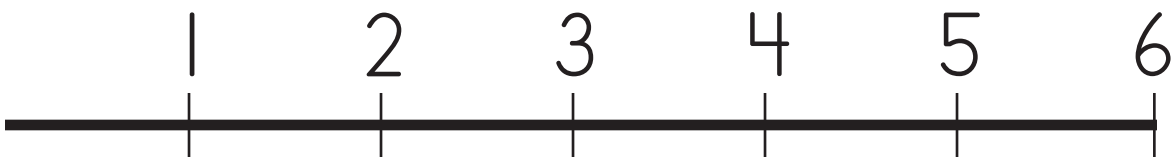
Name _____

Inches

We use inches to measure how long an object is. This is one inch: ——

Here are 6 inches:



How long is each object?

_____ inches

_____ inches

_____ inches

_____ inches

MEASUREMENT SHEETS • 001

SKILL: MEASURE INCHES

Name _____

Inches

A *ruler* is a tool we use to measure inches. Use this ruler or one of your own to measure the objects.

_____ inches

_____ inches

_____ inches

MEASUREMENT SHEETS • 002

SKILL: MEASURE INCHES

Name _____

Inches and Feet

When something we measure is less than one foot, we use inches. When something we measure is 12 inches long we call it 1 *foot*. There are 12 inches in a foot. When something we measure is more than 12 inches, we use feet *and* inches.

12 inches = _____ foot

24 inches = _____ feet

18 inches = _____ foot _____ inches

MEASUREMENT SHEETS • 003

SKILL: MEASURE INCHES AND FEET

Name _____

Inches and Feet

A part of a foot can be written two ways: as inches or as a fraction of a foot.

For example:

18 inches = 1 foot 6 inches

18 inches = $1\frac{1}{2}$ feet

Try this:

24 inches = _____ feet

30 inches = _____ feet _____ inches

30 inches = _____ feet

MEASUREMENT SHEETS • 004

SKILL: MEASURE INCHES AND FEET

Name _____

Inches and Feet

Decide which unit of measurement to use for the following objects. Draw a line from the object on the left to the word on the right.

inches

feet

inches

feet

MEASUREMENT SHEETS • 005

SKILL: MEASURE INCHES AND FEET

Name _____

Feet and Yards

When something measures 3 feet long, we can call it a *yard*.

3 feet = 1 yard

36 inches = 1 yard

If an object is longer than 1 yard, we can use yards, and feet, inches, or fractions.

4 feet = 1 yard, 1 foot

48 inches = 1 yard, 12 inches

54 inches = $1\frac{1}{2}$ yards

MEASUREMENT SHEETS • 006

SKILL: MEASURE FEET AND YARDS

Name _____

Inches, Feet and Yards

When writing measurements we can use abbreviations and symbols:

inches can be written as in. or "

feet can be written as ft. or '

yards can be written yd.

Write the following using abbreviations and symbols:

2 feet, 3 inches _____

6 inches _____

5 feet _____

4 yards _____

MEASUREMENT SHEETS • 007

SKILL: ABBREVIATE INCHES, FEET AND YARDS

Name _____

Measurement

Use a tape measure or yard stick to measure objects like these in your home or classroom. Record your findings.

