

CRITICAL THINKING SKILLS

Drawing Solutions

REM 202A

A TEACHING RESOURCE FROM...



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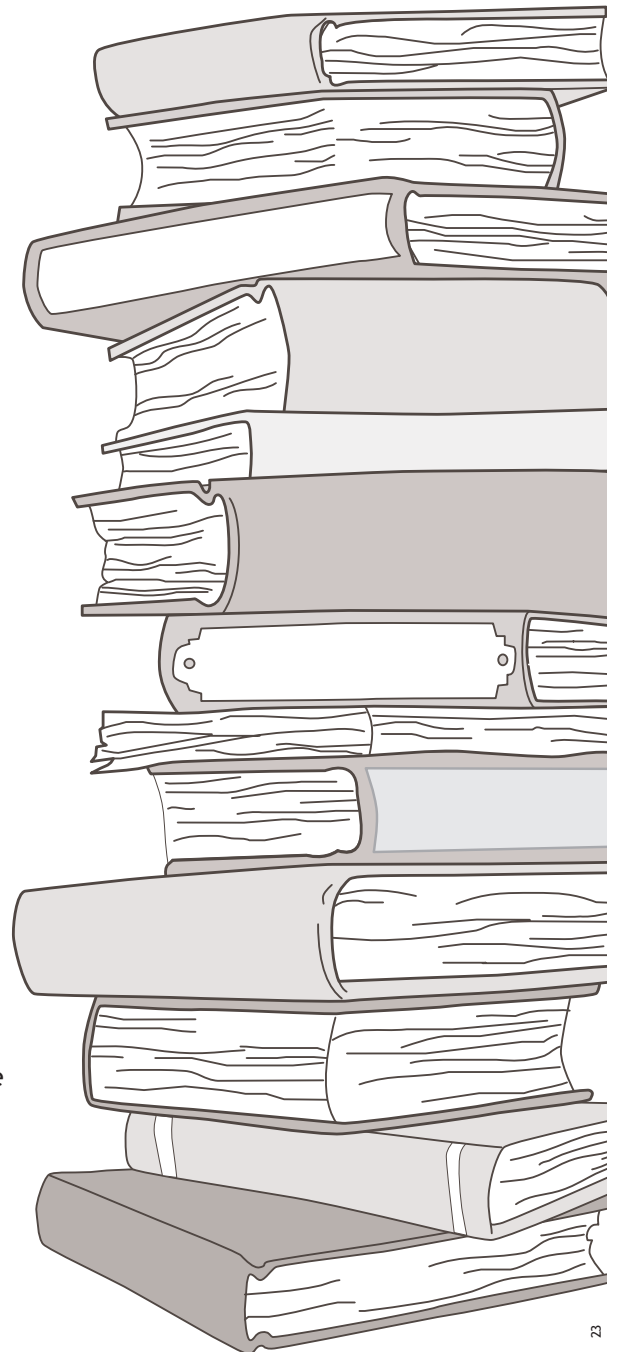
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INTRODUCTION

Drawing Solutions is designed to help students develop the skill of turning an abstract problem into a visual, semi-concrete format. This ability is an important step in the development of effective problem-solving techniques.

By creating a visual representation of the components of a problem, students can more easily perform necessary operations and actually see the logic (or the absence of logic) in their solution. It simplifies the process of following a sequential order in problem-solving. It also provides a means for “talking through” the steps taken, making inconsistencies easier to detect. At a glance, teachers can evaluate problem-solving methods and grasp of concepts demonstrated by students.

You will find this book to be an effective teaching tool for many ages and readability levels. Based on Bloom’s Taxonomy of thinking skills, it is suitable for grades 3-6. Readability is approximately at the 3rd-4th grade level. (Keep in mind that readability scales, though useful, are guidelines only. They cannot measure every factor affecting readability, such as sentence structure or appeal to the reader. Also, scales can differ from each other in the results they yield).

An answer key is provided, but in some instances, student answers will differ from those given. Encourage and accept explanations of varying interpretations of the problem itself and alternative methods of reaching solutions.

