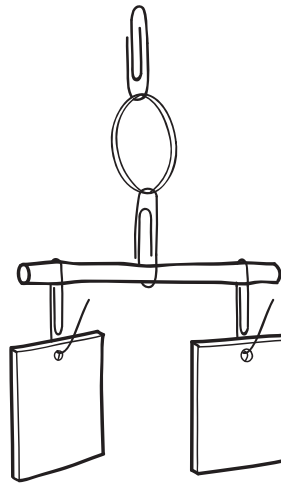


Name _____ Date _____

MATH EXTENSION A

Investigation 1: Balance

Four students each made a mobile like this one.



How many rubber bands did they use? _____

How many straws did they use? _____

How many cards did they use? _____

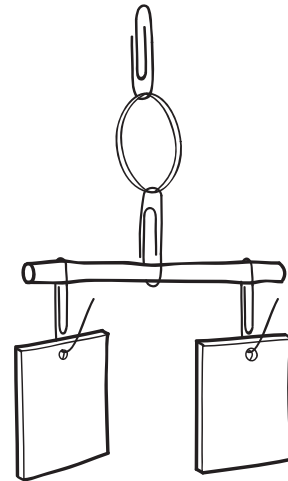
How many paper clips did they use? _____

MATH EXTENSION B

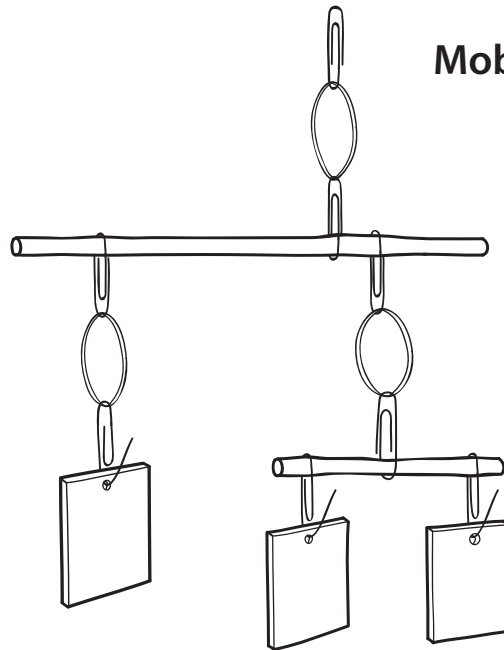
Investigation 1: Balance

A class has 20 students. Half the class decided to make mobile 1, and half the class decided to make mobile 2.

How many straws, paper clips, rubber bands, and cards did the teacher need to have ready for all the students to make a mobile?



Mobile 1




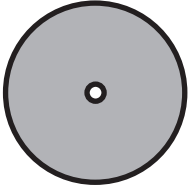

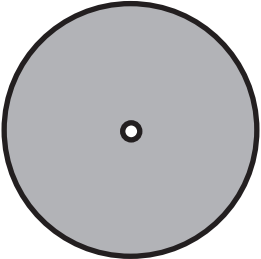


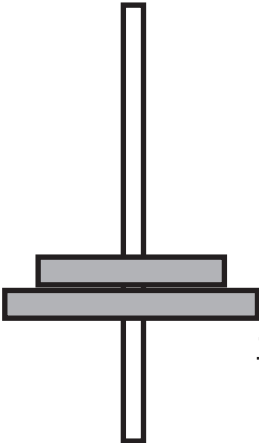
Mobile 2

MATH EXTENSION A

Investigation 2: Spinners

Invent a top!

