

Math Stations for Middle Grades

Created by Laura Candler

power pack

Name _____

Math Buddies

Polygon Angle Partners

Label each polygon with its name. Then measure each inside angle. Finally, compare your angle measurements with your buddy's.

#1 - Polygon Name _____

#2 - Polygon Name _____

#3 - Polygon Name _____

#4 - Polygon Name _____

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High Roller

Comparing Fractions Game

Group Size: Pairs



Materials

- two dice
- Comparing Fractions Charts

Partner, and roll the dice. The player who goes first. You will roll both dice to create a fraction. The larger number is the numerator and the smaller number is the denominator. Both players record the fraction in their Player 1 column. The player who rolls the dice and both players compare their Player 2 column. The player who rolls the larger of the two, and writes the fraction in the chart. Explain your strategy, words, or symbols. It's your turn! The player who rolls the larger fraction scores a point. Play until you have 10 points. Tally the points at the end.

Challenge Variation:
Use a set of number cards (1 to 9) instead of dice. Randomly draw 2 cards to create your fraction.

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Math Race

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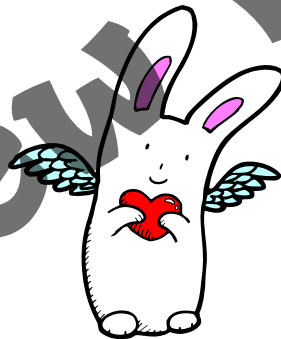
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Acknowledgements

I would like to express my appreciation to all the wonderful teachers I've known through the years. The Internet has opened my doors to a world of great classrooms filled with inspiring teachers. Thanks for all you have given me!



Middle Grades Math Stations

Power Pack Introduction

Power Pack Sections

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Why Math Stations in the Middle Grades?

Differentiation is the buzz word in education these days, but the challenge is finding the time to plan and prepare activities that meet the needs of all of our students. Adding math stations to your instructional program can be an effective way of meeting diverse needs and finding the time to work with small groups of students on targeted skills.

What is a Math Station?

The term “math station” can be a little misleading because it implies that a specific game or activity takes place in a certain location in the room. We envision elaborate “centers” around the room where students go to complete activities and tasks. Who has time to create those cute little centers? And even if we had the time, what middle grades teacher has enough room to set up all those centers?! For the purposes of this book, the term “math station” refers to a set of directions and materials that students can take to any location in the room to complete. They can even complete the activities at their own desks!

Who Can Use this Power Pack?

Teachers in all grade levels can use math stations, but this Power Pack will most benefit teachers in Grades 3 through 8. Not every activity will work for all students because of the diverse span of abilities across these middle grades. However, the packet includes lots of blank templates for you to create your own math content to go with almost any game or activity.

How to Use the Activities

Power Pack Suggestions

How Can the Activities Be Used?

- **Math Stations** - The activities are perfect for math stations because they come with student directions along with blackline masters of game boards, spinners, and task cards. There are at least 2 types of stations, Learning Choice Stations and Rotation Stations. Both programs will be explained in the next section.
- **Small Group Instruction** - In addition to stations, these activities can be use in small group sessions, with peer tutors, and with adult tutors. Most of the activities are designed for partners so you can form pairs within your small group.
- **Whole Group Instruction** - These math activities can also be adapted for whole group instruction. After you introduce a particular concept and students have completed guided practice, you can allow the entire class to work on the activities in cooperative learning teams or partners.



How is this Power Pack Organized?

The activities are organized by student group size rather than by content. For example, the first 15 activities are designed to be used in pairs. The remaining activities are designed to be used in teams of 3 or 4 students. The activities are clustered this way because many of them, such as the Concentration games, use the same set of directions. To help you find activities for a particular math content area, refer to the chart on the next page which shows activities and corresponding math content.

How Can You Prepare for Stations?

You'll find student-friendly directions along with blackline masters for the task cards and game materials. Duplicate them and laminate them if you plan to use them in the future. Save class time by cutting out the cards in advance, or have the students cut them apart. For games with detailed direction pages, glue the directions to the front of a manila envelope and store the rest of the materials inside. You might want to invest in a rolling plastic cart with drawers as a way to organize and store your materials. You can even label the drawers by content area (geometry, algebra, etc.)

Activities & Math Content

Teacher Reference

Activity Title	Math Content	Page(s)
Pair Decimal Writing	Decimal Word Names	15
Hands-on Measurement	Measurement	16
Geoboard Quadrilaterals	Recognition of Polygons	17
Statistics Challenge	Data Analysis	18 - 19
Fraction Sorting	Understanding Fraction Concepts	20 - 21
Seeds of Chance	Probability	22 - 23
Moving Remainders	Division (1-Digit Divisors)	24 - 25
Math Race	Comparing Decimals	26 - 30
Telling Time	Reading Analog Clocks	31
High Roller	Comparing Fractions	32-33
Target Number Challenge	Order of Operations	34
Pattern Block Fraction Puzzles	Understanding Fraction Concepts	35
Multiplication War	Basic Multiplication Facts	36
Polygon Angle Partners	Measuring Angles in Polygons	37
Unifix Tower Challenge	Logical Reasoning	38
Geometry Concentration	Lines and Angle Terminology	39 - 41
Triangle Matching	Types of Triangles	42
Algebraic Expression Matching	Algebraic Thinking	43 - 44
Bean Pot Multiplication	Multiplication by 1 and 2 Digits	45 - 46
Number Read Around	Reading Whole Numbers	47 - 48
Math Talk	Reasoning and Problem Solving	49 - 51
Subtracting Decimals Showdown	Subtracting Decimals	52 - 53
Measurement Showdown	Reasoning and Problem Solving	54
Division Showdown	Division (2-digit Divisors)	55
Customary Ruler Showdown	Linear Measurement	56 - 57

Managing Math Stations

Teaching Suggestions

Learning Choice Stations

Learning Choice Stations are the easiest to set up and manage in your room. When students are finished with their work, they can choose a station activity. Or you can designate a certain time of day, or one math class a week, in which to have Learning Choice time. When introducing this format, post and review the Golden Rules on page 12. For individual accountability, have students set up a 3-pronged pocket folder with the chart on page 8 or lined paper to use as a Math Station Log. Every time they complete a math station, they record what they did or write a summary of what they learned. Their Math Buddy or a Checker can sign off after the assignment is completed. They can store activity sheets in the folder, and you can collect the folders and grade them periodically.



Rotation Stations

Rotation Stations are another method of implementing math stations in your classroom. This format is more structured and involves rotating groups of students through 3 different activities over a period of 60 to 90 minutes. See the sample schedule on page 9 for an example of how this might work. You could even complete the rotation over a 3-day period and use the last half of each class period for Rotation Stations. Divide your class into 3 groups. You can use ability grouping here, but I prefer to have mixed-ability groups so that students can help each other. I generally have 3 stations: small group instruction at a table with me, a cooperative math station activity, and independent work.



To begin, post the schedule so everyone knows where they are supposed to be during each rotation. Discuss procedures for dealing with situations like bathroom emergencies or getting help with an activity. Start a timer and have everyone move to their first station. Give a 2-minute clean up warning so that everyone is ready to rotate when the timer goes off.

Math Station Log

Name _____

Date	Activity Title or Description	Math Content	Buddy/Checker

Preview Version

Rotation Stations Schedule

	9:00 - 9:20	9:20 - 9:40	9:40 - 10:00
Teams 1 and 2	Learning Stations	Independent Work	Small Group Instruction
Teams 3 and 4	Small Group Instruction	Learning Stations	Independent Work
Teams 5 and 6	Independent Work	Small Group Instruction	Learning Stations

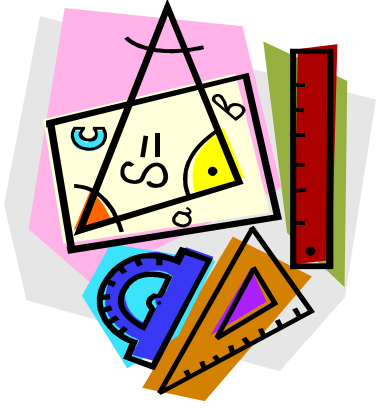
Rotation Stations Schedule

Team Name	Time: _____	Time: _____	Time: _____

Rotation Stations Schedule

Review Version

Golden Rules for Learning Stations



- Stay on task at all times.
- Don't bother anyone or call attention to yourself.
- Don't talk to the teacher while he or she is working with another group.
- Quietly ask someone if you need help.
 - If that person can't help you, signal the teacher and do something else until help arrives.

Cooperative Learning

Teaching Suggestions

*What children can do together today,
they can do alone tomorrow.
(Lev Vygotsky, 1962)*

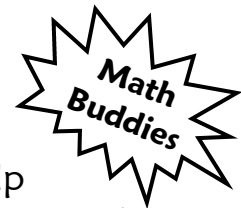


Rationale

Educators have long recognized that people learn best in a social setting. It's through communication with others that we make sense of our new learning. Because of this, math stations need to engage students in discussion and hands-on activities. Sure, independent stations are quieter, but cooperative learning activities don't have to be chaotic just because kids are working together. One of the most powerful benefits of cooperative learning is that when you teach someone, you learn that concept even better yourself. The key is to help kids develop the social skills they need to work cooperatively in stations. Even though some of the activities seem competitive, we should always foster a spirit of cooperation in our classrooms. We must make it clear that learning, not winning, is the objective! For more information on developing positive social skills, go to www.lauracandler.com and follow the cooperative learning links.

Math Buddies

Partners are very effective for most math stations. When students must work independently, they frequently need help and when help doesn't arrive quickly, they can become disruptive. I recommend assigning partners rather than letting them choose a buddy. You can have them give you a list of people they would like to work with, and from those lists you can create working partnerships.



Team Activities

Some team activities contain enough structure to enable students to handle them in stations. However, students need to learn these activities first in a whole group or small group setting. Also, they should be able to manage the social skills involved in working with a partner before being assigned to team activities like Team Talk, Showdown, and Bean Pot Multiplication,

Games and Activities

Teaching Suggestions

The games and activities that make up the remainder of this Power Pack are loosely divided into two sections: Content-Specific Activities and Create Your Own Game Templates.



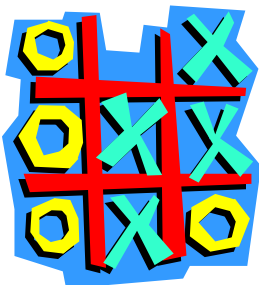
Content-Specific Activities

The first section is composed of games and activities that have complete directions and include specific math content. There are 25 activities, and you can use the chart on Page 4 to find which activity is suitable for a specific area of math you are teaching. The first 15 activities are recommended for partner work, and they have a Math Buddy logo on the direction page to remind students of this fact. The remaining activities are appropriate for students in teams of 3 or 4. I would not recommend larger teams for Math Stations because students can easily get off-task in a large group. Set up your teams carefully so that they represent the diverse abilities and personalities in your classroom.