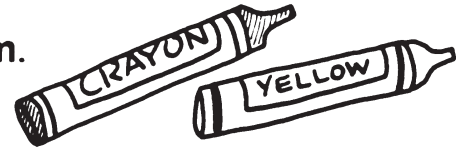
All activities are reproducible for use in a variety of teaching, practice, and reinforcement situations. They are appropriate for whole class, small group, or individual use.

THE CRITICAL THINKING SERIES

FROM REMEDIA PUBLICATIONS

201A	Analogies
201B	Classification
201C	Absurdities
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202E	Relying on Reason
203A	Knowledge
203B	Comprehension
203C	Application
203D	Analysis
203E	Synthesis
203F	Evaluation

Draw a picture to show how to solve each problem.



A.

Mary had five crayons.
Joan gave her a red, a yellow,
and an orange crayon.
How many does she have now?

A large, empty rectangular box with a black border, intended for drawing a solution to problem A.

B.

Five people in our family.
Four guests coming to dinner.
How many plates are needed?

A large, empty rectangular box with a black border, intended for drawing a solution to problem B.

C.

Planted four rows of flowers.
Six plants in each row.
How many flowers?

A large, empty rectangular box with a black border, intended for drawing a solution to problem C.

D.

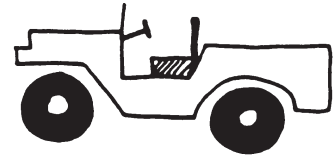
Joe had 12 cookies.
He ate four.
He gave three to Mack.
How many cookies are left?

A large, empty rectangular box with a black border, intended for drawing a solution to problem D.

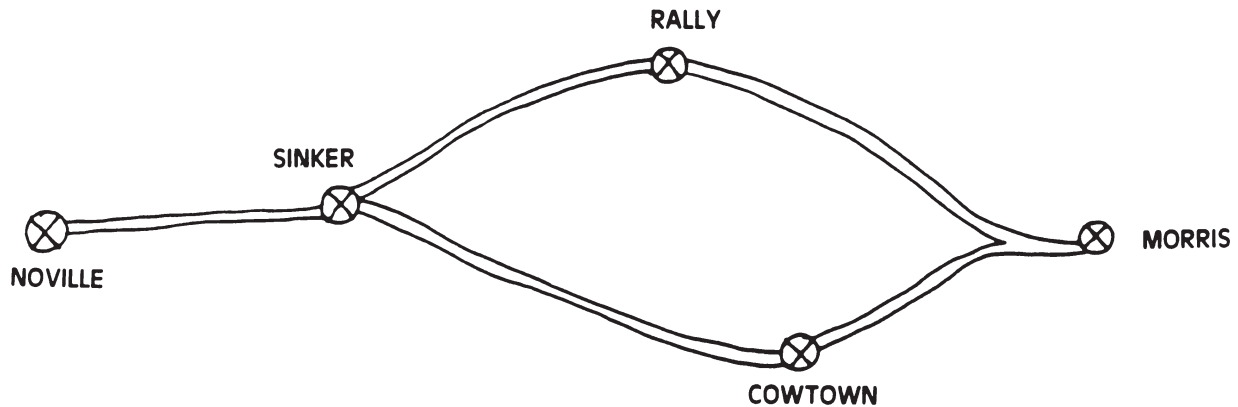
E.

Jan had nine candles on
her birthday cake.
Tom had 12.
How much older is Tom than Jan?