_____ yards, _____ feet, _____ inches

_____ yards,

_____ feet,

_____ inches

_____ yards, _____ feet, _____ inches

_____ yards, _____ feet, _____ inches

MEASUREMENT SHEETS • 008

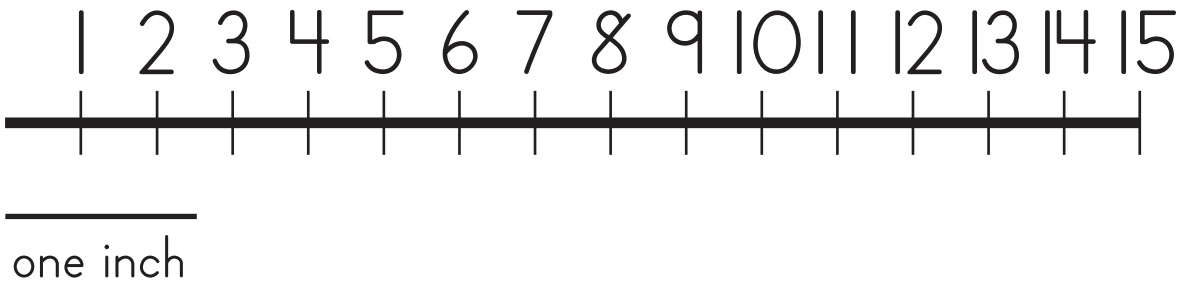
SKILL: MEASURE OBJECTS

Name _____

Metric System: Centimeters

The metric system is another way to measure. Using the metric system, we use centimeters to measure how long an object is. This is one centimeter: —

Here are 15 centimeters:



one inch

An inch is about $2\frac{1}{2}$ centimeters.

The abbreviation for centimeter is cm.

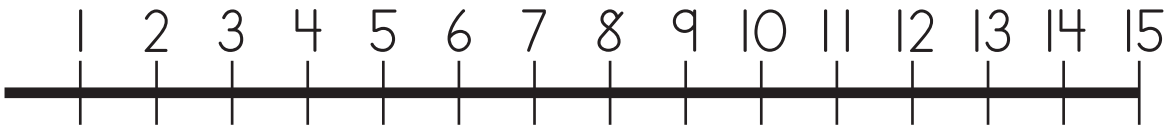
MEASUREMENT SHEETS • 009

SKILL: MEASURE CENTIMETERS

Name _____

Centimeters

Use the ruler below or a centimeter ruler of your own to measure the following objects:



_____ centimeters

_____ centimeters

_____ centimeters

_____ centimeters

MEASUREMENT SHEETS • 010

SKILL: MEASURE CENTIMETERS

Name _____

Centimeters

The prefex centi- means *a hundredth part*. This means that 100 centimeters is the same as 1 meter.

100 centimeters = 1 meter

Use a meter stick to measure the heights of two classmates. Record your findings below:

name _____

_____ meter _____ centimeters

name _____

_____ meter _____ centimeters

Heights may be *less* than 1 meter.

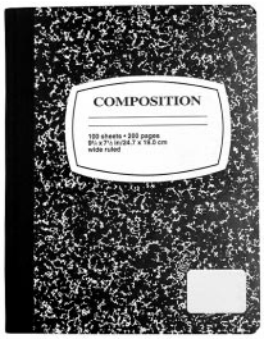
MEASUREMENT SHEETS • 011

SKILL: MEASURE CENTIMETERS

Name _____

Meters and Centimeters

Decide which unit of measurement to use for the following objects. Draw a line from the object on the left to the word on the right.