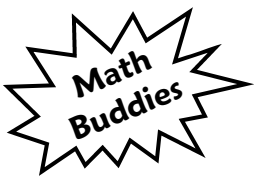
All of the content-specific activities come with student directions. Simple directions are written right on each activity page. More complex directions are written on pages that you can glue to the outside of a large envelope. Put all the game materials inside, and you have a portable station!

Create Your Own Game Templates

Sometimes you'll discover that you like a game, but find that the content is not appropriate for your students. Luckily, there are lots of templates you can use to add your own content to almost any game. For example, many games use problem or task cards. If the task cards that come with a



particular game aren't appropriate for your students, use the templates to create your own! Adapt the game rules or materials of any existing games to make them suitable for your students. With your imagination and the templates in this Power Pack, you have everything you need to implement effective math stations in your classroom!



Pair Decimal Writing



Partner A _____

Partner B _____

Directions: Partner A reads the first number aloud and writes it on the blank. Partner B puts a ✓ next to the answer if he or she agrees. If not, discuss the answer and Partner A corrects it. Then Partner B reads the next number aloud, writes the answer and so on.

1) two and fifty-five hundredths _____

2) eighteen and seven tenths _____

3) two hundred fifteen and seventy-five hundredths _____

4) ninety-three hundredths _____

5) six and fourteen thousandths _____

6) three hundred twelve and twenty-two hundredths _____

7) seven and five hundred two thousandths _____

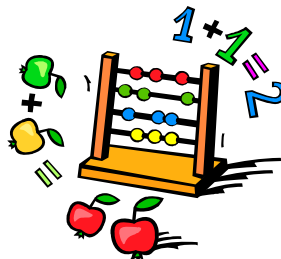
8) ninety and nineteen thousandths _____

9) eight tenths _____

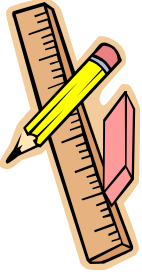
10) forty-one and seven hundredths _____

11) seventy-two and eighty-three hundredths _____

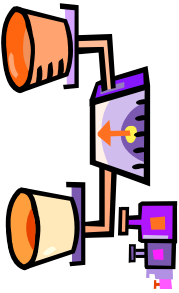
12) four thousandths _____



Name _____



Hands-on Measurement



Item to be Measured	Unit	Estimate	Actual

Directions: Work with a partner to measure the items using the given units (inches, ounces, degrees, etc.) First, estimate each measurement. Then use your measuring device to find the item's actual measurement. Take turns measuring the items and checking each other's work. Record your answers above.

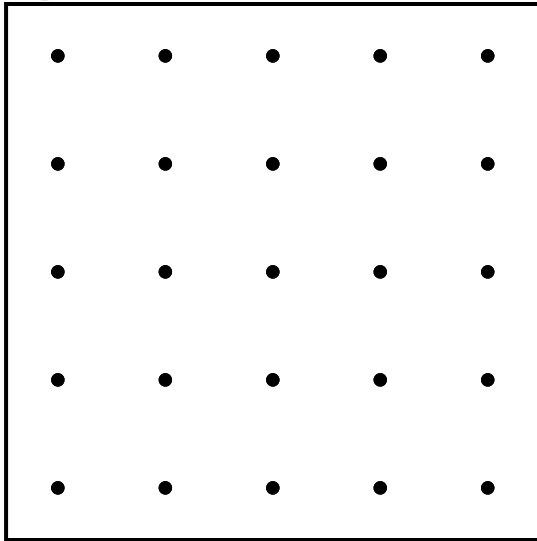


Name _____

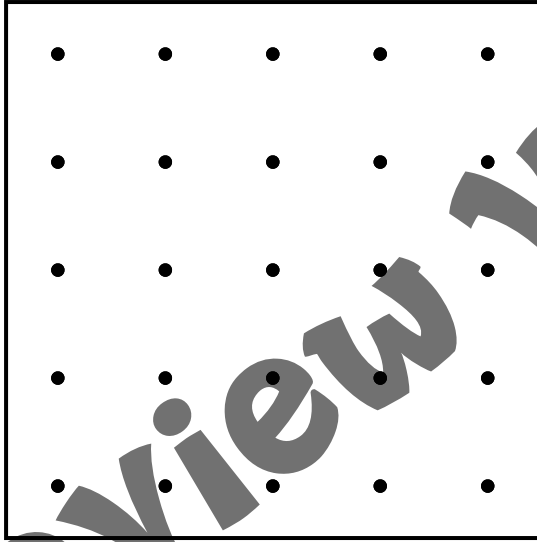
Geoboard Quadrilaterals

Directions: Take turns creating the shapes on your geoboard and drawing them on your dot paper.

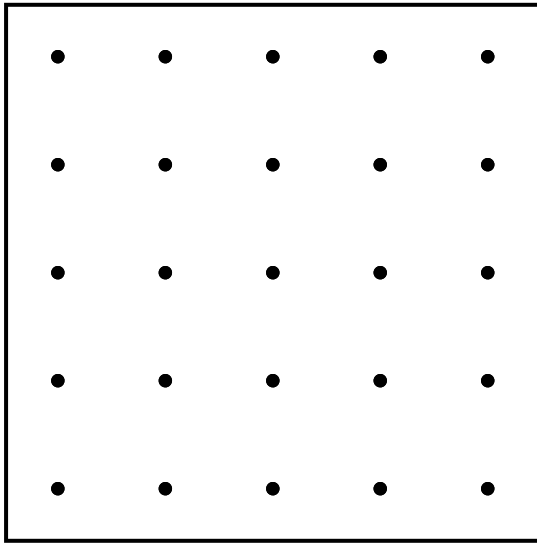
1 square



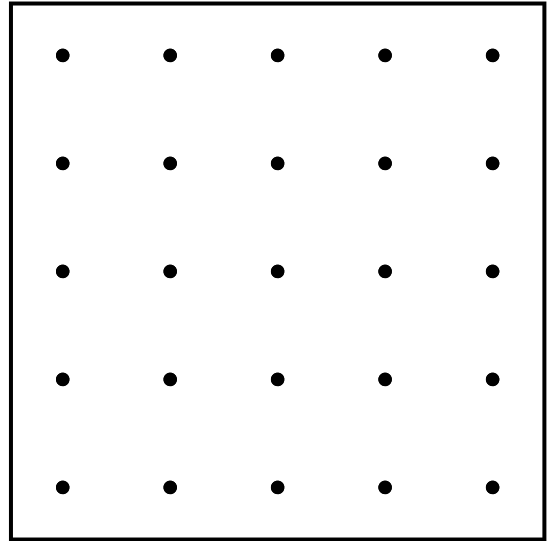
2 rectangle



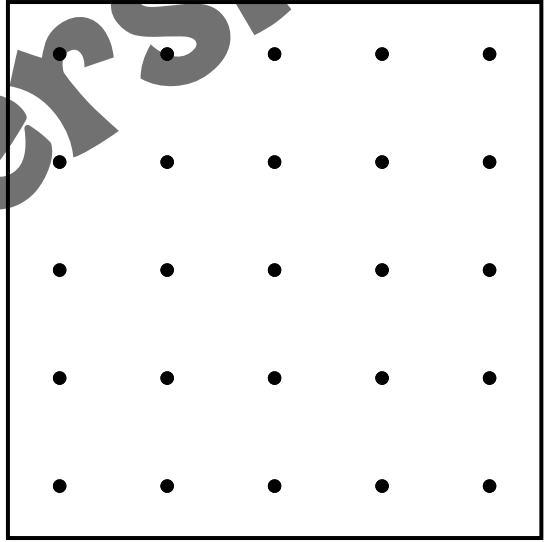
3 trapezoid



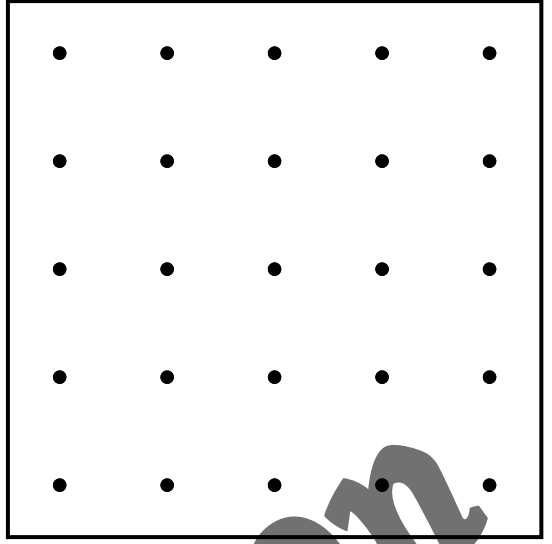
4 parallelogram



5 rhombus

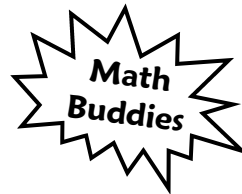


6 kite



Statistics Challenge

Directions



Task: Your job will be to create a survey question, interview people to find out their responses, and analyze the data that you collect.

Materials: Statistics Challenge Recording Sheet

1. Work with a partner to create a survey question that will result in number answers.

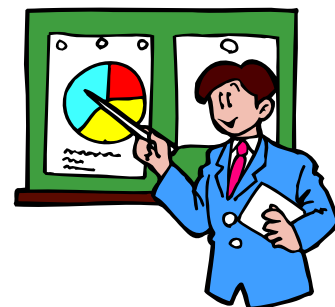
Examples:

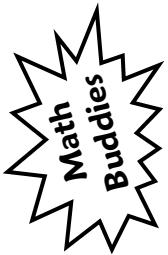
- How many pets do you have?
- How many siblings do you have?
- How many times a week do you eat school lunch?
- How many grams do you think this apple weighs?

2. Survey 9 different people and write down their answers.
3. Figure out the range, mode, median, and mean of the responses.
(Consult your math book or another outside source if you need to review those procedures.)
4. Present the results of your survey to your classmates.

Optional:

Prepare a poster or multi-media presentation of your results to share with the class.