Choose a shaft from this group.	Choose disks from this group.
5¢  Short	5¢ Small 
10¢  Medium	10¢ Medium 
25¢  Long	25¢ Large 

<p>Example:</p>  <div style="text-align: right; margin-left: 20px;"> 25¢ 10¢ +10¢ <hr style="width: 50px; margin-left: 0;"/> 45¢ </div>	<p>Draw a new top. What will the top cost?</p>	<p>Draw a top that will cost \$1.00.</p>
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Name _____ Date _____

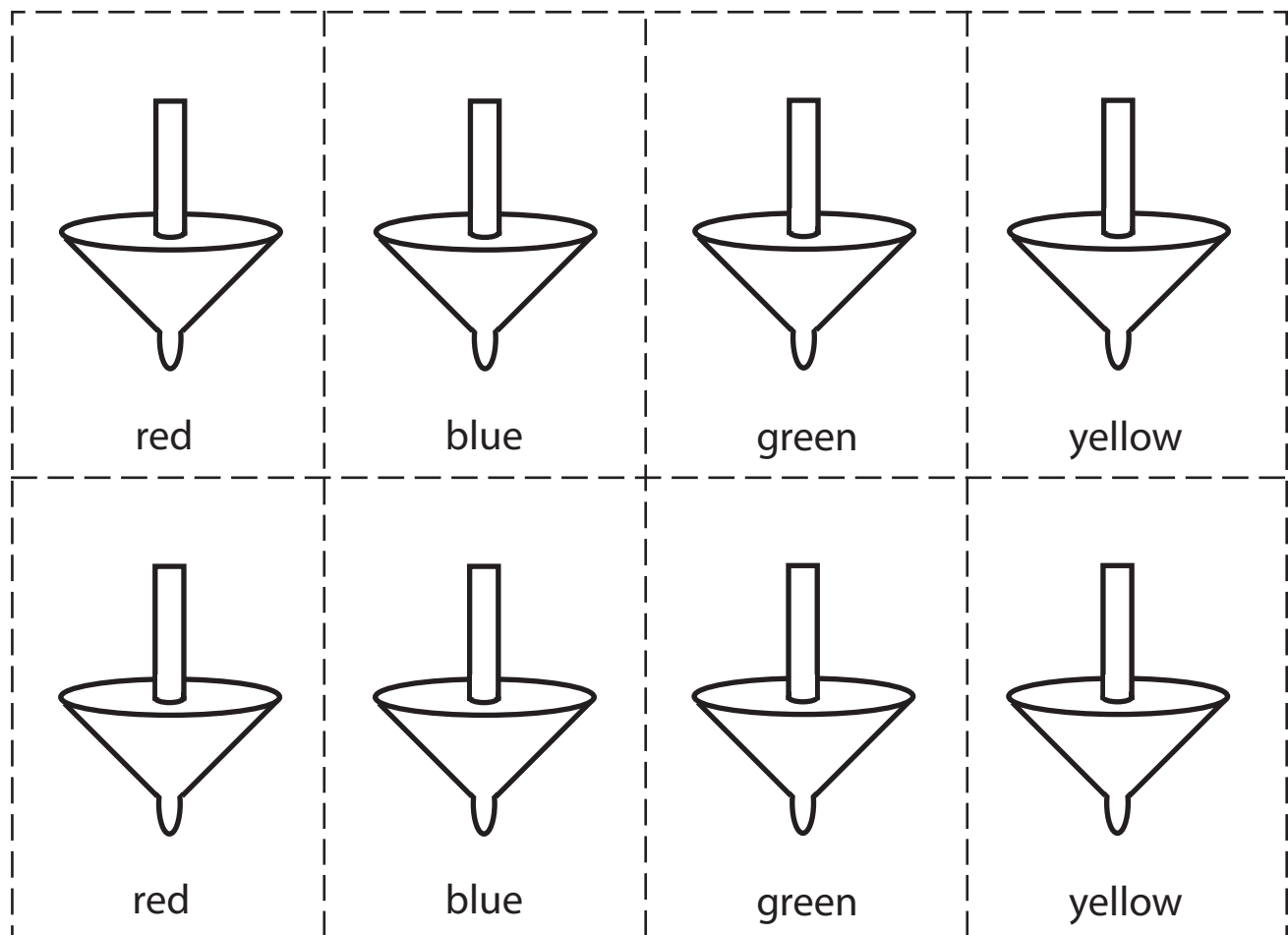
MATH EXTENSION B

Investigation 2: Spinners

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.



MATH EXTENSION CLUES

Investigation 2: Spinners

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 and 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.