meters

centimeters

meters

centimeters

MEASUREMENT SHEETS • 012

SKILL: MEASURE CENTIMETERS AND METERS

Name _____

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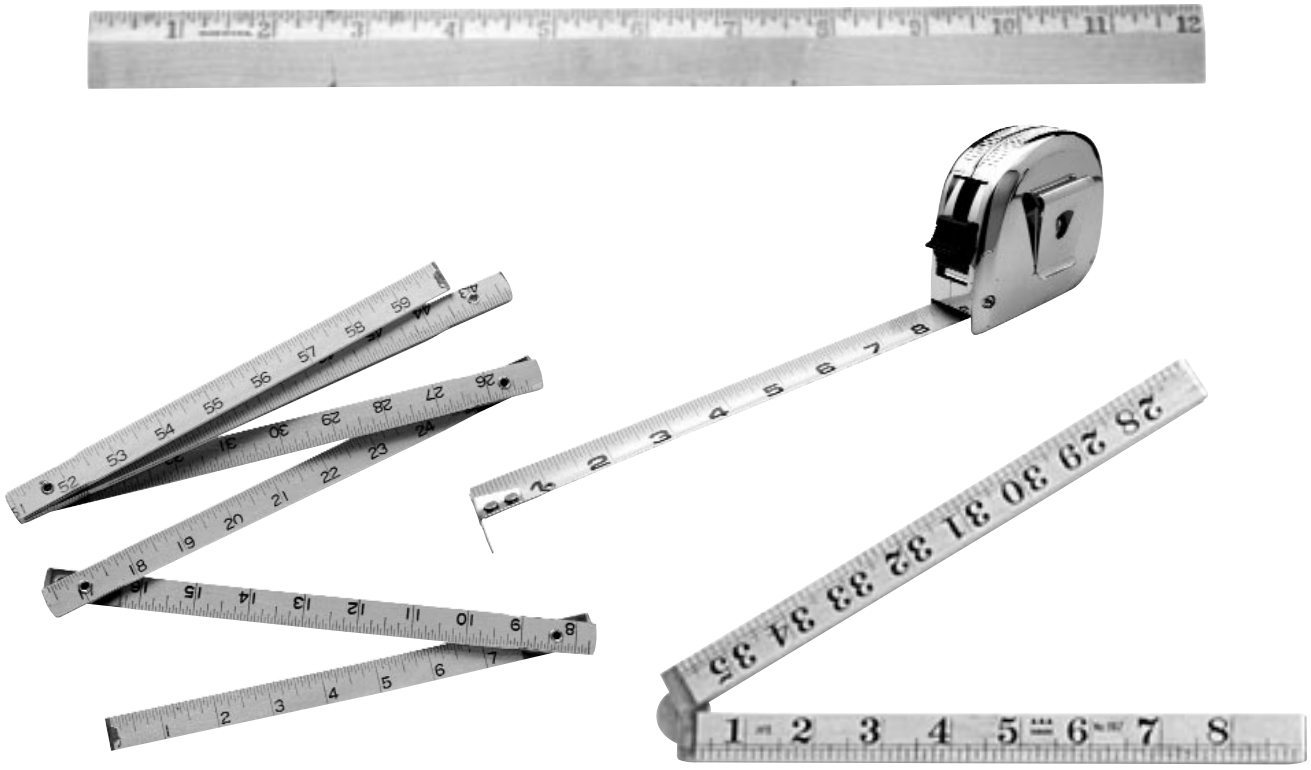
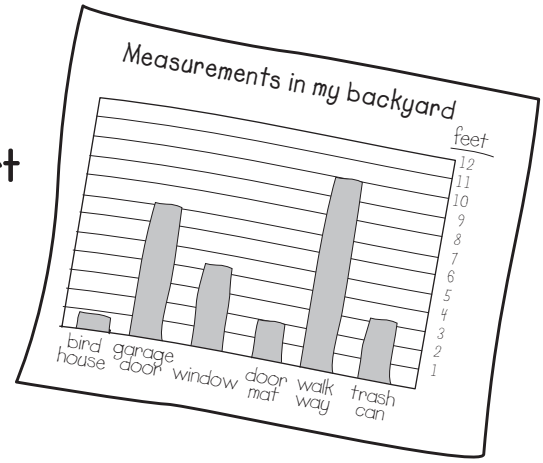
Standard Measuring Tools



Using your choice of measuring tool, go on a walk around your classroom, school, home, or yard and measure everything you can. Make a list of the items and their measurements.

On a separate sheet, make a bar graph like this one and chart your results. How many things did you measure that are less than 1 foot? Less than 1 yard? More than 10 feet?



MEASUREMENT SHEETS • 013

SKILL: TOOLS OF MEASUREMENT

Name _____

How to Estimate

To estimate means to guess the value, size, or cost of an object on the basis of experience rather than actual measurement. We estimate when we need an answer quickly. An estimate could also be called a prediction. It will not be an exact number, but nearly correct, and one that can change. It is usually a whole number.

