

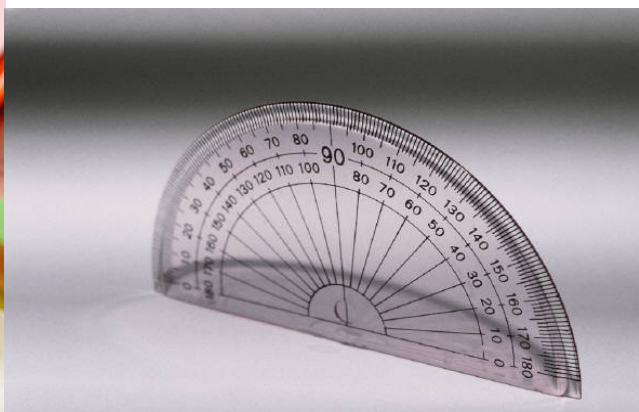
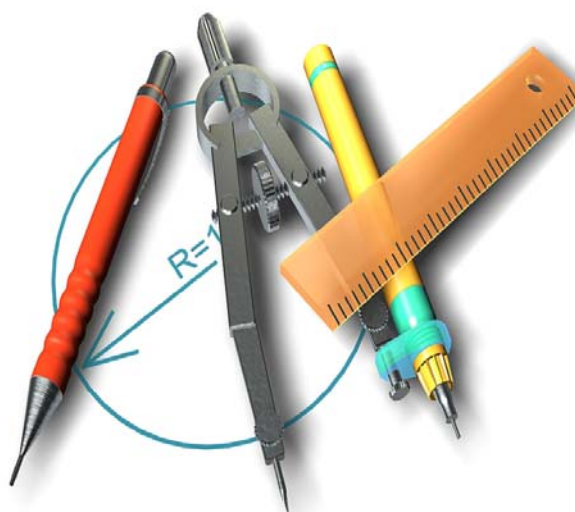
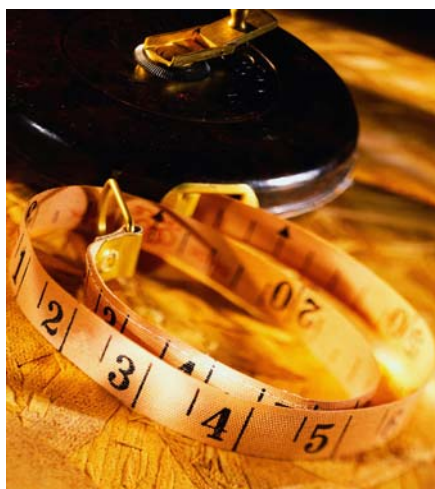
#12199 LENGTH

CLEARVUE/SVE, 2004

Grade Level: 1–6

8 Minutes

CLEARVUE & SVE



CAPTIONED MEDIA PROGRAM RELATED RESOURCES

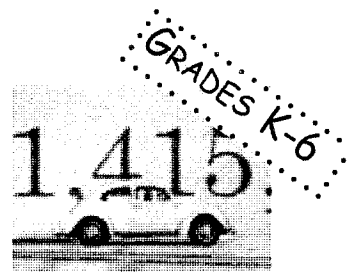
[#3206 ALL-STAR ELF](#)

[#3552 ACE MATH FOR KIDS: VOLUME I, PART 1](#)

[#11666 BASIC MATH: FRACTION BASICS](#)

MATH CONCEPTS FOR STUDENTS

Length



Learning Objectives

After completing the program and participating in discussion, students will be able to:

- Explain how and why math is needed to measure the length of a given object;
- Name some significant people and events that contributed to the study of measurement;
- Discuss the methods of measurement and units of length used in the past;
- Understand and demonstrate how to measure length using the metric system; and
- Describe why measuring length is now based on the speed of light.

Review Questions

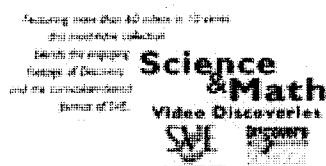
1. Why do we need math to measure length? How do we use math every day to understand or measure length, perhaps without even realizing it? For example, how do you know how far your house is from your school?
2. Who was Galileo? How did he contribute to the concept of length?
3. What is the speed of light? Is it constant, or does it change?
4. What is a pendulum? What are unciae? How did units of length vary in different countries and places in the past?
5. What is the metric system? When did people begin using this new form of measurement?
6. How did gravity affect Galileo's early designs of determining length?