Name _____ Date _____

MATH EXTENSION A

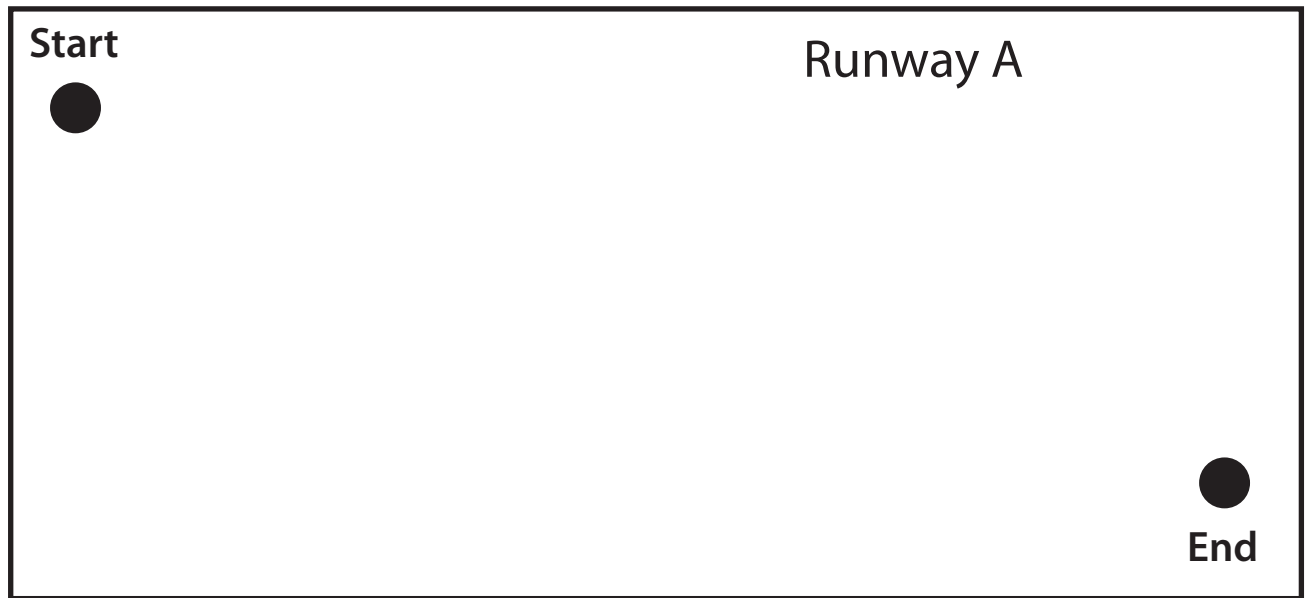
Investigation 3: Rollers

Draw two runways that a marble might roll through from top to bottom.

Which one do you think is longer? _____

Find out which is longer. Tell how you found out.

