

Process Standards Rubric

Geometry – Drill Sheets

Drills	GOAL 1: Reasoning & Proof	GOAL 2: Communication	GOAL 3: Connections	GOAL 4: Representation	GOAL 5: Problem Solving
Warm-up 1	• 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.	• recognize reasoning and proof as fundamental aspects of mathematics;
Warm-up 2	• make and investigate mathematical conjectures;	• develop and evaluate mathematical arguments and proofs;	• select and use various types of reasoning and methods of proof.	• organize and consolidate their mathematical thinking through communication;	• communicate their mathematical thinking coherently and clearly to peers, teachers, and others;
Warm-up 3	• select and use various types of reasoning and methods of proof.	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 1	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 2	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 3	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 4	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 5	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 6	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 7	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 8	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 9	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 10	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Timed Drill 11	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Warm-up 6	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Review A	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Review B	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
Review C	• recognize and use connections among mathematical ideas;	• analyze and evaluate the mathematical thinking and strategies of others;	• use the language of mathematics to express mathematical ideas precisely.	• recognize and use connections among mathematical ideas;	• understand how mathematical ideas interconnect and build on one another to produce a coherent whole;

SAMPLE

Expectations

Instructional programs from pre-kindergarten through grade 12 should enable all students to:

- 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.

- 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.

- 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.

- 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.

- 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.



Teacher Guide

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

Introduction

The NCTM content standards have been used in the creation of the assignments in this booklet. This method promotes the idea that it is beneficial to learn through practical, applicable, real-world examples. Many of the drill sheets are organized around a central problem taken from real-life experiences of the students. The pages of this booklet contain a variety in terms of levels of difficulty and content so as to provide students with a variety of different opportunities. Included in our resource are activities on two- and three-dimensional shapes, fractions, coordinate points, and composing and decomposing shapes. 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.

Contained in this booklet are 11 Timed Drill Sheets and 6 Warm-Up Drill Sheets, featuring real-life problem-solving opportunities, and 3 review sheets for grades 3-5. Also, there are 3 overheads and 6 additional worksheets which can be accessed on the publisher's website.



How Is Our Resource Organized?

STUDENT HANDOUTS

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

The **drill sheets** contain challenging problem-solving tasks in drill form, 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 drill 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** workbook can be used in correlation with the separate **task sheets** workbook that matches with this particular grade and subject.

The **NCTM Content Standards Assessment Rubric** (page 4) is a useful tool for evaluating students' 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 CUE

Our 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 drill sheets

Easy Marking™ Answer Key

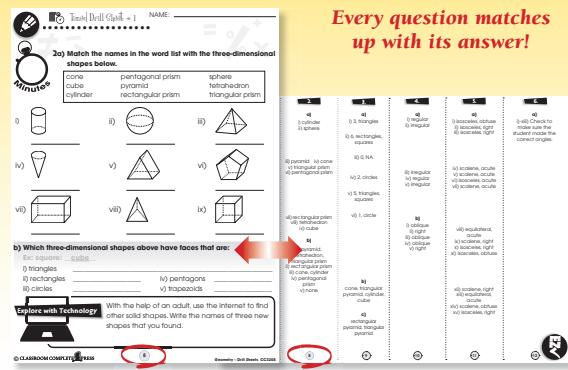
* Answers for student activities

Timed Drill Stopwatch

* Write the amount of time for students to complete the timed drill sheet in the stopwatch. Recommended times are given on the contents page.

EASY MARKING™ ANSWER KEY

Marking students' worksheets is fast and easy with our **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!



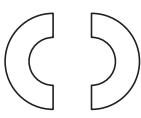


10a) Shapes are congruent if they are the same size and shape. Shapes are similar if they are the same shape but not the same size. Identify each shape as similar or congruent.

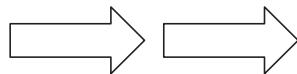
Ex:

congruent

i)



ii)



iii)



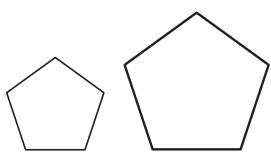
iv)



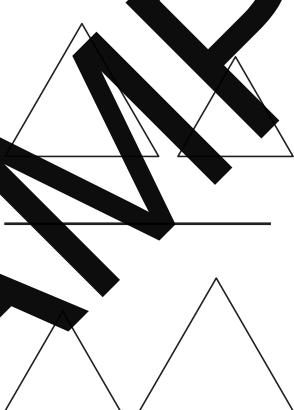
v)

SAMPLE

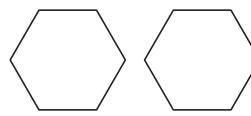
vi)



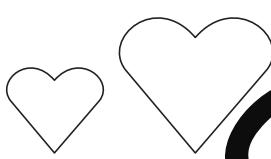
vii)



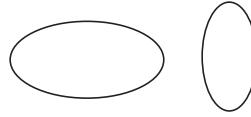
viii)



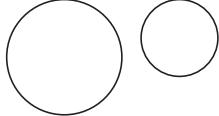
ix)



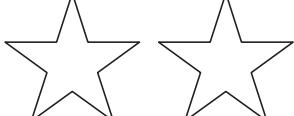
xi)



xii)



xiii)



xiv)

**Reflection**

If a shape is transformed (rotated, turned, or slid), can it still be congruent? Why?

NAME: _____

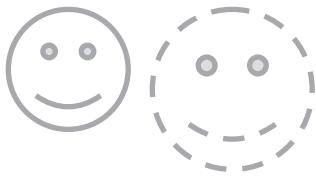


Timed Drill Sheet #7

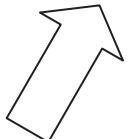


11a) Draw the following shapes based on the given Instructions.

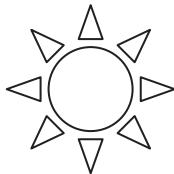
Ex: Similar:



iii) Enlargement:



vi) Congruent:



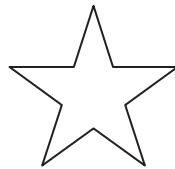
ix) Reflection:



xii) Similar:



i) Congruent:



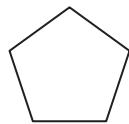
iv) Translation:



vii) Translation:



x) Enlargement:



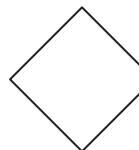
xiii) Translation:



ii) Reflection:



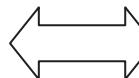
v) Rotation:



viii) Similar:



xi) Rotation:



xiv) Congruent:

