

Basic Math Warm-Ups

INTRODUCTION

Basic Math Warm-Ups: Measurement is designed to provide quick practice and review opportunities for students with learning differences. Each of the 180 warm-up activities has clear and simple directions. The practice activities are written at a low reading level, making them appropriate for students in upper elementary school, middle school, and high school.

Each reproducible page covers only one skill so that students who are already struggling will not be overwhelmed. At least two activity sheets are provided to address each skill. When completing an activity, students will apply basic concepts to solve, complete, or reproduce simple math problems.

It is suggested that students keep all their completed activities in a folder labeled “Measurement Warm-Ups.” This will allow students to easily refer to the activities when working on future warm-ups and when completing other supplemental activities. These warm-ups are designed to supplement your existing curriculum. They can also be used as pre- and post-assessments to check for students’ skill mastery.

MEASUREMENT



The six books in the *Basic Math Warm-Ups* series cover basic mathematics skills in number concepts; number operations; measurement; tables, graphs, and charts; rounding, reasonableness, and estimation; and fractions, decimals, and percents, as identified by the National Council of Teachers of Mathematics (NCTM). These warm-ups support the *Basic Math Practice* series and can be used independently or in conjunction with those binders. Each warm-up book provides 180 warm-ups—one for each day of the school year—that cover all of the objectives for each skill. The open-ended and multiple choice questions use varied approaches to address different modalities so that students’ different learning styles are addressed.

Basic Math Warm-Ups: Measurement provides repeated daily practice in the basic foundation of math concepts development, which will also improve students’ confidence in their mathematical skills. These warm-ups can be used at any time for a variety of purposes. Use them as warm-ups, mini-lessons, review activities, “tickets out” to allow students to leave the classroom, or quick homework assignments. For your convenience, an answer key is provided for all of the warm-up activities.

MEASUREMENT

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THE BASIC MATH WARM-UPS SERIES

There are six books in the *Basic Math Warm-Ups* series. Each book includes 180 pages of practice activities.



MEASUREMENT

Basic Math Warm-Ups




TWO SECTIONS


This book is divided into two sections. The first section contains 180 activities covering the five standard measurements (linear, weight, capacity, time, and temperature) through a variety of formats. The second section is the answer key, which includes solutions for all of the activities. For answers that require estimations or nonstandard units of measurement, the answer key will read “Answers will vary.”

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LINEAR
Directions: Use a paper clip to measure the length of each object.

1) 

The toothbrush is _____ paper clips long.

2) 

The fork is _____ paper clips long.

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ANSWER KEY

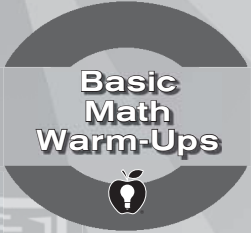
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NUMBER CONCEPTS

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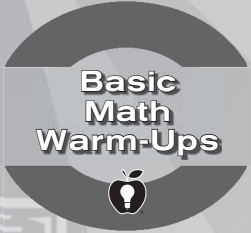
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OBJECTIVES

After students complete the activities in *Basic Math Warm-Ups: Measurement*, they will be able to do the following:

- build a foundation for the basic understanding of measurement
- develop concepts of measurement as they identify and compare attributes of objects and situations
- compare and order concrete objects according to length
- examine the length of a given object, then find concrete objects that have lengths the same as, less than, or greater than that length
- use nonstandard and standard units to describe length
- estimate and measure lengths of objects using nonstandard units
- identify concrete models that approximate standard units of length
- estimate and measure lengths using a standard unit, such as inch, foot, yard, and mile
- measure to solve problems using length
- describe numerical relationships between different units of measure within the same measurement system
- estimate measurements and evaluate reasonableness of estimates
- use attributes to compare and order objects according to weight
- find objects that have weights the same as, less than, or greater than the weight of a given object
- estimate and measure weights of objects using nonstandard units

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OBJECTIVES *cont. from page VIII*

- select from ounces and pounds and use ounces and pounds to measure weight
- select and use appropriate units and tools to measure and solve problems
- use capacity to compare and order objects
- use nonstandard units to describe capacity
- estimate and measure capacity of objects using nonstandard units
- identify concrete models that approximate standard units of capacity
- use standard units, including teaspoon, tablespoon, cup, pint, quart, and gallon
- select and use appropriate unit and procedures to measure capacity
- use time to compare and order events
- compare durations, such as more time than or less time than
- focus on the following units of time: second, minute, hour, day, week, month, and year
- describe activities that take seconds, minutes, or hours to complete
- tell time on a clock using hours, half-hours, quarter-hours, and minutes
- read a calendar with days, weeks, and months
- apply measurement concepts to solve problems using time
- use temperature to compare events, situations, and/or objects
- recognize temperatures, such as a hot day or a cold day
- use and read a thermometer to gather data and to measure temperature
- apply measurement concepts to solve problems involving temperature

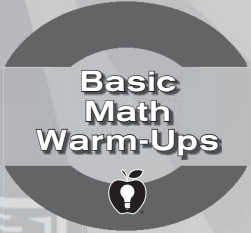
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Research has shown that segmentation, or “breaking down a task,” is an effective method to use when teaching students with learning differences. Students with special needs cannot process large amounts of information at one time. However, according to Gersten, presenting small segments of information and then immediately applying that information has been proven to be a successful teaching method (1999). The activities in the *Basic Math Warm-Ups* series do just that. They present small, sequenced bits of instruction with ample opportunities for practice. These pages are excellent supplements for any mathematics program designed to help students sharpen their mathematics skills.

Basic Math Warm-Ups: Measurement includes multiple activities that reinforce each of the five basic units, systems, and processes of measurement, including linear, weight, capacity, time, and temperature, in ways that make them relevant and meaningful. As Jones, Wilson, and Bhojwani note, “Practice activities are essential components of mathematics instructional programs. Students with LD will generally need more practice and practice that is better designed than students without LD, if they are to achieve adequate levels of fluency and retention” (1997). The warm-up activities included in the series have simple directions, low readability to minimize frustrations due to reading difficulties, and few problems per activity to review and reinforce understanding of the skills.

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The Principles and Standards for School Mathematics by the NCTM state that “students need to learn a new set of mathematics basics that enable them to understand how mathematical ideas interconnect and build on one another to produce a coherent whole” (2003). These warm-up activities do this by addressing five standard measurements, including linear, weight, capacity, time, and temperature, through a variety of formats so that individual learning styles are addressed. The skills build on one another and reinforce previously learned skills. *Basic Math Warm-Ups: Measurement* meets both state and national standards (including the National Council of Teachers of Mathematics Standards 2000 Project) regarding numbers, operations, problem solving, communication, and connections.

- Gersten, R. (May 1999). “Teaching Expressive Writing to Students with Learning Disabilities.” Keys to Successful Learning Summit, Washington, D.C.
- Jones, E. D., Wilson, R. & Bhojwani, S. (March/April 1997). “Mathematics Instruction for Secondary Students with Learning Disabilities.” *Journal of Learning Disabilities*, 30(2), 151–163.
- National Council of Teachers of Mathematics. (2003). “Realizing the Vision.” *Principles and Standards for School Mathematics*. [Electronic version] Retrieved on June 23, 2004, from <http://standards.nctm.org/document/chapter8/index.htm>