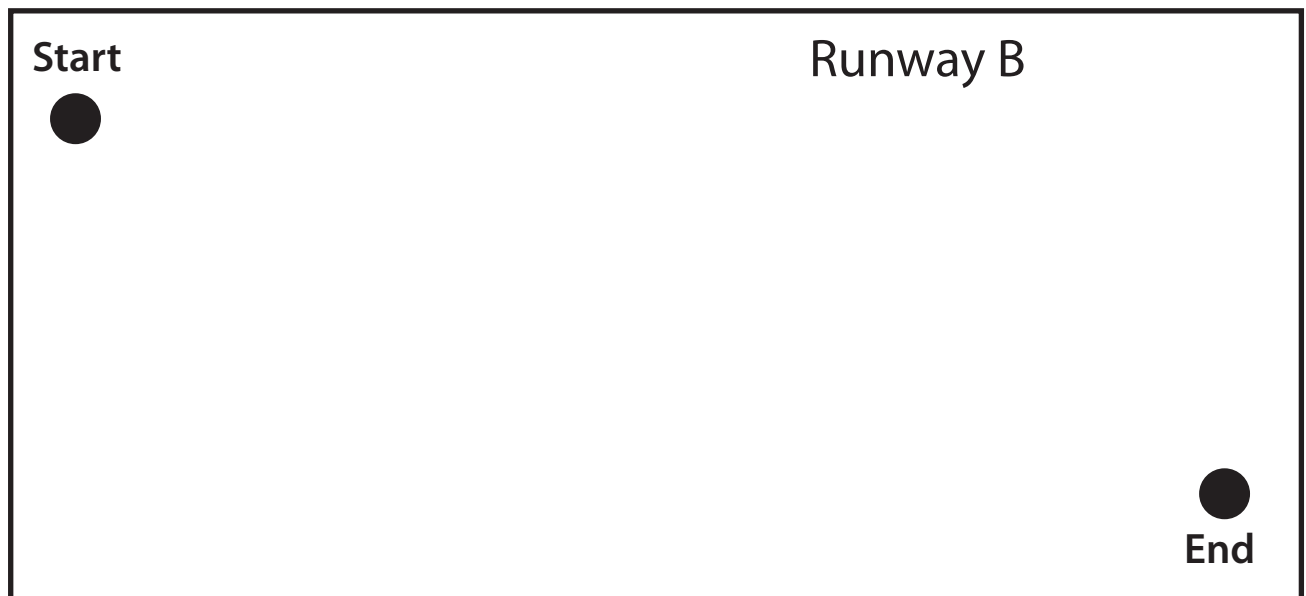
Start **Runway A**



End

A rectangular box representing Runway A. On the left side, there is a black dot labeled "Start". On the right side, there is a black dot labeled "End". The text "Runway A" is centered at the top of the box.

Start **Runway B**

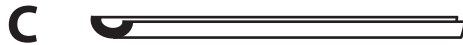
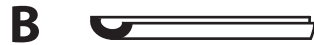


End

A rectangular box representing Runway B. On the left side, there is a black dot labeled "Start". On the right side, there is a black dot labeled "End". The text "Runway B" is centered at the top of the box.

MATH EXTENSION B

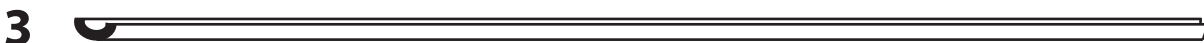
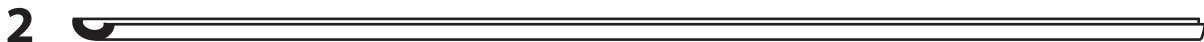
Investigation 3: Rollers



Use the runway pieces above to make the long runway shown below. Use a measurement tool to help you. Make the long runway at least three different ways. Label the pieces you use.

How many different ways can you make the long runway?

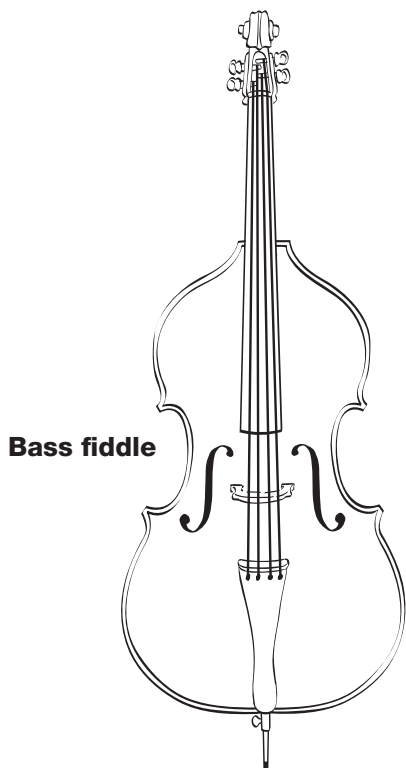
Example



MATH EXTENSION

Investigation 4: Rollers

Kathy, Linda, and David play in the school orchestra. One plays the bass fiddle, one plays cello, and the third plays violin. Use the clues to figure out which instrument each person plays.



1. A girl plays violin.
2. Linda’s instrument is not the lowest pitched.
3. The pitch of David’s instrument is between the pitch of the instruments played by the girls.

Use this table to keep track of your thinking.

	Bass	Cello	Violin
Kathy			
Linda			
David			