Statistics Challenge



Question:

Responses:

Range: _____

Median: _____

Mode: _____

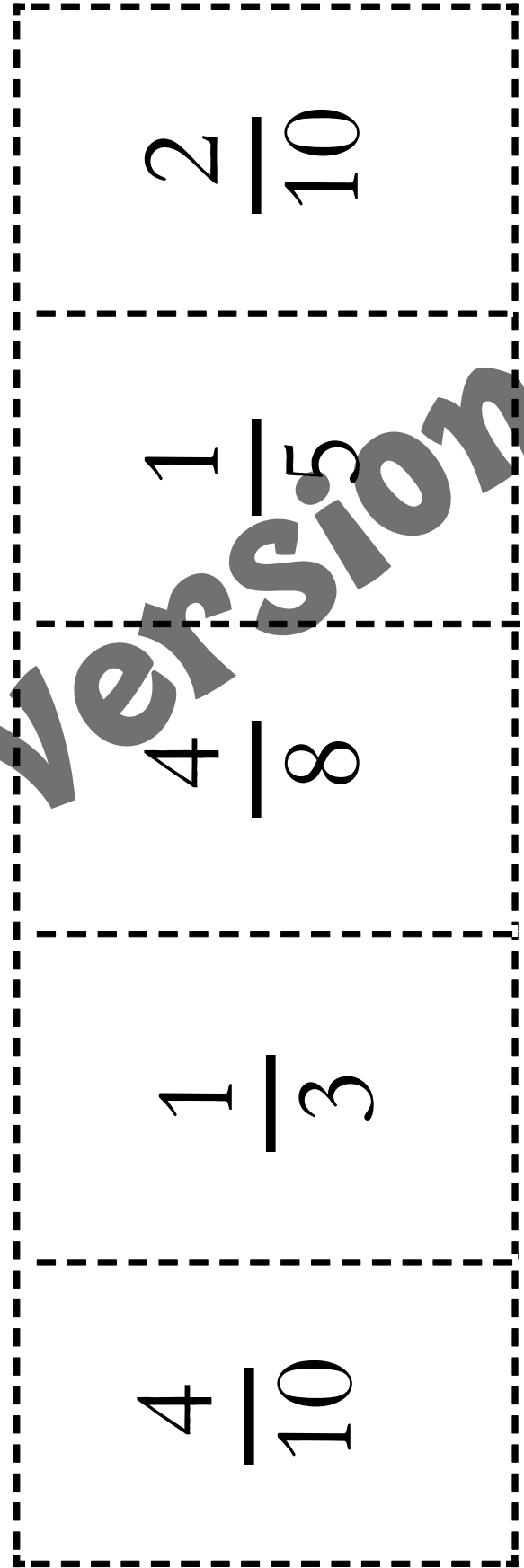
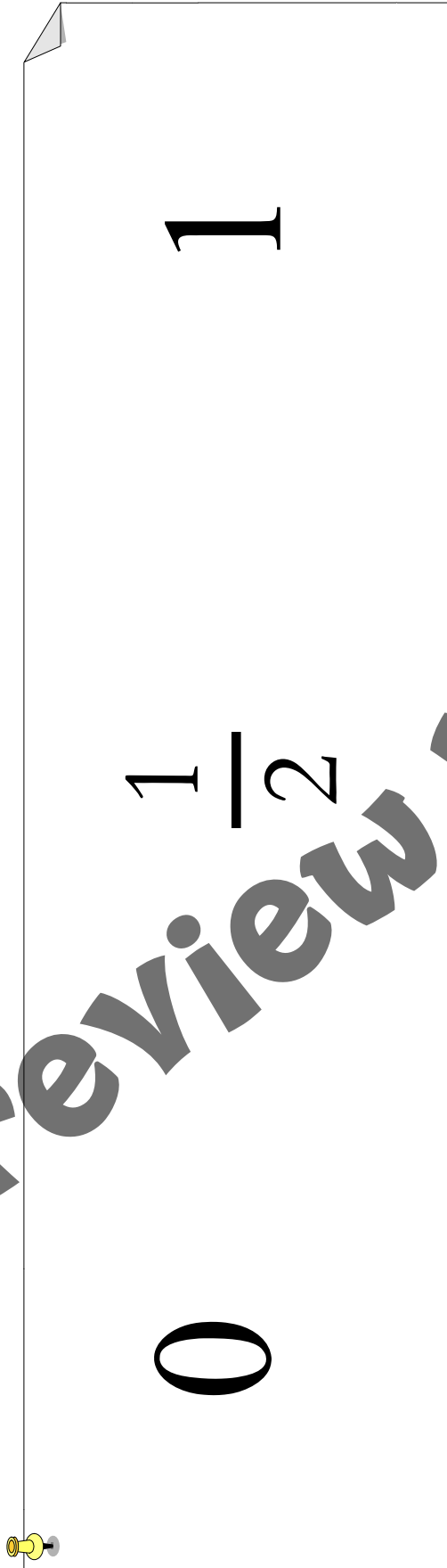
Mean: _____

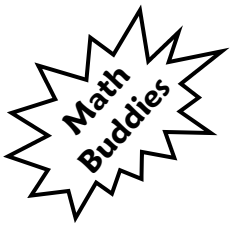


Name(s)

Fraction Sorting

Work with a partner or team and cut out the fraction cards. Decide if each fraction is closer to 0, $\frac{1}{2}$, or 1 and take turns sorting the cards into piles.

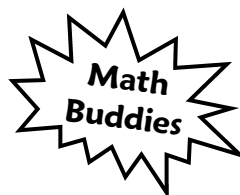




Fraction Sorting

$\frac{1}{7}$	$\frac{2}{3}$	$\frac{3}{8}$	$\frac{7}{8}$	$4\frac{1}{5}$
$10\frac{1}{12}$	$2\frac{1}{15}$	$8\frac{1}{15}$	$6\frac{1}{12}$	$2\frac{1}{9}$

Seeds of Chance



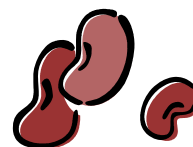
Materials: 2 Seeds of Chance Gameboards
24 dried beans or other game markers
2 dice

Object of the Game:

To be the first to remove all your beans from the gameboard

Directions:

1. Each person needs one gameboard and 12 dried beans.
2. Place your 12 beans on your gameboard in any manner you choose. You can put 1 bean on each square, all your beans on one square, 2 beans on six different squares, etc. After you place your beans and the game starts, you may not move them to another location.
3. Roll to see who goes first. High roller becomes Player 1.
4. Player 1 rolls both dice and adds the numbers. He or she may remove all the beans from that location on the board. (Example: Roll a 3 and a 4 - Remove all beans from Number 7)
5. Player 2 rolls both dice and follows the same steps.
6. Continue taking turns until someone has removed all the beans from their board.
7. Play the game several times.
8. Discuss your strategies with your partner. Did your strategies change after the first game? Is there an equal probability of rolling all the numbers on the board? Why or why not?
9. After you figure out some secrets of this game, play against someone else. Do your methods work against this person?





seeds of Chance

1	2	3	
4	5	6	
7	8	9	
10	11	12	

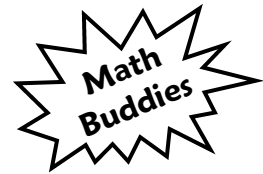


seeds of Chance

1	2	3	
4	5	6	
7	8	9	
10	11	12	

Moving Remainders

Division Game



Number of Players: 2

Materials Needed:

Moving Remainders Board Game

1 Die

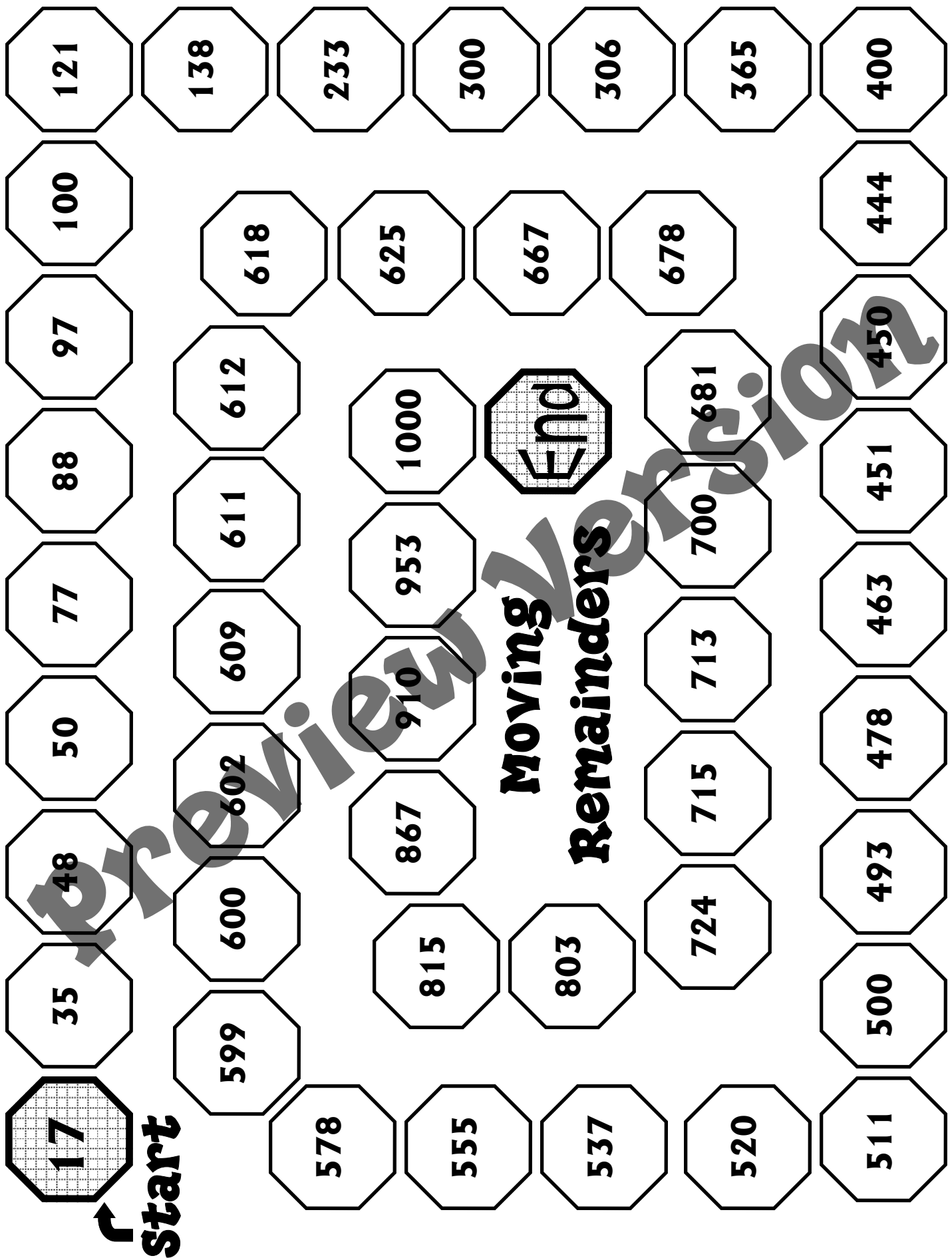
1 Calculator

1 game marker for each player



Directions:

1. Place both game markers on start. Player 1 rolls the die and writes a division problem using the number on the die and the first number on the game board. (The dividend is the starting number and the divisor is the number on the die. Ex: $17 \div 3$)
2. Player 1 uses paper and pencil to solve the problem. The product must be written as a whole number plus a remainder. No decimals for this game! Player 2 uses a calculator to check, coaching Player 1 if necessary.
3. Player 1 moves the number of spaces as shown by the **remainder**. Ex: $17 - 3 = 5 \text{ r}2$ so the player moves 2 spaces. Player 1 is stuck if the problem had no remainder!
4. Players take turns throughout game. If a player remains stuck on a number for two turns, on the third turn he or she may move the gamepiece one place forward before rolling the die. Players can get help on a problem if they need it.
5. The winner is the one who gets to the end first or travels farthest before time is called.



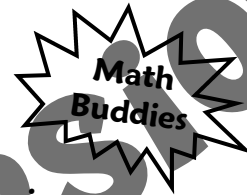
Math Race Game



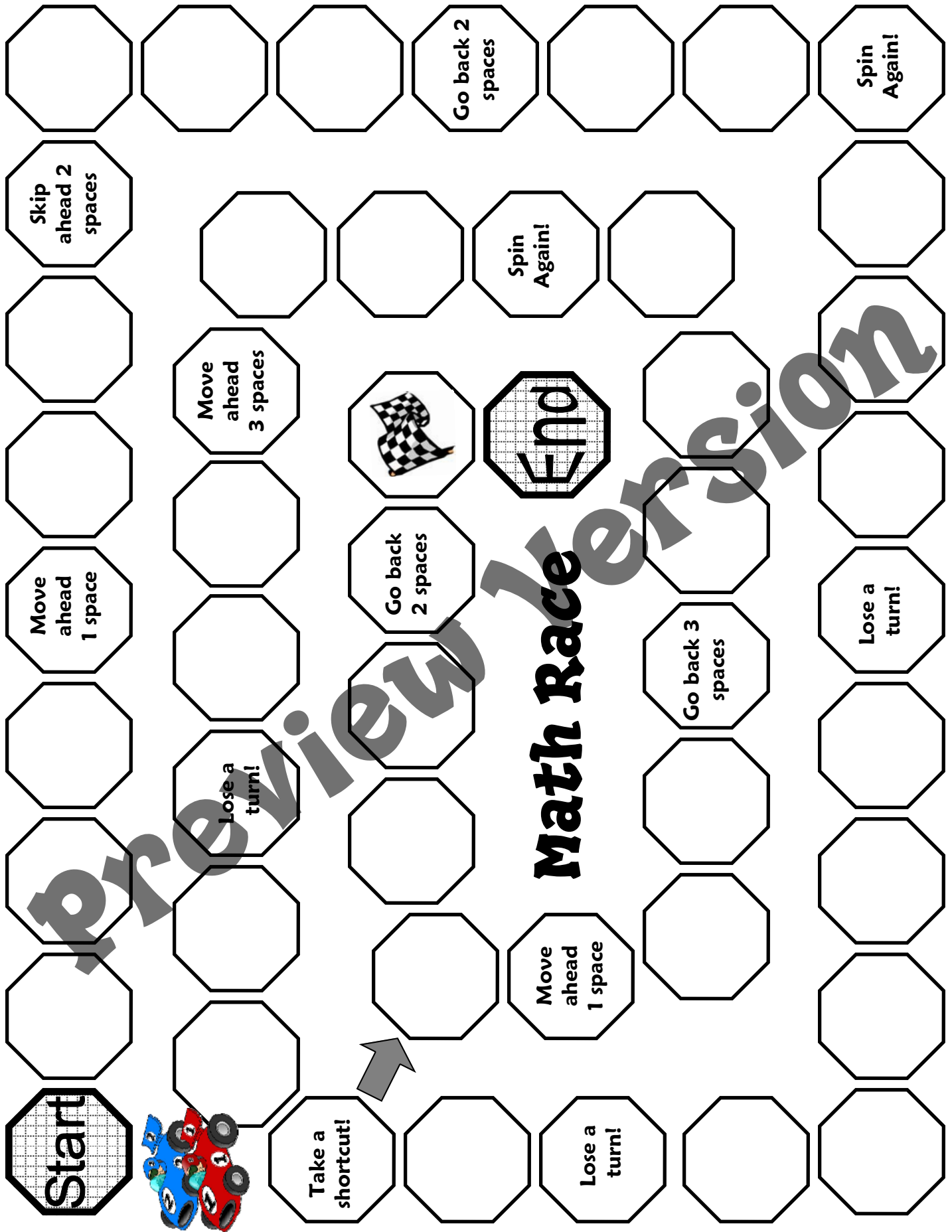
Materials: Math Race Game Board
Game Pieces (Beans, Coins, Unit Cubes, etc.)
Math Race Spinner & paperclip
Math Race Problem Cards

Directions:

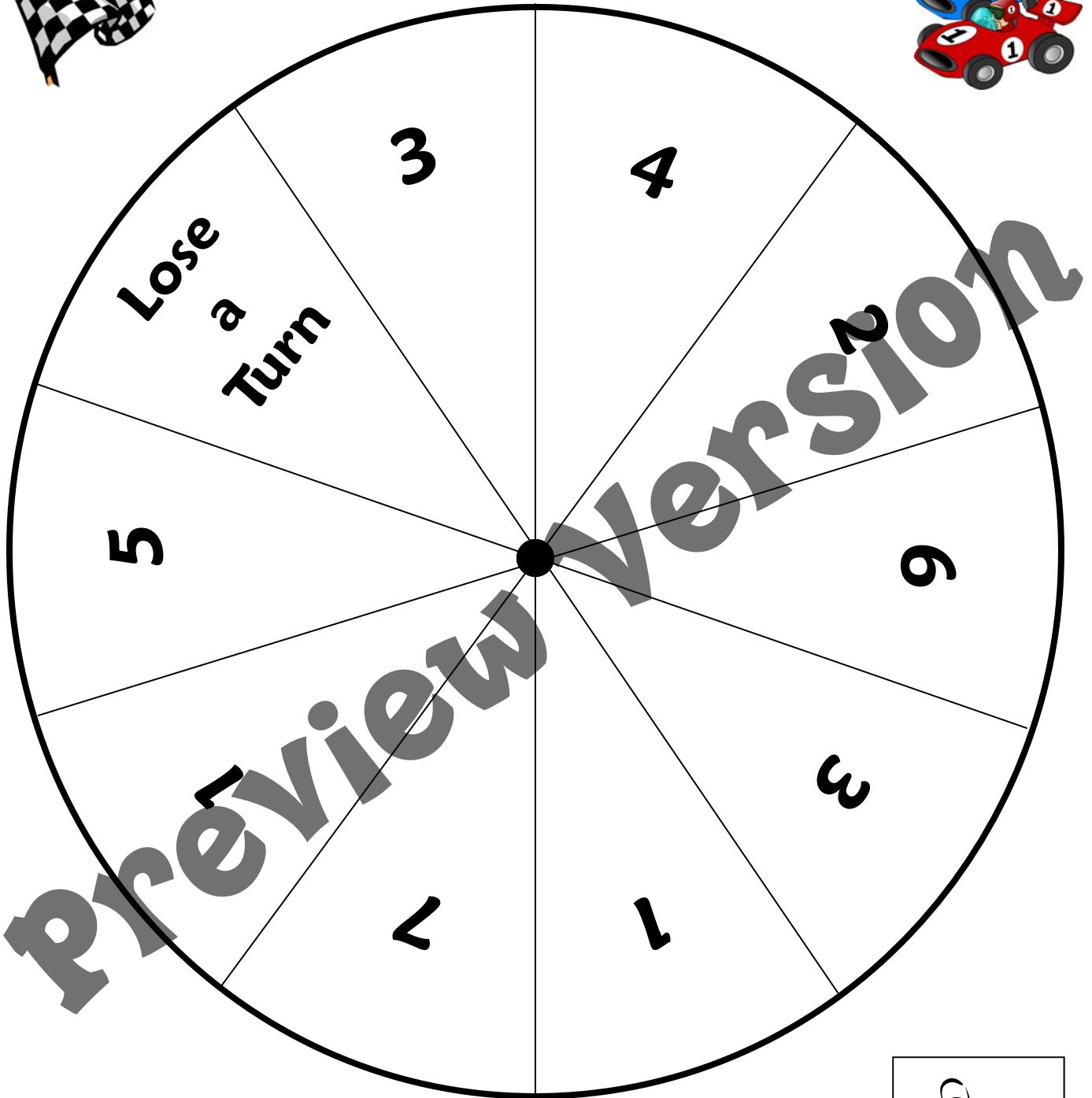
1. Spin to see who goes first. High number wins.
2. Shuffle the problem cards and place them face down next to the game board. Put both game pieces on the starting octagon.
3. Player 1 turns over the top card and works the problem, explaining the answer to Player 2.
4. If the answer is correct, Player 1 spins to see how many spaces to move. If the answer is not correct, Player 1 loses that turn.
5. Player 2 turns over the next card and works the problem. If correct, he or she spins to see how many spaces to move.
6. To win, a player must pass the checkered flag and land exactly on the END.



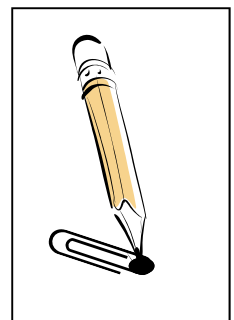
Note: If you miss a problem, make sure you understand why you missed it! Ask your partner to explain it to you, or ask someone else for help.



Math Race Spinner



Directions: To use the spinner, you'll need a paper clip and a pencil. Put the paper clip down with one end over the center dot. Put the pencil point down inside the paper clip and hold the pencil in place. Thump the paper clip. It will spin around the pencil point and point to one section on the spinner.



Math Race Problem Cards

Comparing Decimals

14.8 ○ 14.09

5.08 ○ 5.2

0.68 ○ 0.721

3.91 ○ 3.44

6.35 ○ 6.4

2.7 ○ 2.148

0.509 ○ 0.59

3.6 ○ 13.01

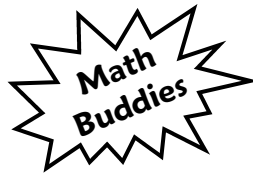
8.53 ○ 8.249

7.4 ○ 7.048

Math Race Problem Cards

Preview Version

Telling Time

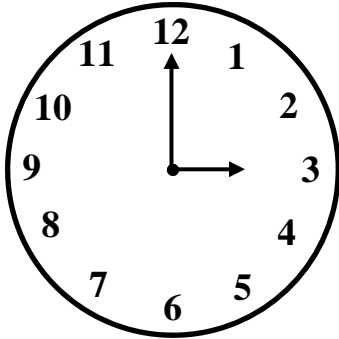


Partner 1 _____

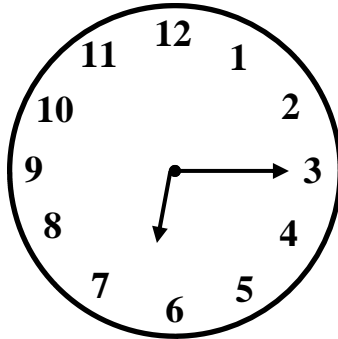
Partner 2 _____



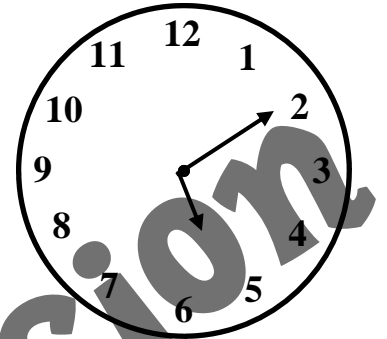
Directions: Take turns with your partner. Say the time on the analog clock face, and if your partner agrees, write it on the line below the clock. Continue taking turns to complete the activity sheet.



