mastery of the objective. **Closure (5 minutes):** Teacher brings the class back together. Teacher prompts students to describe to a partner the process for measuring objects using various units.	Students practice measuring a variety of objects using different units by lining up the units carefully so they get a correct measurement. Students work with partners visiting various stations and measuring the objects at each station. Students record their responses on their papers. Students complete the check for understanding problem on the worksheet, using the units on their tables to measure the given objects. Students complete the independent practice worksheet, measuring a variety of classroom objects using the units on their tables. A small group of students works with the teacher in further guided practice. Students complete the independent practice as directed by the teacher. Students share with their partners the process for measuring objects using various units, listening attentively to their partners.
3	**Objective:** Students will be able to measure an object twice, using length units of different lengths (paperclips, strips of paper, beans, books, etc.) and describe how the two measurements relate to the size of the unit chosen. **Introduction to New Material (15 minutes):** Teacher will set an authentic purpose for today's lesson by asking	Students will respond to the teacher's questions. Students listen

	students to think of a time when they or their families had to measure something. Teacher will ask them what they used to measure that object, and if they can think of any particular reason *that* measuring tool was used. Teacher will prompt student responses and tell students to hold on to their thoughts for later.	attentively.
	Teacher tells students that now that we have a good grasp on measuring objects, we are going to measure the same object using two different units! We will talk about how measurements are different based on the units we use to measure.	Students will listen attentively.
	Teacher models measuring a book using paperclips and then with beans. Teacher describes how he/she is measuring by lining up the units back-to-back to make sure there are not any gaps in between. Teacher records the lengths of the various units on chart paper. After modeling measuring with various measuring units, teacher will ask students to comment on what is different about the two numbers and why. Teacher will guide students to the conclusion that the measurements are different based on the sizes of the two units used to measure the objects (For example, beans are much smaller than unifix cubes so the measurement using beans will be greater than the measurement using unifix cubes because more beans were used.)	Students will listen actively as the teacher models. Students will comment on what is different about the two measurements and why.
	Guided Practice (15 minutes):	
	Teacher informs students that they will now visit a variety of stations to measure and record measurements on their own. Teacher directs students to visit different stations at which there are a variety of objects to measure and two different units (i.e. beans and paperclips or paper strips and unifix cubes). Teacher has students measure objects with the units and record measurements in a graphic organizer. Students also record which unit of measurement required more units to measure and why (i.e. it took more beans to measure this book than paperclips because beans are smaller). As students work, teacher will circulate to assist students and make note of any students who are struggling.	Students will listen to the teacher's directions. Students will visit different stations at which there are a variety of objects to measure and two different units (i.e. beans and paperclips or paper strips and unifix cubes). Students will measure objects with the units and record measurements in a graphic organizer. Students also record which unit of measurement required more units to measure and why (i.e. it took more beans to measure this book than paperclips because beans are smaller).
	Teacher will pull students back together and pass out the independent worksheet for the day. Teacher will direct students to complete a final check for understanding question on their papers where they will use beans and unifix cubes to obtain two measurements of an object and explain the difference between the two measurements. Teacher will quickly walk around to make note of any students who did not master	Students will complete a final check for understanding question on their papers where they will use beans and unifix cubes to obtain two measurements of an object and explain the difference between the two measurements.

	the final check for understanding question. **Independent Practice (10 minutes):** Teacher directs students to complete the independent practice worksheet where they will use various units to measure objects two different ways and explain the differences between the two measurements. Meanwhile, the teacher will work with a small group of students who did not master the final check for understanding question to provide further guided practice. As students demonstrate mastery, teacher will release them to independent practice. **Closure (5 min):** Teacher and students will discuss the problems encountered with measuring with different units (for example, "If I measure something with beans and you measure with paperclips, we will never have the same measurement, which could be confusing. Also, measuring with beans is really hard – they are slippery and small!"). Teacher and students will discuss why some units produce a higher measurement number than others (i.e. beans vs. long paper strips). Discuss what the numbers of units mean – i.e., a book is 20 beans long. That is our measurement, a number that gives us a comparison, and a number that represents how many of something it takes to match the length of an object. Discuss how this might be useful in real life (i.e., we want to know how deep a pool is to see if it is safe to dive, so we need to know if there is enough room for our bodies to travel through the water without hitting our heads).	Students will complete the independent practice worksheet. A small group of students will work with the teacher in further guided practice. As students demonstrate mastery of the objective, students will complete the independent practice. Students will listen to the teacher actively and discuss topics as prompted by the teacher. Students will discuss the problems encountered while measuring with different units. Students will discuss why some units produce a higher measurement number than others and what the number of units means. Students discuss why measuring might be useful in real life.
4	**Assessment:** Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. **5 minutes:** Teacher explains that today we will have the opportunity to show all that we have learned this week about measuring length. Teacher sets expectations for the assessment. **40 minutes:** Teacher directs students to complete the assessment. Teacher walks around to monitor student progress but teacher does not assist students with anything related to the objective.	Students listen actively. Students complete the assessment independently.

Summative Assessment Items: *Attach here.* For each summative assessment item, include an answer key or scoring rubric describing how points are to be awarded.

*Numbers one, two, four and five are each worth one point. Numbers three and six are each worth two points (one point for writing the correct unit, for example, unifix cubes or erasers, and one point for the explanation). There are a total of eight points that can be earned on the summative assessment and all assessment items will together determine a student's proficiency with the given standard. Students must earn at least seven out of eight points (88%) to demonstrate mastery. (The bar of mastery at CASA Academy is 85% or higher. However, for this assessment, it is not possible to earn exactly 85%.)

Summative Assessment:

Use the screwdriver below to answer questions 1-3.

1. Measure the length of the screwdriver using unifix cubes.

   The screwdriver is about _____ unifix cubes long.

2. Now measure the length of the screwdriver using paperclips.

   The screwdriver is about _____ paperclips long.

3. Which of the two units (unifix cubes or paperclips) produced the greatest measurement? Why?

   _____ produced the greatest measurement because _____.

Use the pencil below to answer questions 4-6.

4. Measure the length of the pencil using beans.

   The pencil is about _____ beans long.

5. Now measure the length of the pencil using erasers.

   The pencil is about _____ erasers long.

6. Which of the two units (beans or erasers) produced the smallest measurement? Why?

   _____ produced the smallest measurement because _____.

Answer Key:

1. 5
2. 3 or 4
3. **Unifix cubes** (1 point) produced the greatest measurement because **they are smaller than the paperclips so you need more of them to measure the screwdriver** (1 point). (*Wording does not need to be exact, but same idea must be present to demonstrate understanding.)
4. 14
5. 3
6. **Erasers** (1 point) produced the smallest measurement because **they are larger than the beans so you use less erasers than beans to measure the pencil** (1 point). (*Wording does not need to be exact, but same idea must be present to demonstrate understanding.)