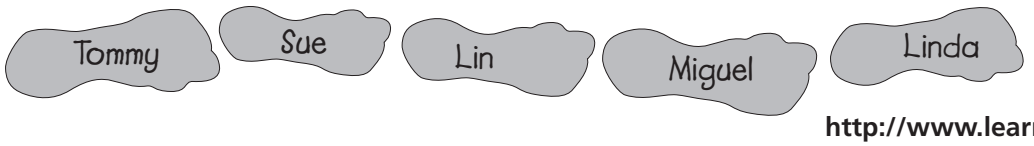
1. Spread one of your hands wide. Then guess: How wide is your hand span, from the tip of your thumb to the tip of your little finger, in inches?_____

   Using your hand as a "tool" go around the room and measure objects such as a door, a window, or a desk.

2. Can you guess how many feet there are across the length or width of your bedroom? _____

   Use your feet in the same way to measure the dimensions of your classroom or other room. Walking from wall to wall, heel to toe, is a good way to estimate how big a room is in feet.

3. Make a foot pattern: stand on a piece of cardboard or heavy paper, trace your foot's outline, and cut it out. Use this pattern as a tool to estimate lengths in feet. Write your name on the pattern, and with other students' patterns decorate the edge of a bulletin board. Notice that the "feet" are all different sizes.



Name _____

More Estimates

Sometimes it is easier to estimate a number than to actually measure it:

1. What would you estimate the length of a school bus to be?
   _____

2. About how tall is a tree outside your house? _____

Remember to think about what you already know when making an estimate:

3. About how many students are there in your school?
   _____

4. About how long does it take to walk to school and home again? _____

Name _____

Hands and Feet as Measuring Tools

We can use things besides standard measuring tools to estimate measurements. Non-standard tools help us estimate measurements. Our fingers, hands, feet, and arms can help us measure objects when we need to estimate.

1. Measure your hand span with a ruler.
   _____ inches
   Compare this number with your answer to Question 1 on Fun Sheet 14.

2. Measure the width and length of your desk, using your hand span.

   length: _____ hands width: _____ hands

3. Multiply the number of hands by the number of inches in your hand span.

   length: _____ hands × _____ inches = _____ inches

   width: _____ hands × _____ inches = _____ inches

MEASUREMENT SHEETS • 016

SKILL: ESTIMATE WITH NON-STANDARD TOOLS

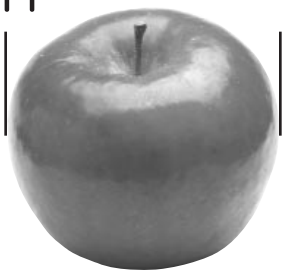
Name _____

Non–Standard Measuring Tools

In teams of two, measure some small, common objects, such as an apple, pencil, or sheet of paper, with a ruler. Then use the object to estimate the heights of other larger objects in the classroom. Record your findings. Check your estimates by measuring again with a ruler, and record those figures next to the estimates. Present your results to the class.

Examples of some non–standard tools:

apple: 3 inches



paper: 12 inches

pencil: 6 inches

(note: your non–standard measurements will differ.)