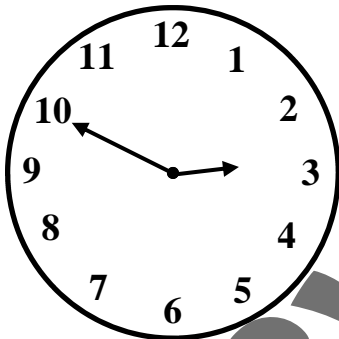
1. _____



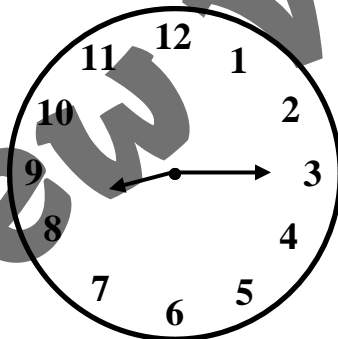
2. _____



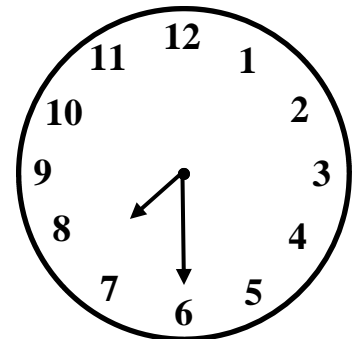
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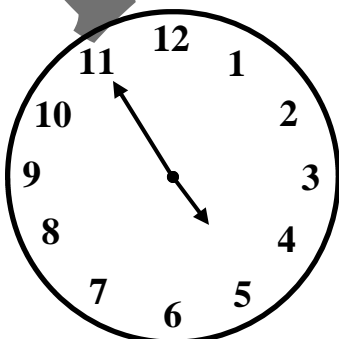
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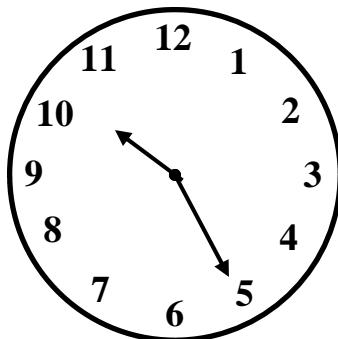
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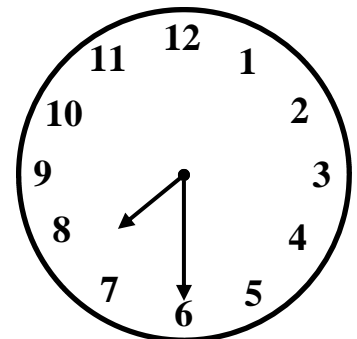
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7. _____



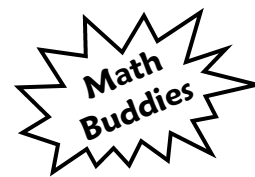
8. _____



9. _____

High Roller

Comparing Fractions Game



Group Size: Pairs

Directions:

1. Work with a partner, and roll to see who will go first. You will each need a Comparing Fractions Chart.
2. The first player rolls both dice to create a fraction. The smaller number is the numerator and the larger number is the denominator. Both players record the fraction in their Player 1 column.
3. The other player rolls the dice and both players record the fraction in their Player 2 column.
4. Decide which fraction is the larger of the two, and circle that fraction on the chart. Explain your answer by using pictures, words, or symbols. It's okay to help each other!
5. The person with the larger fraction scores a point.
6. Continue as time allows. Tally the points at the end of the game.

Materials

- ♦ two dice
- ♦ Comparing Fractions Charts



Challenge Variation:

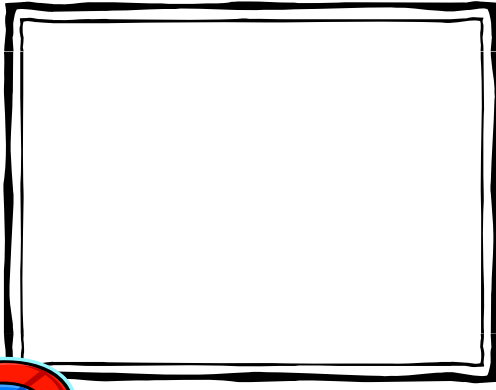
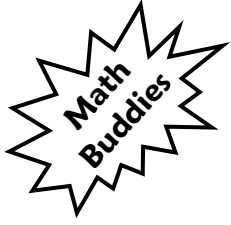
Use a set of number cards (1 to 9) instead of dice. Randomly draw 2 cards to create your fraction.

Comparing Fractions Chart



	Player 1's Fraction	Player 2's Fraction	Explanation (Words, Pictures, and/or Symbols)
Round 1			
Round 2			
Round 3			
Round 4			
Round 5			

Target Number Challenge



Target Number

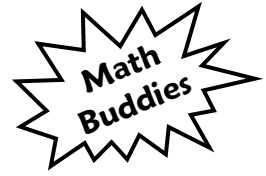
Materials: Playing Cards or Small Number Cards (0 to 9) - Timer

Directions:

1. Decide who will be the first Leader. The Leader draws a number card and places it face up in the Target Number box.
2. Draw 4 more cards and place them in the 4 digit boxes below.
3. Set the timer for 3 minutes (or other time agreed upon by the team).
4. Try to use the 4 digits to create a number sentence with the solution found in the target box. You may combine the digits to form numbers larger than 9, but you can only use each digit one time. You may use any operation, but if you use more than one you must use parentheses to show the order of operations. For example, given a target number of **6** and the digits **4, 1, 3, and 5**, you could have these solutions:
 $41 - 35$ or **$(4 \times 3) - (5 + 1)$** .
5. When the time is up, score 1 point for each correct solution. Rotate the role of Leader to the left, and continue steps 1 - 4 as time allows.



Pattern Block Fraction Puzzles

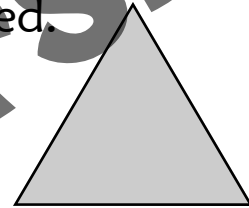


Directions:

Use as many pattern blocks as you need to build each shape. For each puzzle, copy the instructions recording sheet. Draw and color the shape that shows the solution. If you complete all puzzles, make up your own Pattern Block Puzzle and solve it.

Puzzles:

1. Build a triangle that is $\frac{1}{3}$ green and $\frac{2}{3}$ red.



2. Build a triangle that is $\frac{2}{3}$ red, $\frac{1}{9}$ green, and $\frac{2}{9}$ blue.

3. Build a parallelogram that is $\frac{3}{4}$ blue and $\frac{1}{4}$ green.

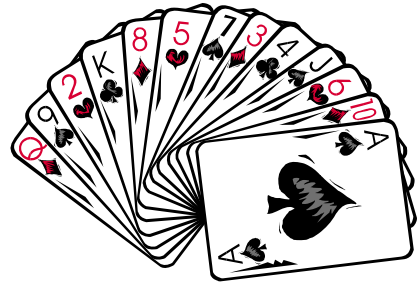


4. Build a parallelogram that is $\frac{2}{3}$ blue and $\frac{1}{3}$ green.

5. Build a trapezoid that is $\frac{1}{2}$ red and $\frac{1}{2}$ blue.

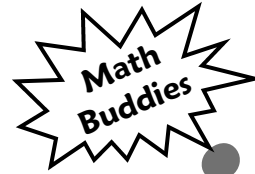


Multiplication War



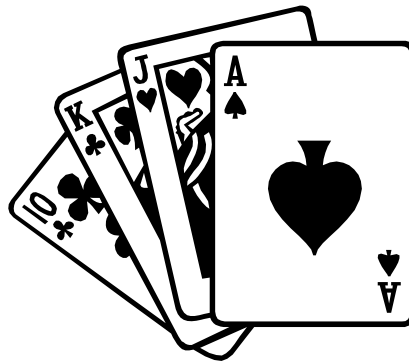
Number of Players: 2

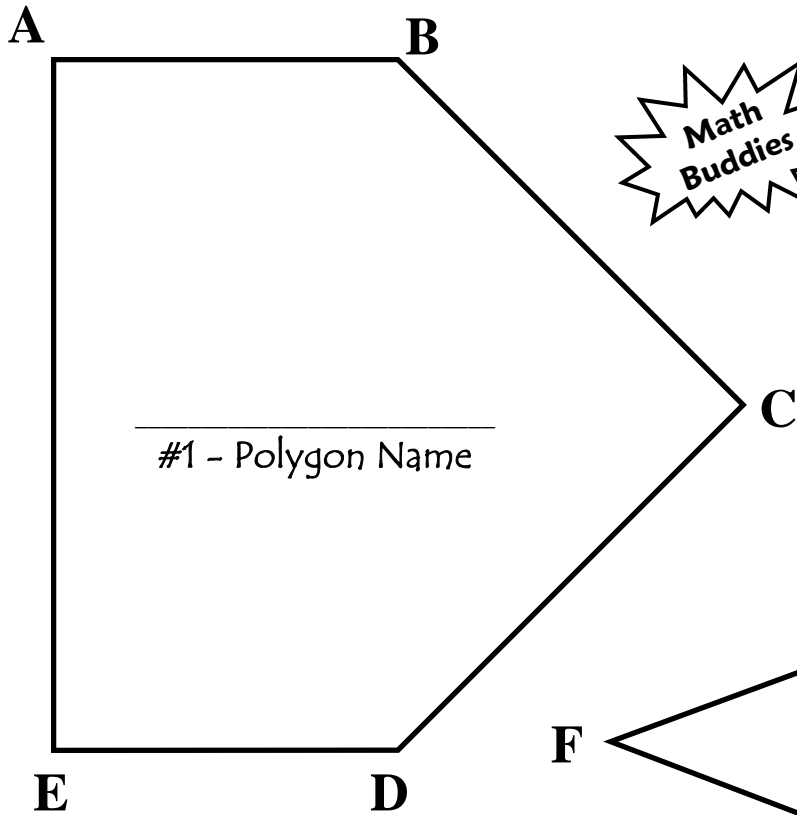
Materials: Deck of Playing Cards
(remove Ace and face cards)



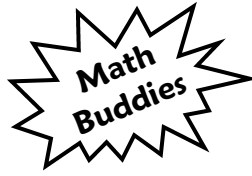
Directions:

1. Shuffle the deck of cards and deal them out so that each person has the same amount. Do not look at your cards!
2. Face your partner. At the exact same time, take your top cards and place them face up between you.
3. Immediately multiply the two numbers and say the answer. Whoever says the answer first wins both cards and places them at the bottom of his/her deck.
4. If you say the answer at the exact same time, you declare WAR! Both of you place one card face down and the third one face up. Whoever says the product of the third card wins them all!
5. Continue until one person wins all the cards or the time is up. The person with the most cards is the winner.



