

Name \_\_\_\_\_ Date \_\_\_\_\_

## MATH EXTENSION

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### Investigation 1: Forces

A teacher bought different kinds of magnets to put at centers in the classroom. She wanted to have bar magnets, round magnets, and horseshoe magnets at each center.

Can you figure out how many of each kind of magnet she put at each center?

#### Center 1

There are 2 bar magnets.

Bar magnets \_\_\_\_\_

There are three times as many round magnets as bar magnets.

Round magnets \_\_\_\_\_

The total number of magnets at the center is 12.

Horseshoe magnets \_\_\_\_\_

#### Center 2

There are three times as many round magnets as horseshoe magnets.

Bar magnets \_\_\_\_\_

There are twice as many round magnets as bar magnets.

Round magnets \_\_\_\_\_

There are 18 round magnets.

Horseshoe magnets \_\_\_\_\_

#### Center 3

The bar magnets and round magnets add up to 15.

Bar magnets \_\_\_\_\_

There are five times as many bar magnets as horseshoe magnets.

Round magnets \_\_\_\_\_

The total number of magnets is 17.

Horseshoe magnets \_\_\_\_\_

Name \_\_\_\_\_ Date \_\_\_\_\_

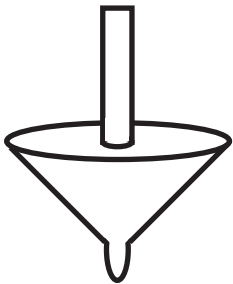
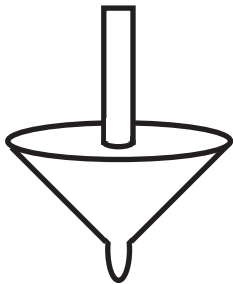
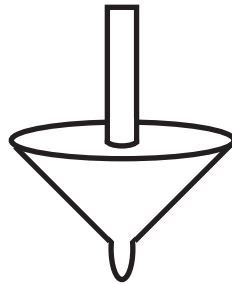
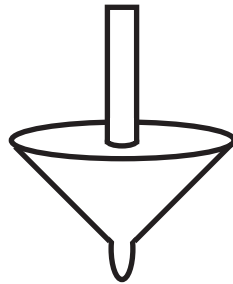
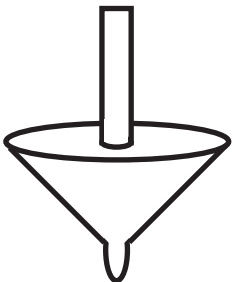
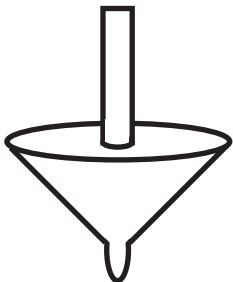
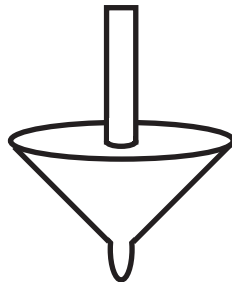
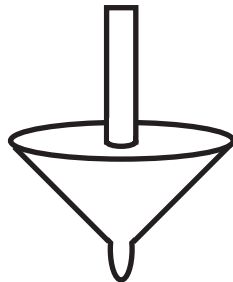
## MATH EXTENSION

### Investigation 2: Patterns of Motion

Color the tops on the cards below. Cut the eight cards apart on the dashed lines.

As your teacher reads the clues, line up the tops according to what each clue tells you.

Compare your lineup with a partner's, and see if you agree.

 red	 blue	 green	 yellow
 red	 blue	 green	 yellow

# MATH EXTENSION CLUES

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## Investigation 2: Patterns of Motion

This math extension requires students to use logic and understanding of position to put tops in the order suggested by the clues. After students have colored and cut apart the top cards, read each set of clues. Have students line up the tops. Pause after each clue to give students time to rearrange their tops.

### Top Lineup 1

**Clue 1.** There are five tops in a line.

**Clue 2.** Two tops are red. Two tops are blue. One top is green.

**Clue 3.** A red top is in the front of the line. Two blue tops are at the end of the line.

**Clue 4.** A red top is in the middle of the line.

**Answer.** From front to back of the lineup: red, green, red, blue, blue.

### Top Lineup 2

**Clue 1.** There are two red tops, two blue tops, two green tops, and two yellow tops.

**Clue 2.** One blue top is first in line. One blue top is last in line.

**Clue 3.** Two red tops are just in front of two yellow tops.

**Clue 4.** One green top is just behind two yellow tops in the line. One green top is just in front of two red tops in the line.

**Answer.** From front to back of the lineup: blue, green, red, red, yellow, yellow, green, blue.

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## **MATH EXTENSION**

### Investigation 3: Engineering

Bart, Sally, Anita, and Jeff decided to enter a local soap box derby.

They each engineered their own car and raced them. Use the clues to match the car with the person who engineered it, and determine how they placed in the race.

1. The cars were each painted a different color: blue, gold, green, and white.
2. Bart, Sally, Anita, and Jeff finished 1st, 2nd, 3rd, and 4th place in the race, but not necessarily in that order.
3. A girl won the race, and no girl's car was white.
4. Jeff's car was blue.
5. Sally finished ahead of Jeff, but behind Anita.
6. The green car finished in 3rd place.
7. Bart did not finish in 4th place.

Name \_\_\_\_\_ Date \_\_\_\_\_

## MATH EXTENSION—PROBLEM OF THE WEEK

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### Investigation 4: Mixtures

A student just completed an investigation on mixtures, but he forgot to record all his data in his notebook. Help the student by completing his data table for the mass of his materials and their mixtures.

**Table of Mixtures**

<b>Material</b>	<b>Mass of material</b>	<b>Mass of mixture</b>	<b>Mass after separation</b>
Small beads	6 g		6 g
Large beads	13 g		
Metal paper clips		12 g	5 g
Plastic paper clips	7 g		
Pebbles	9 g		
Marbles			8 g
Water	50 g	59 g	
Gummy candy			9 g
Rice	30 g		
Water	25 g		