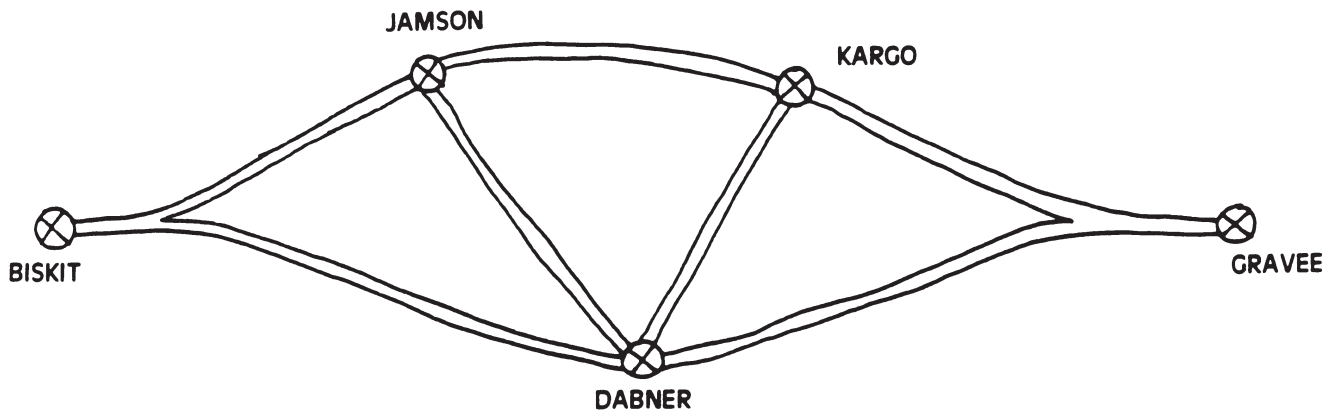
A large, empty rectangular box with a black border, intended for drawing a solution to problem E.



This map shows the roads from Noville to Morris.



Use different colors to show two different ways to get from Noville to Morris.



Here is a map of roads from Biskit to Gravee.

How many ways can you find to get from Biskit to Gravee?
Finish each way.

1. Biskit to _____ to _____
2. Biskit to _____ to _____
3. Biskit to _____ to _____

Name _____

Mrs. Koop dyes beads to sell in her store. She wants to sell them in pairs.

Using only two colors, how many different ways can she dye each pair of beads?

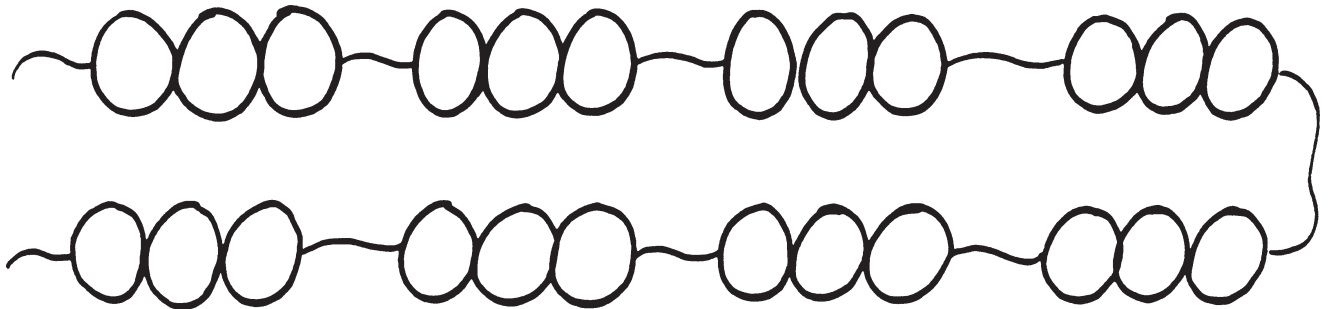
Color them to show each different pair.



There are _____ different ways to color two beads using two colors.

If Mrs. Koop decided to sell the beads in groups of three, how many different ways could she dye each group?

Choose two different colors and color each set of three to show the different ways.



There are _____ different ways to dye three beads using two colors.

On the back of this paper, try two colors on four beads!

Name _____

DRAWING SOLUTIONS

Mrs. Yoke has six hens. Each day she collects the eggs from the nests.

Draw the nest for each hen. Draw eggs in the nests.



BIDDY

CLUCKY

MILDRED

RED

FLUFFY

TINY

Clucky laid three eggs.

Red laid one more than Clucky.

Tiny laid two less than Red.

Mildred laid two brown eggs and three white ones.

Fluffy laid twice as many as Tiny.