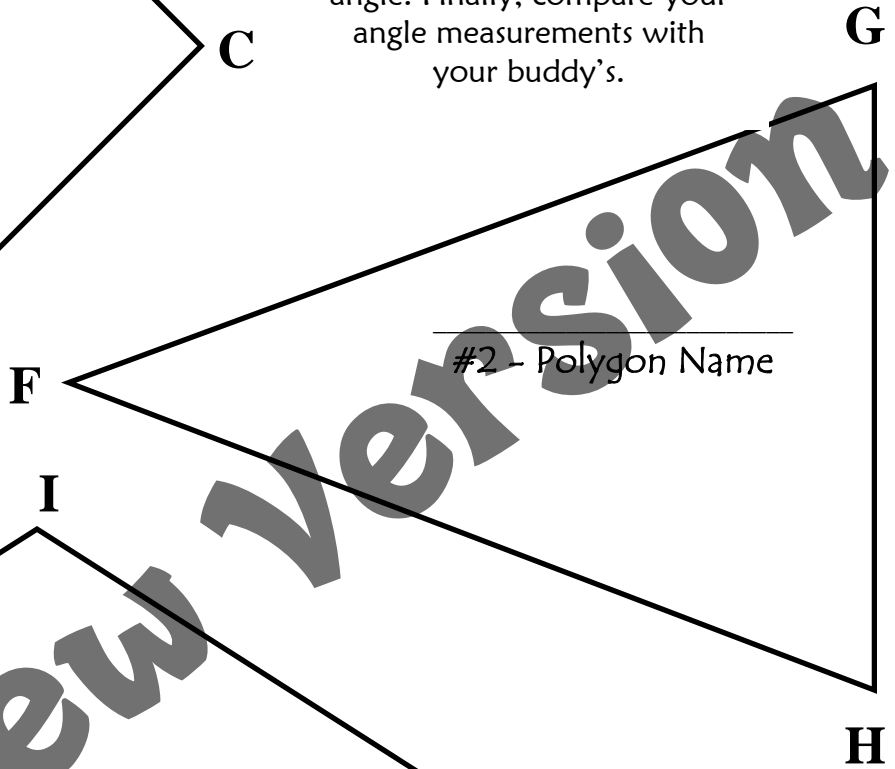


#1 - Polygon Name

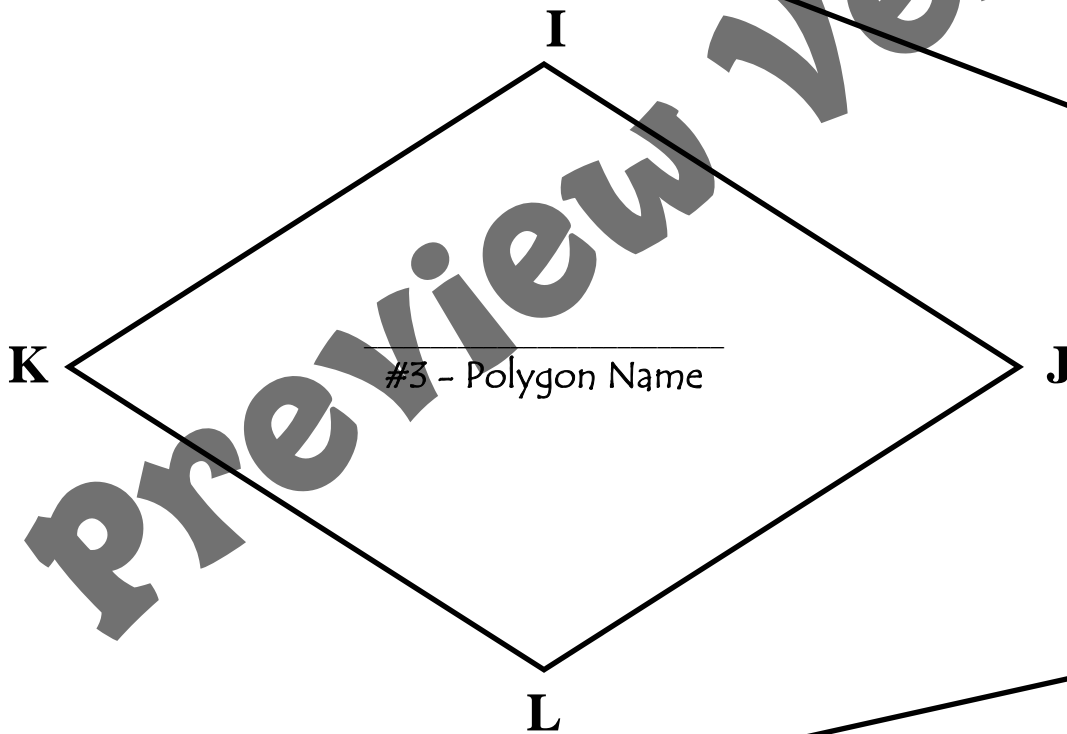


Polygon Angle Partners

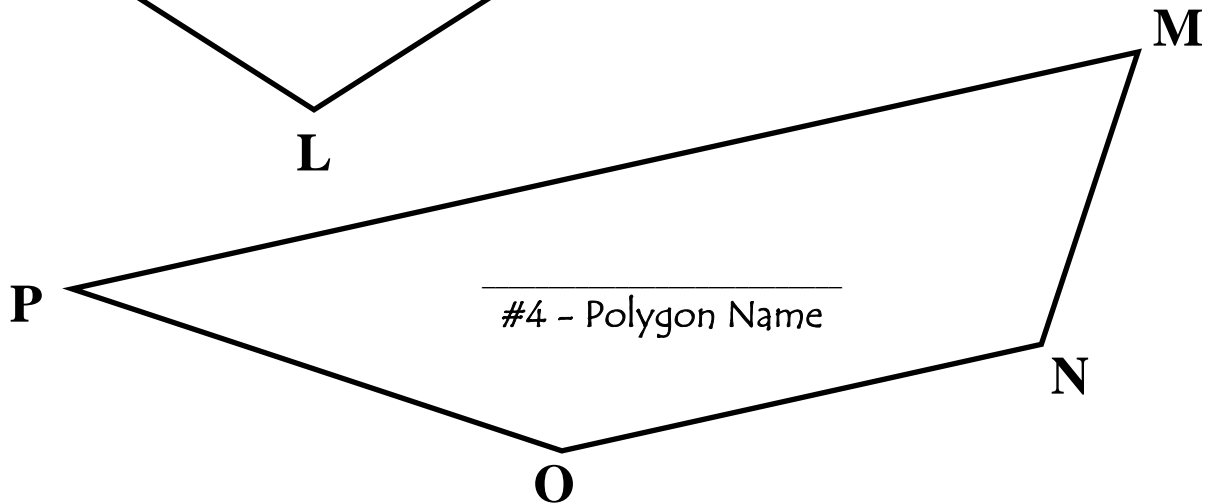
Label each polygon with its name. Then measure each inside angle. Finally, compare your angle measurements with your buddy's.



#2 - Polygon Name



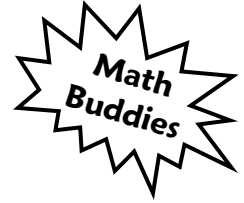
#3 - Polygon Name



#4 - Polygon Name

Name _____

Unifix Tower Challenges



Directions: Work with a Math Buddy. Both of you read the directions and secretly create the tower using as many Unifix cubes as needed. Then compare to see if your buddy has the same tower. If you agree, color each tower before moving on.

Build It Challenge #1

- There are 3 cubes: red, orange, and green.
- The red cube is in the middle.
- The green cube is not at the top of the tower.

Build It Challenge #2

- There are 4 cubes: 2 red, 1 white, and 1 yellow.
- The white cube is bordered by red on both sides.
- The yellow cube is on top.

Build It Challenge #3

- There are 5 cubes: red, green, yellow, orange, and blue.
- The blue cube is at the bottom.
- The orange cube is second from the top.
- The yellow cube is between green and orange.

Build It Challenge #4

- There are 5 cubes: 2 white, 1 green, 1 blue, and 1 red.
- The top and bottom of the tower are the same color.
- Blue is between the two whites, but blue does not touch white.
- The red cube is above the blue cube.

Concentration

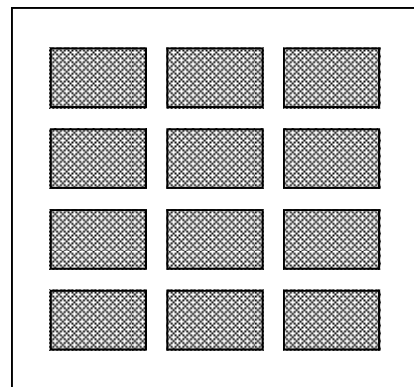


Materials: Concentration Game Cards

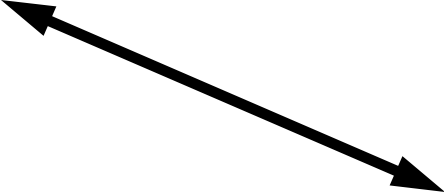

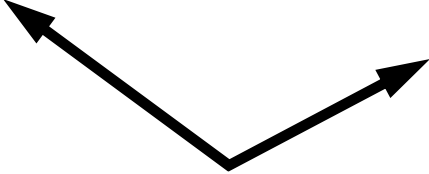
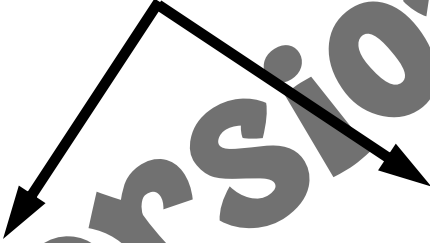
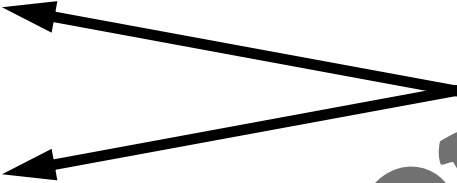
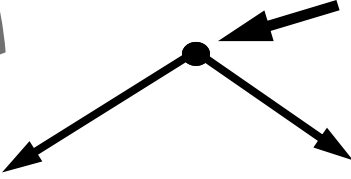
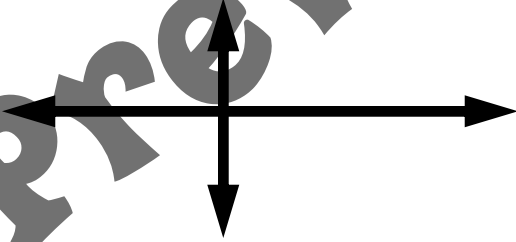



Number of Players: 2 to 4

Directions:

1. Before starting, check to make sure all the cards are in the set. To do this, spread game cards out face up and work with your partner to create matching sets. If there are any cards left over, leave them out of the game.
2. Next, shuffle the cards and turn them face down. Organize them into rows and columns. Decide who will start.
3. The first player turns over 2 cards. If the cards match, he or she may keep them. If the cards don't match, place them back in their positions, face down. Make sure all players have seen the cards. Don't try to be tricky!
4. If a player flips over two matching cards, that person gets another turn. (All players must agree that the two cards match. If you don't agree, find another resource such as a math book or the Internet where you can check the information).
5. Play proceeds in a clockwise direction, or just take turns if you are playing with a partner. Repeat steps 3 and 4 until the end of the game.
6. The player with the most cards at the end is the winner.
7. Be sure to return the cards to the proper storage location!



