



# Teacher Guide

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

## Introduction

**T**he 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 to help students learn how to collect, organize, analyze, interpret, and predict data probabilities. 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 grade 7. 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 CUES

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!

Every question matches up with its answer!

**Worksheet Question:** 30) A box contains marbles. There are 8 orange marbles, 4 green marbles, 2 blue marbles, and 3 red marbles. Find the probability for each option below.

**Worksheet Table:**

1) Choosing an orange marble?	2) 1/17	3) 1/17	4) 1/17	5) 1/17	6) 1/17	7) 1/17	8) 1/17	9) 1/17	10) 1/17
11) Choosing a green marble?	12) 1/17	13) 1/17	14) 1/17	15) 1/17	16) 1/17	17) 1/17	18) 1/17	19) 1/17	20) 1/17
21) Choosing a blue marble?	22) 1/17	23) 1/17	24) 1/17	25) 1/17	26) 1/17	27) 1/17	28) 1/17	29) 1/17	30) 1/17
31) Choosing a red marble?	32) 1/17	33) 1/17	34) 1/17	35) 1/17	36) 1/17	37) 1/17	38) 1/17	39) 1/17	40) 1/17
41) Choosing an orange and a green marble?	42) 1/17	43) 1/17	44) 1/17	45) 1/17	46) 1/17	47) 1/17	48) 1/17	49) 1/17	50) 1/17
51) Choosing a blue and green marble?	52) 1/17	53) 1/17	54) 1/17	55) 1/17	56) 1/17	57) 1/17	58) 1/17	59) 1/17	60) 1/17
61) Choosing a red and orange marble?	62) 1/17	63) 1/17	64) 1/17	65) 1/17	66) 1/17	67) 1/17	68) 1/17	69) 1/17	70) 1/17
71) Choosing a blue and red marble?	72) 1/17	73) 1/17	74) 1/17	75) 1/17	76) 1/17	77) 1/17	78) 1/17	79) 1/17	80) 1/17
81) What are the chances that orange will not be picked?	82) 1/17	83) 1/17	84) 1/17	85) 1/17	86) 1/17	87) 1/17	88) 1/17	89) 1/17	90) 1/17
91) What are the chances of choosing a marble that is not red?	92) 1/17	93) 1/17	94) 1/17	95) 1/17	96) 1/17	97) 1/17	98) 1/17	99) 1/17	100) 1/17
101) If you do not look into the box, what color marble are you most likely to choose?	102) 1/17	103) 1/17	104) 1/17	105) 1/17	106) 1/17	107) 1/17	108) 1/17	109) 1/17	110) 1/17
111) If you do not look into the box, what color marble are you least likely to choose?	112) 1/17	113) 1/17	114) 1/17	115) 1/17	116) 1/17	117) 1/17	118) 1/17	119) 1/17	120) 1/17

**Answer Key Columns:**

- Column 1: 1/17, 2/17, 3/17, 4/17, 5/17, 6/17, 7/17, 8/17, 9/17, 10/17, 11/17, 12/17, 13/17, 14/17, 15/17, 16/17, 17/17, 18/17, 19/17, 20/17, 21/17, 22/17, 23/17, 24/17, 25/17, 26/17, 27/17, 28/17, 29/17, 30/17, 31/17, 32/17, 33/17, 34/17, 35/17, 36/17, 37/17, 38/17, 39/17, 40/17, 41/17, 42/17, 43/17, 44/17, 45/17, 46/17, 47/17, 48/17, 49/17, 50/17, 51/17, 52/17, 53/17, 54/17, 55/17, 56/17, 57/17, 58/17, 59/17, 60/17, 61/17, 62/17, 63/17, 64/17, 65/17, 66/17, 67/17, 68/17, 69/17, 70/17, 71/17, 72/17, 73/17, 74/17, 75/17, 76/17, 77/17, 78/17, 79/17, 80/17, 81/17, 82/17, 83/17, 84/17, 85/17, 86/17, 87/17, 88/17, 89/17, 90/17, 91/17, 92/17, 93/17, 94/17, 95/17, 96/17, 97/17, 98/17, 99/17, 100/17
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NAME: \_\_\_\_\_