	Estimate	Actual
book	4 apples = 4 x 3" = 12"	$11\frac{1}{2}$"
door		
desk		

MEASUREMENT SHEETS • 017

SKILL: ESTIMATE WITH NON-STANDARD TOOLS

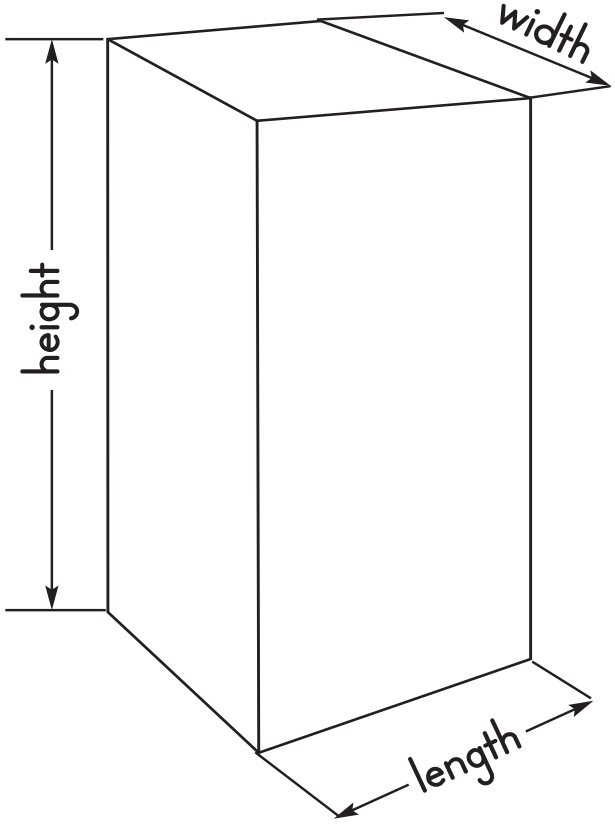
Name _____

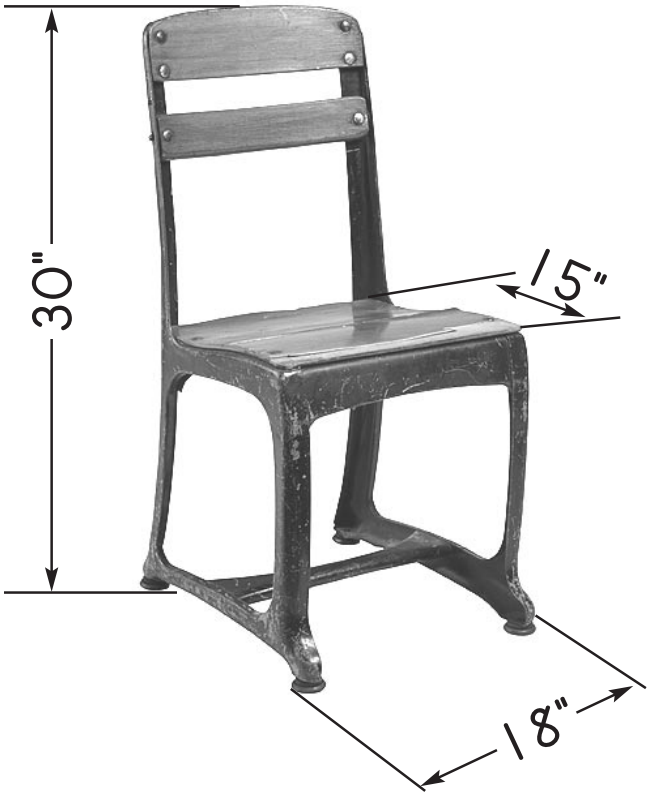
Height, Length, and Width

The height of an object is the measurement from top to bottom of an object standing upright.

The length of an object is the measurement from end to end taken at right angles to the height, usually the longer side.

The width of an object is the measurement from side to side, usually the shorter side.





The height of the chair is _____ .

The width of the chair is _____ .

The length of the chair is _____ .

Name _____

Miles

In the standard system, miles are used to measure long distances. A *mile* is the same as 5,280 feet:

5,280 feet = 1 mile

How many yards are there in a mile?

1 yard = 3 feet

1 mile = 5,280 feet

Divide 5,280 feet by 3 feet to get the answer:

$$3\overline{)5{,}280}$$

Name _____

Kilometers

In the metric system, *kilometers* are used (instead of miles) to measure long distances.

1 kilometer = 1000 meters

Many roads in the United States are signed in both miles and kilometers if near an international border.

To convert miles to kilometers, use a calculator and follow this formula:

distance in miles × 1.6 = distance in kilometers

To convert kilometers to miles, use a calculator and follow this formula:

distance in kilometers × .621 = distance in miles

Look at a road map and practice converting miles to kilometers and back to kilometers, or vice versa. Make a chart of cities or places and the distances between them, in both metric and standard units.

MEASUREMENT SHEETS • 020

SKILL: KILOMETERS