Geometry Concentration - Illustrations

Geometry Concentration - Words

point	line
ray	vertex
line segment	parallel lines
perpendicular	acute angle
obtuse angle	right angle

Triangle Matching Cards

right triangle	a triangle with one right angle
isosceles triangle	a triangle with two sides equal in length
equilateral triangle	a triangle with all sides equal in length
scalene triangle	a triangle with all sides different in length
acute triangle	a triangle with all acute angles
obtuse triangle	a triangle with one obtuse angle

Algebraic Expression Matching - Level 1

Rebecca has more money than Jarrod. How much more money does she have?

$$R - J$$

Jarrod and Rebecca picked up shells. How many shells do they have in all?

$$R + J$$

Rebecca is twice as old as Jarrod. How old is Rebecca?

$$R = 2J$$

Rebecca earned some money doing chores, then gave $\frac{1}{3}$ of her earnings to Jarrod. How much did Jarrod have?

$$R \div 3 = J$$

Rebecca gave \$3 to Jarrod. How much money did she have left?

$$R - 3$$

Algebraic Expression Matching - Level 2

Rebecca and Jarrod combined the money they earned for 2 weeks. How much money did they have in all?

$$(R + J) \times 2$$

Jarrold read for several hours. Rebecca read 3 times as many hours. How many hours did Rebecca read?

$$R = 3J$$

Rebecca and Jarrod combined their money and spent half on candy. How much money did they spend on candy?

$$(R + J) \div 2$$

Rebecca ran some laps around the track. Jarrod ran 3 times as many laps. How many did Jarrod run?

$$J = 3R$$

Rebecca earned a certain score on her test. Jarrod's score was 3 points less than hers. What was Jarrod's score?

$$R - 3$$

Bean Pot Multiplication

Level 1

```
  _ _ _  
  X   _  
-----  
-----
```

Materials for 2 to 4 Players:

- ♦ Deck of cards (A - 9 only)
- ♦ Dry erase boards and markers
- ♦ Bean Pot (cup with dried beans)
- ♦ Calculators

Directions:

1. Everyone draws a card from the deck. The person who draws the high card becomes the Leader for the first round.
2. Shuffle cards and stack face down on the table.
3. Everyone draws 4 blanks on their dry erase board to set up a place for the multiplication problem (see example above).
4. The Leader flips over the top card. Everyone writes the number in a blank. The number can't be moved later!
5. The Leader turns over 3 more cards, waiting each time for everyone to write them on a line.
6. Everyone finds the product by solving the multiplication problem **without calculators**.
7. When everyone is finished, use calculators to check each other's work.
8. Everyone who solves the problem correctly may take one bean from the Bean Pot. The person with the largest product takes one extra bean if they got the correct answer.
9. Make sure that anyone who did not have the correct answer knows what he or she did incorrectly.
10. Erase boards and rotate role of Leader to the left.
11. The winner is the one who has the most beans at the end of the game.

Bean Pot Multiplication

Level 2

```
  _ _ _  
  X _ _ _  
-----
```

Materials for 2 to 4 Players:

- ♦ Deck of cards (A - 9 only)
- ♦ Dry erase boards and markers
- ♦ Bean Pot (cup with dried beans)
- ♦ Calculators

Directions:

1. Everyone draws a card from the deck. The person who draws the high card becomes the Leader for the first round.
2. Shuffle cards and stack face down on the table.
3. Everyone draws 5 blanks on their dry erase board to set up a place for the multiplication problem (see example above).
4. The Leader flips over the top card. Everyone writes the number in a blank. The number can't be moved later!
5. The Leader turns over 4 more cards, waiting each time for everyone to write them on a line.
6. Everyone finds the product by solving the multiplication problem **without calculators**.
7. When everyone is finished, use calculators to check each other's work.
8. Everyone who solves the problem correctly may take one bean from the Bean Pot. The person with the largest product takes one extra bean if they got the correct answer.
9. Make sure that anyone who did not have the correct answer knows what he or she did incorrectly.
10. Erase boards and rotate role of Leader to the left.
11. The winner is the one who has the most beans at the end of the game.

Number Read Around

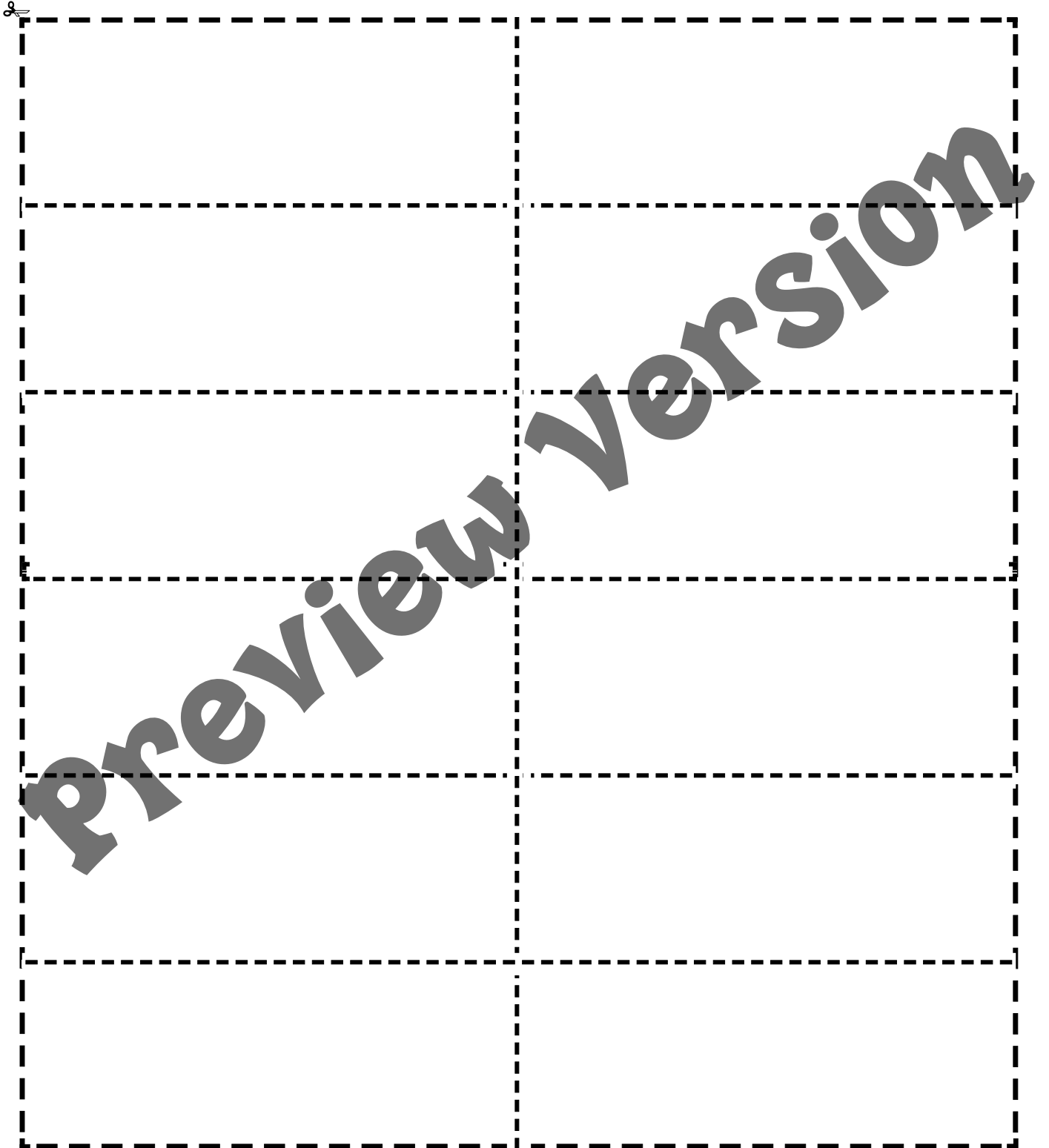
Directions: Each team of 4 students needs 1 set of number cards. Cut cards apart and place them face down in the middle of the team. Person #1 turns over the top card and reads it aloud to the team. If correct, the team gives a thumbs up. If incorrect, the team coaches Person #1 about how to say the number. Person #2 reads the next one, and so on.

✂

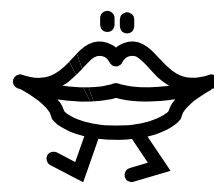
2,816,400	508,075
32,008	146,049
99,999	70,017,077
214,239	104,867
950,015	400,044
480,472	15,220,481

Number Read Around

Directions: Each team of 4 students needs 1 set of number cards. Cut cards apart and place them face down in the middle of the team. Person #1 turns over the top card and reads it aloud to the team. If correct, the team gives a thumbs up. If incorrect, the team coaches Person #1 about how to say the number. Person #2 reads the next one, and so on.



