

Writers' Workshop

Measuring without a Ruler

In this Writers' Workshop you will:

- Learn to measure distances using your body, rather than a ruler.

Measuring without a Ruler

Mini-Lesson: The "Tape Measures" You Always Have with You

The sports section, more than any other section of your publication, relies on numbers. When writing about quantities or distances in any part of your publication, avoid vague, tired expressions such as "a lot of" or "close to." Strengthen your sentences with specific details. For instance:

There are a lot of lockers in the room. They are all full of the athletes' stuff.

is not as strong as

Fifty feet of identical lockers, stacked three high, fill the room. The lockers are each crammed with the clothes and books, notebooks and electronics the athletes use in their other life, when they are not on the field.

The pop machine is close to the cafeteria.

is not as strong as

Not 100 feet from the cafeteria, the pop machine ...

Behind his desk is a big green and gold banner from their last championship.

is not as strong as

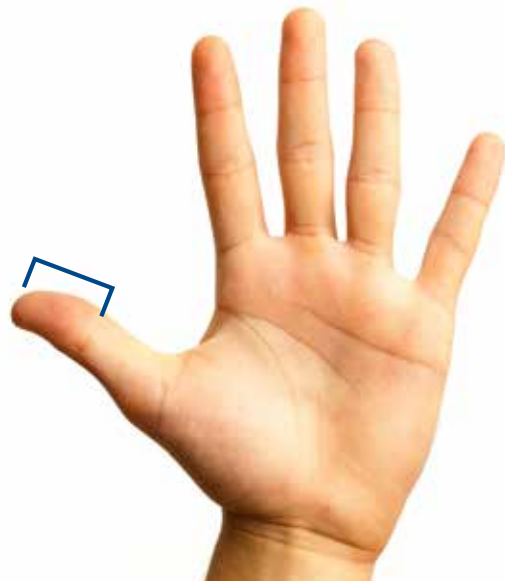
Behind his desk hangs a green and gold banner, 2 yards wide, reaching to the floor from the 10-foot ceiling, from their last championship season, 1999.

Obviously journalists do not carry tape measures and rulers around with them on every story. Neither do they tote ladders to measure ceiling heights. How can you get these measurements?

Your own body and a little math are all you need. The following descriptions will show you how to use a ruler and a long tape measure to learn the size of "measuring devices" you carry with you at all times. (The track team probably has a long tape measure.)

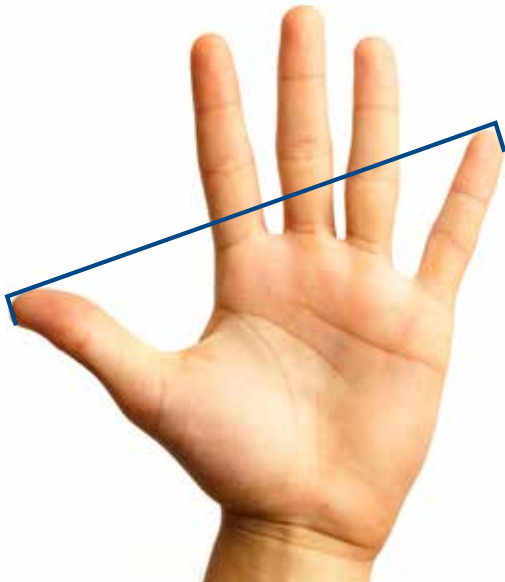
Work with a small group to check each other's measurements. The measurements you are about to make need to be accurate; otherwise, you will not be able to trust the measurements you make with these personal devices. And if you are unable to trust your measurements, your audience will not be able to trust you.

- **your thumb:** Measure from the tip of your thumb to the first crease. Record the length. It will probably be between 1 and 2 inches. Your thumb can help you estimate small dimensions such as those used for book thicknesses, jewelry boxes, scars, purses or hand lettering on a sign.



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- **your hand span:** This is the distance across your hand, from the tip of the thumb to the outstretched tip of the little finger, as if your hand were a flattened spider. Lay your extended hand on a ruler. Record the length. Most people's hand span will be between 7 and 10 inches. With this measure, you can judge the width of bookcases and the height of big-gulp cups.