**10a) Campers can shoot arrows at a bullseye. The possible scores a person could get for one arrow are 5, 10, 15, 20, or 25.**



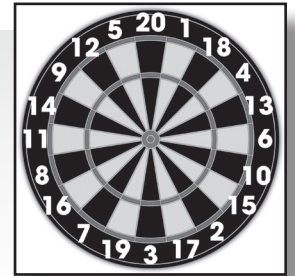
- i) The scores increase by what amount? \_\_\_\_\_
- ii) What is the highest score possible if shooting 10 times? \_\_\_\_\_
- iii) What is the lowest score possible if shooting 10 times? \_\_\_\_\_
- iv) What is the probability that one shot score will be 5? \_\_\_\_\_
- v) What is the probability that one shot score will be 25? \_\_\_\_\_
- vi) What is the probability that one shot score will be greater than 10? \_\_\_\_\_
- vii) What is the probability that one shot score will be less than 25? \_\_\_\_\_
- viii) A student scores a 25 after three shots.  
What three spots did he or she likely land on? \_\_\_\_\_
- ix) A student scores a 35 after three shots.  
What three spots did he or she likely land on? \_\_\_\_\_
- x) What is one way to score 20 after three shots? \_\_\_\_\_
- xi) What is one way to score 40 after three shots? \_\_\_\_\_
- xii) What is one way to score 50 after three shots? \_\_\_\_\_

SAMPLE



# Review C

a) A standard dart board is shown to the right.



- i) What is the probability of hitting any number on the dart board? \_\_\_\_\_
- ii) What is the probability of hitting a number on the bottom half of the dart board? \_\_\_\_\_
- iii) Is it likely, unlikely, certain, impossible to hit a bull's-eye? \_\_\_\_\_
- iv) Is it likely, unlikely, certain, impossible to hit a bull's-eye five times in a row? \_\_\_\_\_
- v) Is it likely, unlikely, certain, or impossible to hit an even number 5 times out of ten shots? \_\_\_\_\_
- vi) What is the probability of hitting an odd number, not including the bulls-eye? Explain as a ratio. \_\_\_\_\_
- vii) What is the probability of hitting an even number not including a bulls-eye? Explain as a ratio. \_\_\_\_\_
- viii) If the score of the first five shots was 86, what numbers did the shooter hit? Show one way. \_\_\_\_\_
- ix) If the score of the first three shots was 42, what numbers did the shooter hit? Show one way. \_\_\_\_\_
- x) If the score of the first four shots was 36, what numbers did the shooter hit? Show one way. \_\_\_\_\_
- xi) If the score of the first two shots was 21, what numbers did the shooter hit? Show one way. \_\_\_\_\_
- xii) If the score of the first six shots was 79, what numbers did the shooter hit? Show one way. \_\_\_\_\_

SAMPLE

# Survey

The chart below shows the favorite colors of the students in Mrs. Thurston's class.

**Favorite Colors of Mrs. Thurston's Class**



- i) How many students were surveyed for this graph? \_\_\_\_\_
- ii) What color was the most popular favorite color? \_\_\_\_\_
- iii) What color was the least popular favorite color? \_\_\_\_\_
- iv) How many more students chose blue than black? \_\_\_\_\_
- v) How many more students chose green than orange? \_\_\_\_\_
- vi) How many total students chose green and black? \_\_\_\_\_
- vii) What fraction of students chose black? \_\_\_\_\_
- viii) What fraction of students chose red? \_\_\_\_\_
- ix) What is the ratio of students who chose orange to students who chose green? \_\_\_\_\_
- x) What is the ratio of students who chose blue to students who chose red? \_\_\_\_\_
- xi) A total of eight students chose which two colors as their favorites? \_\_\_\_\_
- xii) Two fewer students chose what color than black? \_\_\_\_\_

## Reflection



Conduct the same survey in your class. Complete the questions above using your own survey results.