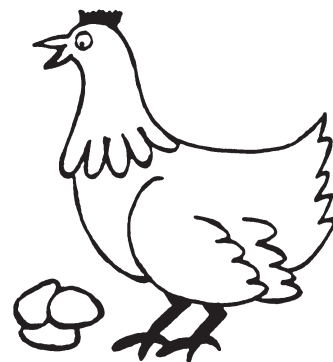
Biddy laid half as many as Red.

How many eggs did Mildred lay? _____

How many eggs did Mrs. Yoke collect? _____

Which hen laid the most? _____

Which hens laid the fewest? _____



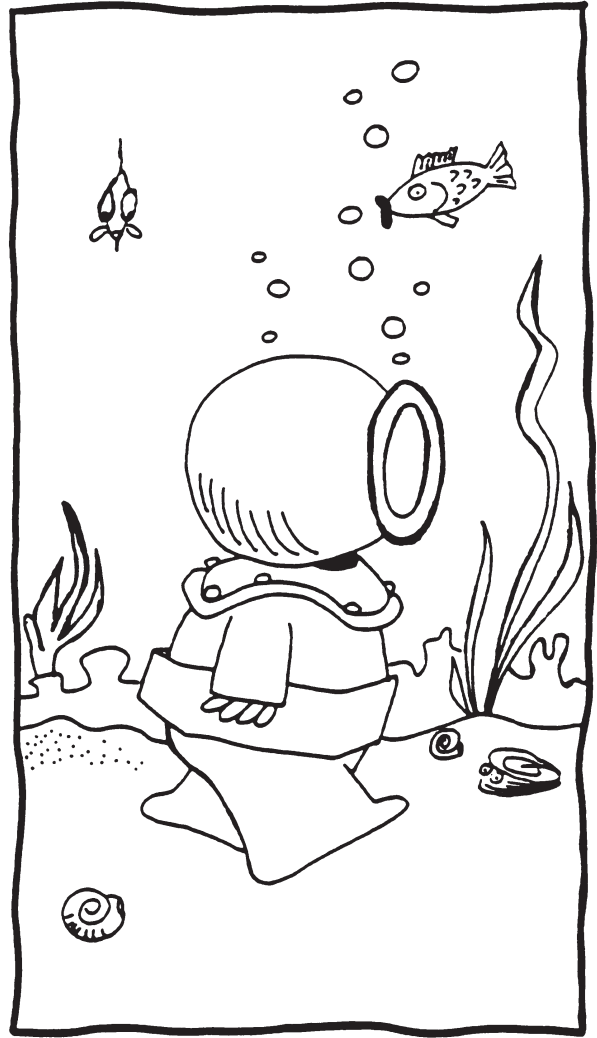
The two pictures below are almost alike.

Can you add the missing parts to Picture B so the two will be exactly alike?

Clue: There are 10 things missing.



A



B

1. How many fish did you add? _____
2. How many arms does a starfish have? _____
3. Why is there a hose on the helmet? _____

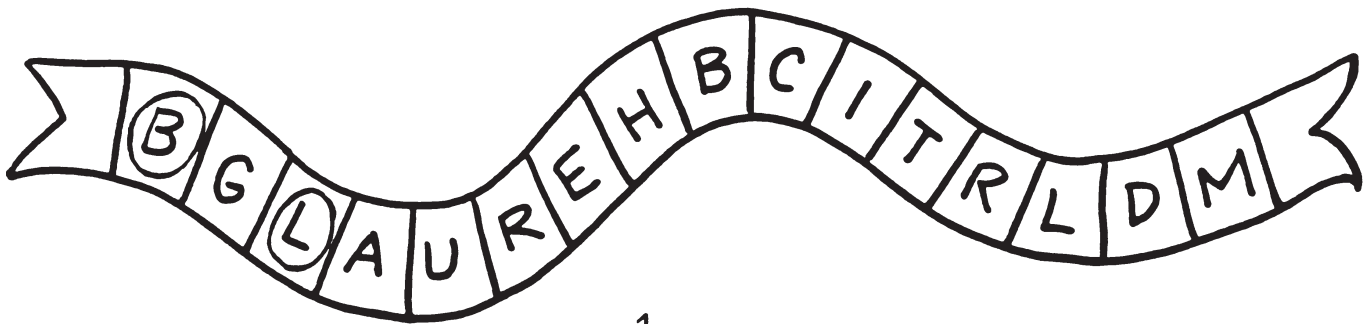
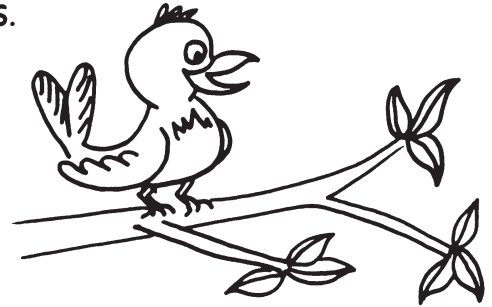
Name _____

