



**Non-Standard Measurement  
for Beginners  
Math Unit for 1<sup>st</sup> Grade**

## **Measurement**

This unit will explore a variety of activities that can be done with 1<sup>st</sup> graders that will give them opportunities to develop the concept of measuring by comparison or nonstandard units. Students will compare length, weight, and volume of two or more objects.

**Purpose:** The purpose of this unit is to familiarize 1<sup>st</sup> graders with the concept of measurement using a variety of nonstandard units.

**Standard: 1.0 Students use direct comparison and nonstandard units to describe the measurements of objects:**

1.1 Compare the length, weight, and volume of two or more objects by using direct comparison or a nonstandard unit.

### **HOW MANY SKITTLES?**

1. Give each student a “mini” bag of Skittles
2. Give each student a variety of things to measure—erasers, paper clips, pencils, and other school supplies
3. Ask students to trace each object one at a time.
4. Student should then “measure” the item in Skittles, counting how many Skittles long the school supply is.
5. Student should write the number of Skittles beside the drawing of the object

**Variation:** Use some other form of food to measure—Fruit Loops, Cheerios, Mini Wheats, mini-marshmallows, other

### **HOW BIG IS THE MINI PUMPKIN?**

1. Ask students to work in partners
2. Give each one of the students a “Mini Pumpkin”
3. Give each student a piece of yarn

4. Ask student to wrap the yarn around his/her “mini pumpkin” and then cut the yarn so it is the same length as the “mini pumpkin” is around (circumference)
5. Have student mark the length of the yarn on a piece of paper
6. Have student measure the length of the yarn in any of the measures described above.

## HOW MANY VINES?

1. Have students work in groups of 4-5
2. Give each group of students a piece of yarn about 6 feet long, and a baggie of red vines (totaling at least 6')
3. Tell students about the concept of estimation. Explain that when they are estimating, they are making a “best guess” about something. Work through several examples with them.

**Example #1:** How many red vines do you think it would take to measure your arm? Have student make a “best guess”. Then have the group of students measure one person’s arm with yarn, and then lay out red vines to equal the length of the person’s arm. Discuss the answers given.

**Example #2:** Ask students how many red vines they think it would take to measure the width of the door. Then have each group of students measure the door with yarn and then determine how many red vines long the yarn is. Discuss answers given.

4. After working through these two examples, have groups of students make the following estimations:
  - How many vines long is the table?
  - How many vines long is the white board?
  - How many vines long is the teacher’s desk?
  - How many vines long is one person in the group?
  - How many vines wide is the book case or counter?

5. After students make an estimation, have students measure the item with yarn and then measure the yarn with red vines, recording the number of vines by each item.

## **HOW TALL IS THE DINOSAUR?**

1. At the Dollar Store, WalMart, Target or similar store, pick up several different toy dinosaurs (look for a small bag of a variety of dinosaurs).
2. Brainstorm with students different ways to measure things, (cereal, red vines, linked paper clips, Skittles, etc. Make a list.
3. Have students work in small groups, each with several dinosaurs.
4. Ask students to measure the height of each dinosaur using one of the ways to measure listed above, and then arrange the dinosaurs from either shortest to tallest or tallest to shortest.
5. Have students share the information they found with the other groups.

## **WHICH HOLDS THE MOST?**

1. Ask students to bring empty containers from home—such as empty and clean yogurt or pudding cups, small plastic water bottles, ice cream cups; or from school—an empty and rinsed milk or juice carton.
2. Bring rice so students can verify predictions.
3. Have students work in groups of 3-4.
4. Ask students to predict which container will hold the most rice.
5. Have them arrange the containers in order from “hold the most” to “hold the least”.
6. Have students determine if the prediction was correct by having them begin with the smallest container, filling it, pouring it into the next container and so far. Students’ prediction was correct if they needed to add rice to each container as they moved up the container change.

## HOW MUCH DOES IT HOLD?

1. Ask students to bring empty containers from home—such as empty and clean yogurt or pudding cups, small plastic water bottles, ice cream cups; or from school—an empty and rinsed milk or juice carton.
2. Bring a variety of things to measure volume—sand, sugar or salt, Trix, Cheerios, or water—anything that students can “pour” into a container.
3. Have students work in groups of 3-4.
4. Ask students to predict which container will hold the most of whatever they are measuring.
5. Ask students to explain “why” they selected the container that they did.
6. Ask students to check out their prediction by filling the container they believe will hold the most.
7. After filling the first container, explain that if this container holds the most, when they transfer what they measured to another container, there will be something left in the first container. Discuss why this would be the case. Explain that they are measuring the volume (or the capacity) of a container and that the volume of different containers can and is different.
8. Have students explain the results.

## HOW MUCH DOES IT WEIGH?

1. You will need a balance that has a cup or container on each side.



Something like this.

2. Have students select a variety of things to weigh.
3. Have students select a variety of things to use to compare or match weights. For example, one gummy worm might weigh 11 paper clips, 9 crayons, or 13 linker cubes.

4. Have students weigh each of the items, balancing it against the items used for the comparison.
5. Have students record the results.

You may transition students to traditional means of measuring (rulers, cups, scales) after they have experienced measuring in nontraditional ways by simply repeating the activities using typical measuring tools.



For more information, contact  
Consult 4 Kids at

[www.consultfourkids.com](http://www.consultfourkids.com)

