

Process Standards Rubric

Measurement

Expectations Instructional programs from pre-kindergarten through grade 12 should enable all students to:	Exercise														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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

M easurement is one of the major skills that students are expected to learn in middle school. 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, width, and height; weight; capacity; perimeter; area; angle measurements; time; money



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 eighth 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

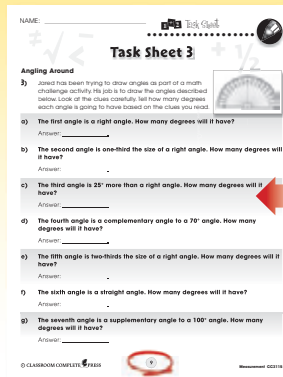


Easy Marking™ Answer Key

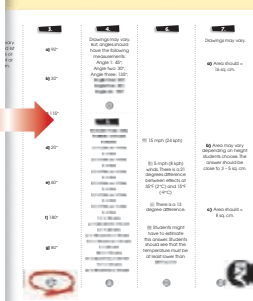
- Answers for student activities

EASY MARKING™ ANSWER KEY

Marking students' worksheets is fast and easy with this **Answer Key**. Answers are listed in columns – just line up the column with its corresponding worksheet, as shown, and see how every question matches up with its answer!



Every question matches up with its answer!

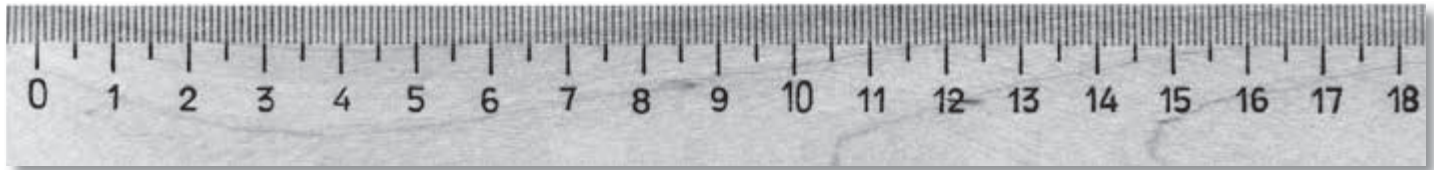


NAME: _____

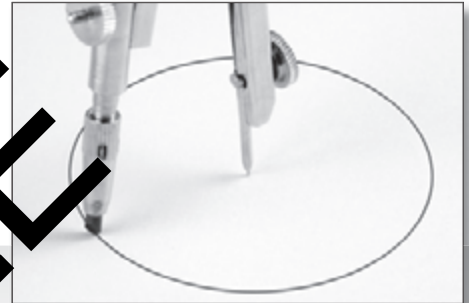


Task Sheet 9

Circle Central



- 9) For this activity, you will need a compass and a centimeter ruler. Your job is to draw the three circles described below. Then, find the circumference, radius, and area of the circle you draw.



- a) **Circle One:** Should have a diameter of 2 cm.

Circumference: _____ Radius: _____ Area: _____

- b) **Circle Two:**
Should have a diameter of 3 cm.

Circumference: _____

Radius: _____

Area: _____

- c) **Circle Three:**
Should have a diameter of 4 cm.

Circumference: _____

Radius: _____

Area: _____



Task Sheet 12

Dining In

- 12)** Janelle works at the Carroll Café, a small restaurant near her school. The following is a partial copy of the lunch menu found at the restaurant. Use the menu to answer the questions below.

CARROLL CAFÉ - Lunch Menu		
Sandwiches	Sides	Beverages
Vegetarian Pocket .. \$4.99	Fruit Cup \$3.99	Soft Drinks
Meatball Sub \$4.99	Salad \$3.99	Small \$1.00
Cold Cut Sub \$5.99	Breadsticks ... \$4.99	Medium .. \$1.50
Chicken Cutlet \$7.99	Potato Skins ... \$5.99	Large \$2.00



- a) Janelle's first customer ordered a meatball sub, a fruit cup, and a medium soft drink. What was the customer's total before tax?
- b) One item on the menu is approximately $\frac{1}{8}$ the cost of another item. Name both items.
- c) Janelle's second customer ordered a sandwich, a side, and a beverage totaling \$15.98 before tax. What three items did the customer order?
- d) If a customer ordered a small soft drink, a salad, and a cold cut sub, and there was a 5 percent meal tax on the total, how much would the customer spend in total on the meal?

Explore With Technology



Find out the local meal tax in your location. Write the tax rate below. How does it compare to the rate charged at the Carroll Café?