

Process Standards Rubric

The Five Strands of Math - Big Book

Number and Operations • Algebra • Geometry • Measurement • Data Analysis and Probability
All Five Strands of Math

Expectations	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.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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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.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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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.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
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Drill Sheet 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Drill Sheet 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Review A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Review B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Review C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

SAMPLE



Teacher Guide

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

Introduction



Our resource offers ready-to-use worksheet activities for students in grades PK to two.

Math concepts outlined by the NCTM are presented in a way that encourages students to learn and review important concepts. Our resource can be used effectively for whole-class, small group and independent work. This book's exercises vary in difficulty and content so as to provide teachers and students with a variety of teaching and learning opportunities. Included are challenging problem-solving tasks which will push the boundaries of critical thought and demonstrate to students the importance of mathematical problem-solving in Number & Operations, Geometry, Measurement, Data Analysis & Probability and Algebra using real world situations. Visual models are included to assist visual learners. Teachers may also choose to use mathematics manipulatives along with the exercises included in this book to help address the needs of kinesthetic learners.



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** (pages 6-10) is a useful tool for evaluating work in many of the activities in our resource. The **Reviews** (pages 30-32, 50-52, 70-72, 90-92, and 110-112) 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

How Is Our Resource Organized?

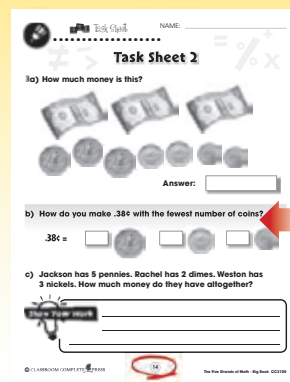
STUDENT HANDOUTS

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

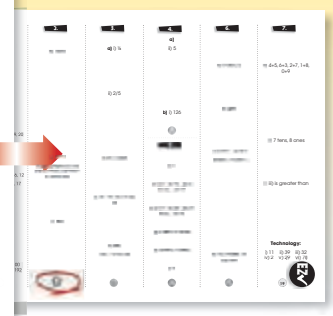
The **task sheets** contain challenging problem-solving tasks, many centered around 'real-world' ideas or problems, which push the boundaries of critical thought and demonstrate to students why mathematics is important and applicable in the real world. It is not expected that all activities will be used, 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.

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!

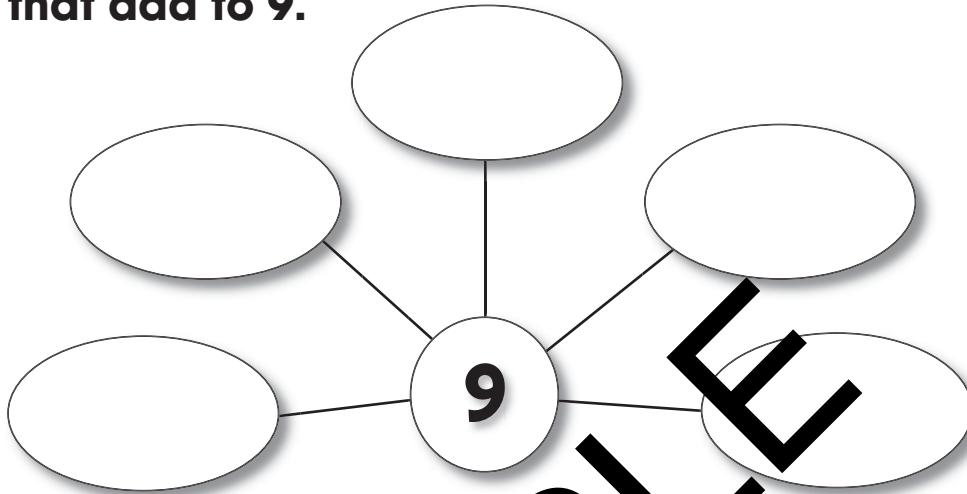


NAME: _____



Task Sheet 7

7a) Facts that add to 9.



b) How many tens and ones are in the number 78?

Tens _____ Ones _____

c) Which words make the statement true?

29 _____ 17

- i) is equal to ii) is less than iii) is greater than

Explore With Technology



Use a **calculator** to practice subtracting.

i) $47 - 36 = \square$

ii) $74 - 35 = \square$

iii) $98 - 66 = \square$

iv) $61 - 59 = \square$

v) $58 - 29 = \square$

vi) $101 - 23 = \square$



Task Sheet 8

8a) Which picture shows 14 pigs.

- i)
- ii)
- iii)

Answer:

b) Counting down from 14 pigs, which number comes next?

Answer:

c) Write a plus (+), minus (-) or multiplication (x) sign in the square to make the number sentence true.

- i) $0 \square 6 = 6$
- ii) $9 \square 7 = 2$
- iii) $4 \square 4 = 16$
- iv) $19 \square 11 = 8$

d) Circle the largest number in each bubble.

17
24

21
39

0
4

e) Is 23 an even or odd number?

Answer:

f) Is 19 an even or odd number?

Answer:

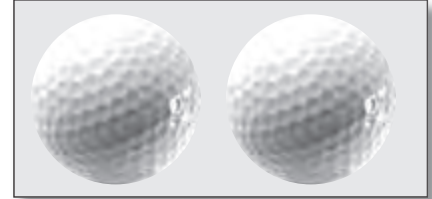
g) Is 42 an even or odd number?

Answer:



Task Sheet 7

7) Chen found some items to weigh. Using a scale, he weighed the items. All weighed between 1 ounce (≈ 28 grams) and 5 ounces (≈ 142 grams).



a) Chen weighed these items. How much do you think they weighed?

Pack of cards: _____
 Two golf balls: _____
 A cup of cereal (not including cup): _____

b) Chen learned the following information:

- A cup of cereal was the lightest.
- Two golf balls equaled the same weight as 3 cups of cereal.
- A pack of cards weighed one ounce less than the two golf balls.
- The lightest object weighed 1 ounce (28 grams).

Using this information, what was the weight of each item:

Pack of cards: _____
 Two golf balls: _____
 A cup of cereal: _____

c) Think about what you have learned. Select one small item around your home. Estimate its weight.

My item is a(n): _____
 It might weigh: _____