DRAWING SOLUTIONS

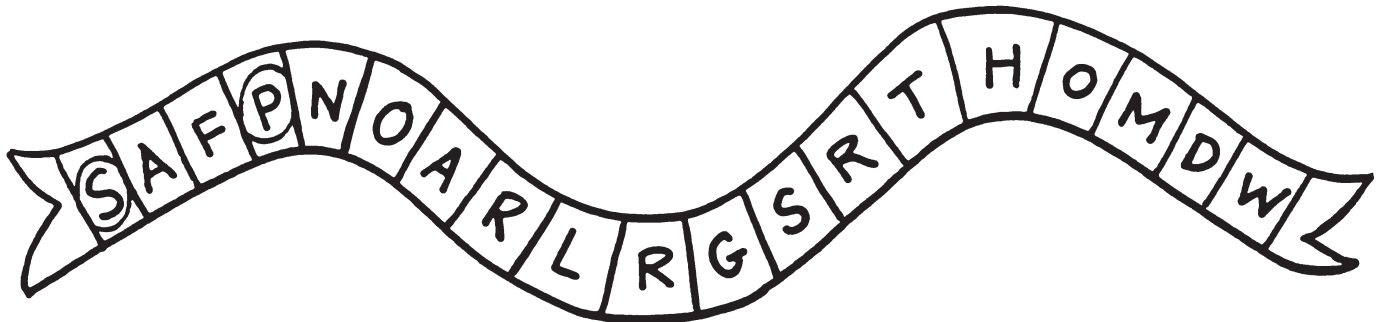
If you can find the pattern in each ribbon of letters, you will find the names of some feathered friends.

Look at the circled letters on each ribbon. Follow the pattern.

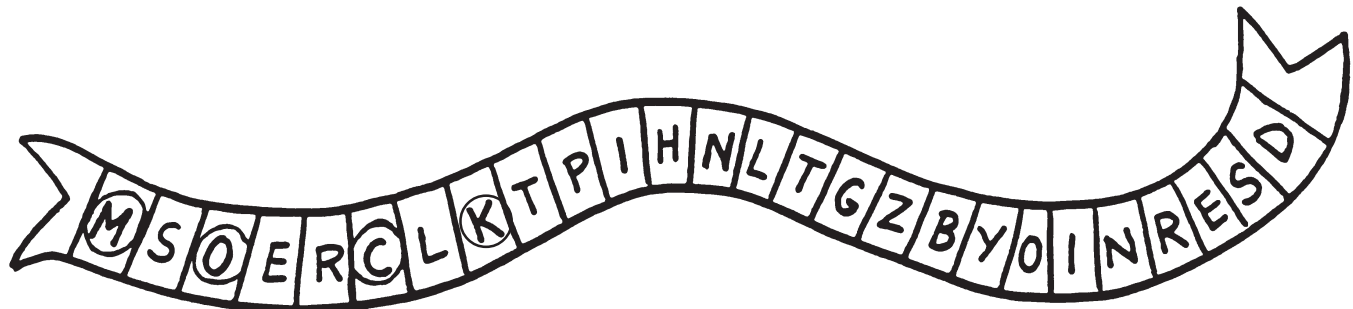
Write their names on the lines.



1. _____



2. _____



3. _____