Target Vocabulary

foot	pendulum
uncia	Galileo
ounce	metric system
yard	meter
	speed of light

Activities

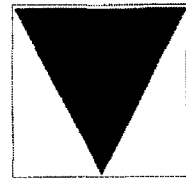
1. Ask students to focus on one ancient way of measuring objects as discussed in the video and research it in the library. From where does it originate? Who was an influential person involved in this unit of measurement? Why was the ability to measure important to this person? Would this form of measurement work in our daily lives? Have students share their results and ideas with the class.
2. Explore the metric system at <http://www.allmath.com>. Learn important definitions and how to convert length into the metric system while playing games and having fun.
3. Learn about the significance of measurement in everyday life at http://www.nist.gov/public_affairs/kids/hiddenpict.htm. Explore word finds, hidden pictures, riddles, word scrambles, and more and discover how important measurement is in our lives.
4. Get creative! Have students create their own form of length measurement. Using posterboard, have them create a presentation of their new unit of measurement and include how their measurement unit works. They should also address the following questions: What is the name of their unit of measurement? Is it good for measuring short or long distances? What people might benefit most from this type of measurement?



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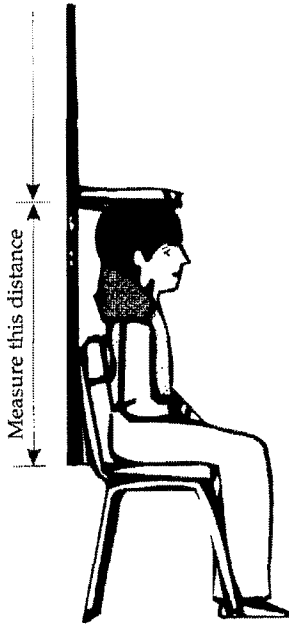
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Measuring Adolescence: Activity Card II

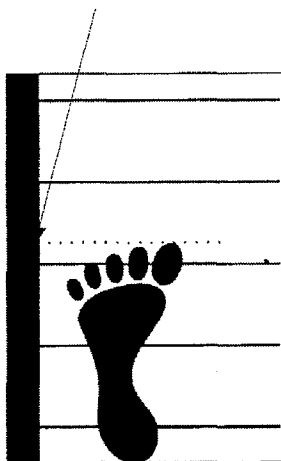
Take measurement
below book or ruler
at this location



Torso Height

1. Make sure the zero end of the tape is at the base of the seat of the chair, as in the diagram.
2. Sit up straight in the chair. Don't slouch!
3. Use a book, ruler, or other straight object to determine height, as in this diagram.
4. Have partner record height on your worksheet or in your Health Notebook.

Take measurement from
the tape at this location

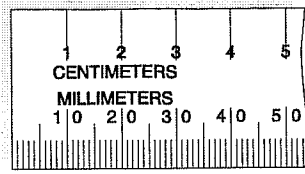


Foot Length

1. Take off your shoes.
2. Place tape on the floor. Place your heel even with zero.
3. Have partner measure length of your foot.
Note: Measure from your longest toe, as in the diagram.
4. Record measurement on your worksheet or in your Health Notebook.



Name _____



Length

Read the list of words on the left and the definitions on the right. Match each definition to its word by writing the letter in the blank.

_____ meter

_____ pendulum

_____ speed of light

_____ Great Pyramid of Giza

_____ unciae

_____ ancient Egyptians

_____ length

_____ metric system

_____ Galileo

_____ ounce

A. The measurement of one point to another.

B. An ancient structure that is 750 feet long.

C. A unit of length and weight in ancient Rome that equaled one ounce.

D. A scientist who based measurement principles on the length and swing of a pendulum.

E. An object that swings freely under the influence of gravity.

F. An international measurement system of weights and measures.

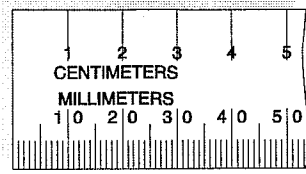
G. A unit of length equal to about 39 inches.

H. One 16th of a pound.

I. Early people who used cubic rulers to achieve precision in architecture.

J. The system of measurement that length is currently based on.

ANSWER KEY



Length

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E pendulum

J speed of light

B Great Pyramid of Giza

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