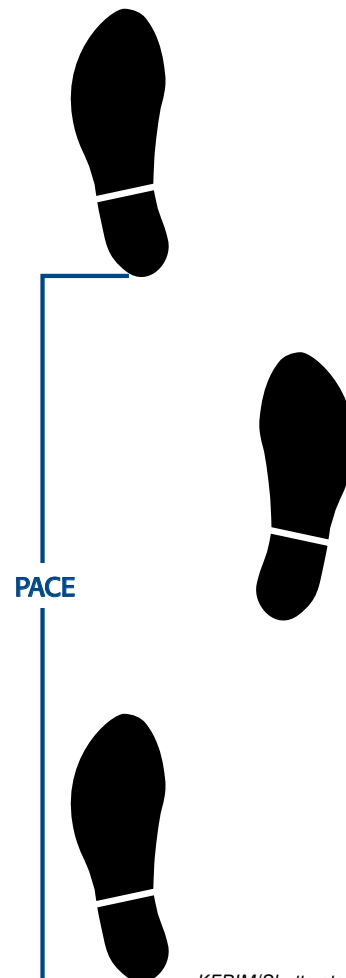
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- **a crawling spider:** For slightly larger items, such as a box, the hand can crawl like a spider along the edge. First it is extended to its full span, then the thumb comes up to the little finger and the hand extends again to its full span. If the "spider" stretched out and assembled itself four times from one end of the box to the other, and your hand span measurement was 9 inches, then the box is 36 inches, or 1 yard, long.
- **area and volume:** Use the same crawling spider technique for two adjoining sides of the box and you have the area (width \times length). Measure the height and combining that measurement with the area gives you the volume inside the box (width \times length \times height).
- **nose to thumb:** Hold one end of a flexible tape measure between the first finger and thumb of your horizontally outstretched arm. If it is your right arm, hold it straight out to your right. Now hold the other end of the tape measure to your nose. If you are tall, look straight ahead. If you are shorter, turn your face in the opposite direction to increase the distance from the fingers

that hold the tape to your nose. You want to find a position that helps you measure 36 inches. Tailors and seamstresses use this measure to determine a yard—36 inches—of fabric. Can you measure a yard between your outstretched fingers and your nose, either measuring with your nose straight ahead or your nose to the side?

This measure is good for determining the width of an industrial-sized fan, the length of your editor's hair, or the length of your computer cable. You will be able to describe *a fan almost a yard across, a braid swinging a full yard and more down her back or 7 feet of computer cable stretched along the floor.*

- **pace for longer distances:** Your pace is how far you step, from the point where one heel leaves the ground to the point where the same heel strikes the ground again. (Do not count every time one of your heels comes down; rather, count every other step. For example, count just when the left heel comes down; do not count the steps you take with your right foot.) Use the longest



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available tape measure to mark exactly 100 feet along a straight, smooth walkway. Then start walking with your right foot and count each time your left foot comes down. Divide the number of times your left foot came down into 100 to determine your pace. Your pace is usually about the same as your height. If you are 5 feet tall, your pace should be about 5 feet. Hint: To get an accurate pace, do this activity several times. You will need to walk smoothly and evenly, as if you were intending to walk several blocks. Wear comfortable shoes. High heels and shoes that cause you to scuff your feet will keep you from finding your pace. Low pants or tight skirts that keep you from moving your legs naturally will also make it hard to get an accurate measurement. If your pace is just over 5 feet or just under 6 feet, you may want to shorten or lengthen your stride slightly, then practice how you must walk to measure 5 feet or 6 feet. It will prevent you from having to do a great deal of extra math if you can use your pace to accurately measure distances.

Indirect Measures

Unfortunately, few journalists can pace across water or shinny up flagpoles to get measurements. To measure distances where you cannot tread, you will need an indirect measure.

Imagine a right triangle. The ground is the base of the triangle, the flagpole you want to measure is the side that is at a right angle to the ground. You are standing some distance away at the opposite end of the triangle's base.

Have a student whose height you know stand at the base of the flagpole. Now hold up a pencil vertically, point down, at arm's length so that the eraser appears to cover her head. Note the place on the pencil that appears to cover her feet. (You can mark a wooden pencil with your thumbnail.) If the student is 5 feet tall, that section of the pencil is now measuring 5 feet.

Do not move from where you are standing. Move the pencil upward so that your mark on the pencil rests at the top of her head. That will be 10 feet. Count how many eraser-to-thumb-mark measures it takes to get to the top of the flagpole. Multiply that number by five (if she is 5 feet tall), and the result will be the height of the flagpole in feet. (Do not forget to include the 5-foot interval from the ground to the top of your 5-foot-tall friend's head.)

You can use the same technique to measure a horizontal distance you cannot reach, such as a roped-off area at a concert or a crime scene. Find something or someone standing in the area whose height you know. That could be a person or a fence, if you know the height of the fence or it is the same height as a fence behind you. Once you know how much of your pencil covers 6 feet, for instance, tip your pencil horizontally and measure the distance you are interested in. If it takes you 7 1/2 pencil lengths to measure the stage and you used a 6-foot measure, you know the stage is about 45 feet across. Please note: What you are measuring should be about as far away as the fence or person you are using as your standard.

Since these indirect measures are not exact, be sure to indicate that to your audience. The stage could be *almost 50 feet across or over 15 yards across*. Or *The spotlight illuminated the American flag blowing stiffly in the breeze 60 feet above the huddle*.

Apply It!

1. Using the techniques you have learned, measure at least three objects in your classroom and three objects outside the classroom. Write one or more descriptions using these measurements.
2. Measure three distant objects using indirect measure.
3. Compare your results with those of two or three other people who measured the same objects.