Process Standards Rubric

Measurement

Exercise

Goal	Expectations — Instructional programs from pre-kindergarten through grade 12 should enable all students to:
GOAL 1: Problem Solving	• build new mathematical knowledge through problem solving; • solve problems that arise in mathematics and in other contexts; • apply and adapt a variety of appropriate strategies to solve problems; • monitor and reflect on the process of mathematical problem solving.
GOAL 2: Reasoning & Proof	• recognize reasoning and proof as fundamental aspects of mathematics; • make and investigate mathematical conjectures; • develop and evaluate mathematical arguments and proofs; • select and use various types of reasoning and methods of proof.
GOAL 3: Communication	• organize and consolidate their mathematical thinking through communication; • communicate their mathematical thinking coherently and clearly to peers, teachers, and others; • analyze and evaluate the mathematical thinking and strategies of others; • use the language of mathematics to express mathematical ideas precisely.
GOAL 4: Connections	• recognize and use connections among mathematical ideas; • understand how mathematical ideas interconnect and build on one another to produce a coherent whole; • recognize and apply mathematics in contexts outside of mathematics.
GOAL 5: Representation	• create and use representations to organize, record, and communicate mathematical ideas; • select, apply, and translate among mathematical representations to solve problems; • use representations to model and interpret physical, social, and mathematical phenomena.

Exercise columns: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15, Drill Sheet 1, Drill Sheet 2, Review A, Review B, Review C

Teacher Guide

Our resource has been created for ease of use by both **TEACHERS** *and* **STUDENTS** *alike.*

Introduction

Measurement is one of the major skills that students are expected to learn in the primary grades. The following resource provides students the opportunity to learn, review, and master essential measurement skills.
This resource allows students to use, compare, analyze, and assess different units of measurement. Students will reinforce and develop their knowledge of measurement tools, as well as different types of measurement, including: length; volume; time; money; weight; and area.

Students will be asked to use standard as well as metric units of measure as they practice these measurement skills.

Teachers may use this resource in any manner they wish. Each sheet may be done independently or in sequence to develop essential measurement skills that students need to master by the time they have completed second grade. The variety of activities will provide ample opportunity for all students to learn these skills.

How Is Our Resource Organized?

STUDENT HANDOUTS

Reproducible **task sheets** and **drill sheets** make up the majority of our resource.

The **task sheets** contain challenging problem-solving tasks, many centered around 'real-world' ideas or problems, which push the boundaries of critical thought and demonstrate to students why mathematics is important and applicable in the real world. It is not expected that all activities will be used, but are offered for variety and flexibility in teaching and assessment. Many of the task sheet problems offer space for reflection, and opportunity for the appropriate use of technology, as

encouraged by the *NCTM's Principles & Standards for School Mathematics.*

The **drill sheets** are provided to help students with their procedural proficiency skills, as emphasized by the *NCTM's Curriculum Focal Points.*

The **NCTM Content Standards Assessment Rubric** (*page 4*) is a useful tool for evaluating work in many of the activities in our resource. The **Reviews** (*pages 24-26*) are divided by grade and can be used for a follow-up review or assessment at the completion of the unit.

PICTURE CUES

This resource contains three main types of pages, each with a different purpose and use. A **Picture Cue** at the top of each page shows, at a glance, what the page is for.

Teacher Guide
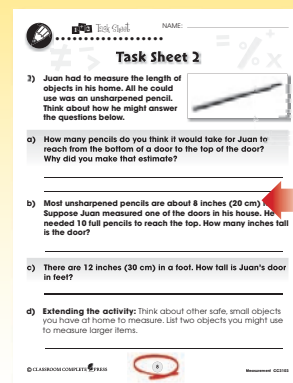• Information and tools for the teacher

Student Handout
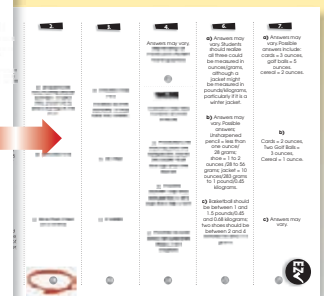• Reproducible worksheets and activities

EZ✓ Easy Marking™ Answer Key
• Answers for student activities

Task Sheet 3

3) **Kim is studying tadpoles in her classroom. She watches them each day and studies their changes over time. She is trying to determine how long it takes for tadpoles to become frogs.**

a) **Think about what you know about animals. How many days do you think it will take for the average tadpole to become a frog? Why did you make your estimate?**

_____

_____

b) **Kim starts keeping track of her tadpole's growth on a calendar. Her tadpole was hatched on May 3. It starts to become a frog on May 31. How many days did it take her tadpole to become a frog?**

_____

c) **There are seven days in a week. How many weeks did it take for Kim's tadpole to become a frog?**

_____

Explore With Technology

You can learn more about the life cycle of frogs on the internet. Check out "Frog Stories for Kids" - they have several stories you can read about frogs. To learn more, type in: www.kiddyhouse.com/Themes/frogs

Task Sheet 9

9) Keesha cut out the letters of her name using graph paper. She made sure to write in capital letters, so they stood out. Each letter was the same height and length. She wanted to find the area of each letter, so she began counting the boxes inside each letter.

a) **Which letter do you think has the largest area (or most amount of boxes)? Why do you think this? Which letter do you think has the smallest area (or least amount of boxes)? Why do you think this?**

The largest area is the letter _____

The smallest area is the letter _____

b) **The area of the letter H was 36 boxes. The area of each letter E was 6 boxes less. How much area from the paper did Keesha use to make both letter E's?**

Answer: [   ]

Reflection
Try it yourself. Write your name in capital letters on a piece of graph paper. Make sure your name can be seen from a distance. What is the area of each letter? What is the total area of your name?

_____

_____