Math Talk



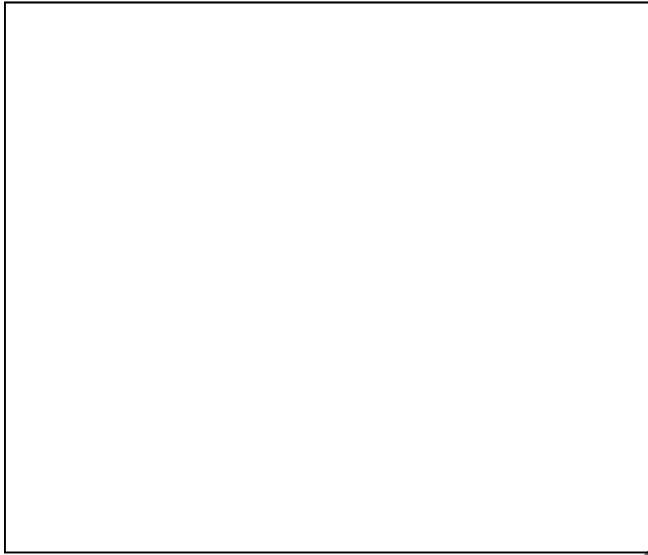
1. Each team member has a problem-solving worksheet and a calculator.
2. Each person places his or her pencil in the cup.
3. Person #1 is the first Leader. He or she reads first problem and leads a discussion about HOW to solve the problem. Team members may use calculators or draw pictures as they discuss their ideas. Make sure everyone can explain the answer.
4. The Leader asks, “Does everyone know the answer and how to explain it?”
5. If the answer is “No,” continue the discussion.
6. When ready, everyone picks up their pencils.
7. **Without talking**, everyone writes the answer to the first question. (Answers may be different.)
8. Everyone places their pencils back in the cup.
9. Person #2 becomes the new Leader. Continue rotating Leaders for each question.



Pencils In = Talking
Pencils Out = No

Problem 1 - Sarah, Jose, and Brian all live on the same road. Brian lives 6 miles to the west of Sarah, and Jose lives 2 miles to the east of Sarah. How many miles apart are Brian and Jose? **Answer:** _____

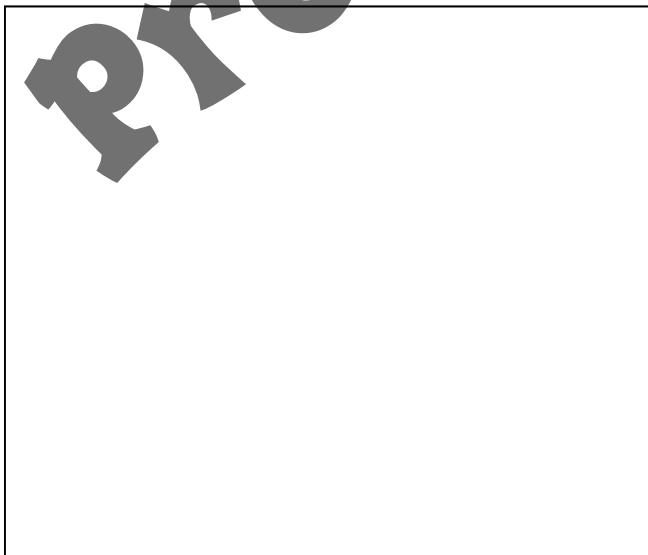
Draw It



Write It

Problem 2 - Thomas bought 4 pieces of bubble gum. Randy bought 3 times as many pieces of gum as Thomas and then gave half to his friends. How many pieces did he have left? **Answer:** _____

Draw It



Write It

Problem 1 - _____

_____ **Answer:** _____

Draw It

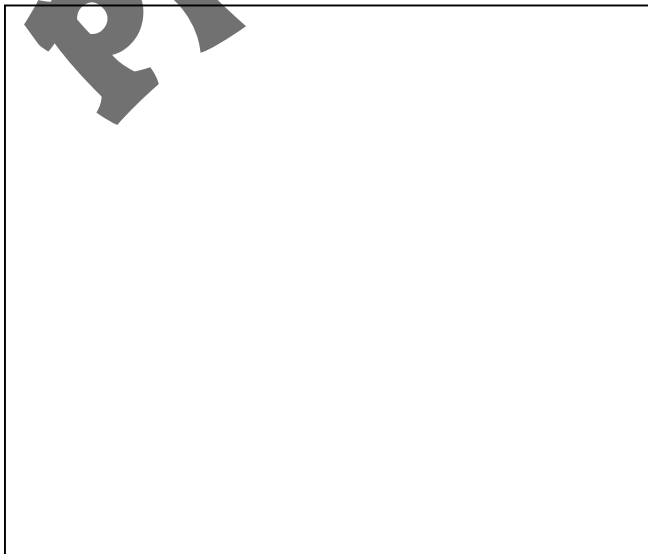


Write It

Problem 2 - _____

_____ **Answer:** _____

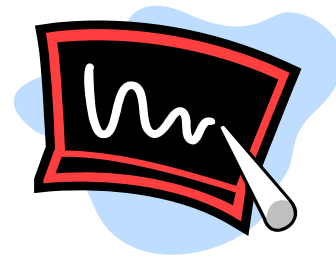
Draw It



Write It

Showdown

Directions



Materials: Dry Erase Boards and Markers
OR Individual chalkboards and chalk
Showdown Task Cards

Number of Players: 2 to 4

Directions:

1. Before starting, shuffle the Task Cards and place them face down in the middle of the play area.
2. Decide who will be the first Leader.
3. The Leader turns over the top card and reads the problem aloud. He or she places the card back in the middle where everyone can see it.
4. Everyone on the team, including the Leader, works the problem on their own. No talking!
5. When finished, everyone places their dry erase board face down in front of them.
6. When everyone is ready, the Leader says, "Showdown!"
7. Everyone flips their boards over and shares their answers.
8. Celebrate correct answers, and help anyone who had trouble with the problem. (You may have to use a calculator or consult an answer key to make sure you are correct.)
9. The role of Leader rotates to the left and the game continues with the new Leader turning over the top card.
10. When you are finished, be sure to return the cards to the proper storage location!

Subtracting Decimals Showdown

$3.564 - 2.8$

$91.86 - 42.49$

$30.04 - 16.3$

$52.6 - 49.35$

$12 - 4.89$

$36.09 - 14.371$

$84 - 29.072$

$0.681 - 0.35$

$5.007 - 2.13$

$749.8 - 2.269$

Measurement Showdown

#1

A centipede is crawling at a speed of 4 inches per minute. How long will it take the centipede to crawl one yard?

#2

The punch recipe called for 1 quart of cherry soda, 1 pint of grape juice, and 1 cup of orange juice. How many one cup servings will it make?

#3

Each candy bar in a bag weighs 50 g and the entire bag weighs one kilogram. How many candy bars are in the bag?

#4

Tom's toy car went 2 meters without stopping. Robert's went 145 centimeters. Whose car went farther?

#5

Each of Mrs. Simmons plants needs 250 ml of water each week. If she has 12 plants, how many liters of water will she use on them each week?

#6

A certain power plant burns 500 pounds of coal each hour. How many tons of coal will it burn in 8 hours?

#7

Ronald bought 2 gallons of punch for his birthday party. He wanted each of his 9 guests to have 3 cups of punch. Did he buy enough? Explain.

#8

Rebecca measured herself and she was 52 inches tall. How many feet tall was she? (Express your answer as a fraction)

Division Showdown

$$32 \overline{)487}$$

$$40 \overline{)926}$$

$$61 \overline{)2,574}$$

$$50 \overline{)4,591}$$

$$19 \overline{)864}$$

$$32 \overline{)487}$$

$$52 \overline{)3,120}$$

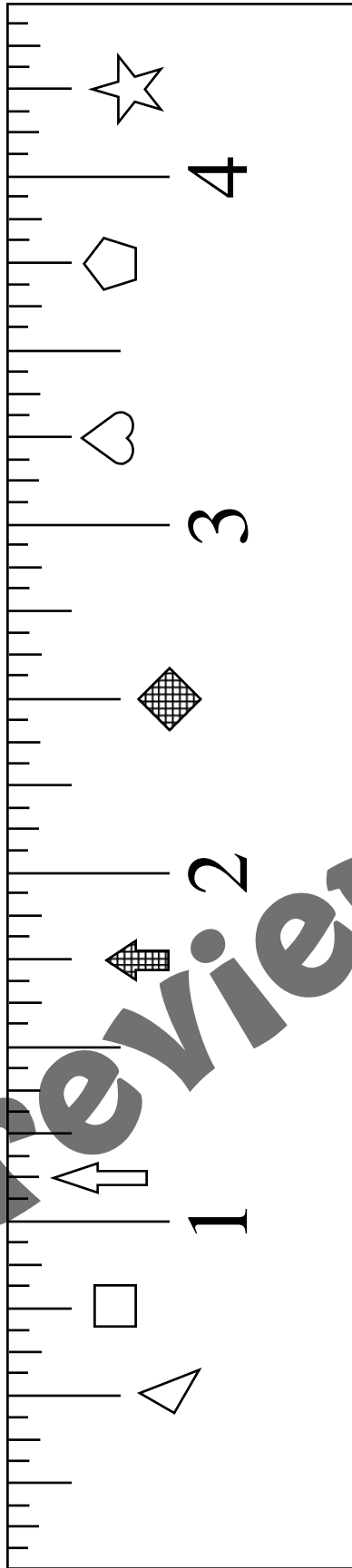
$$23 \overline{)6,945}$$

$$70 \overline{)3,871}$$

$$35 \overline{)784}$$

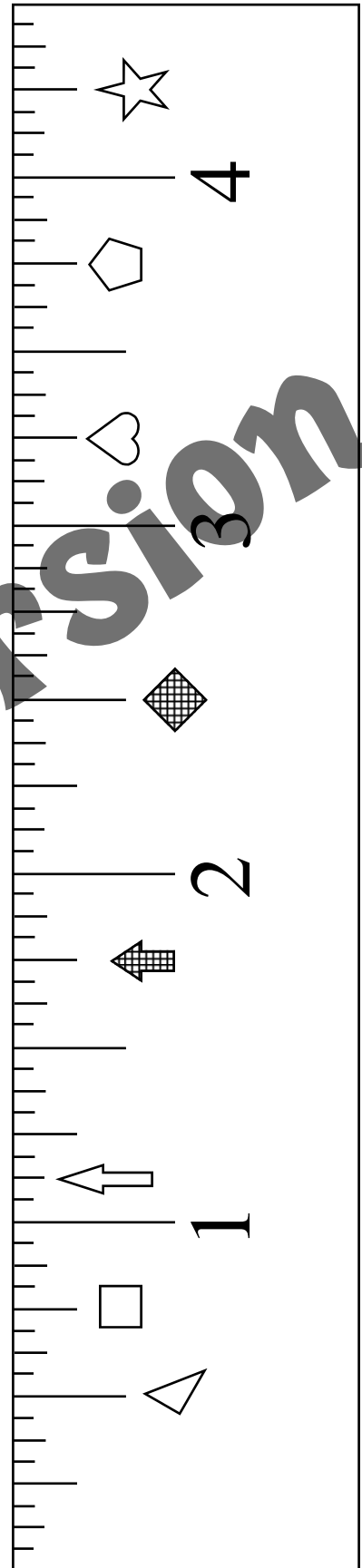
Customary Ruler Showdown

Note: Everyone needs their own copy of this ruler. The symbol cards go in the center of the playing area.

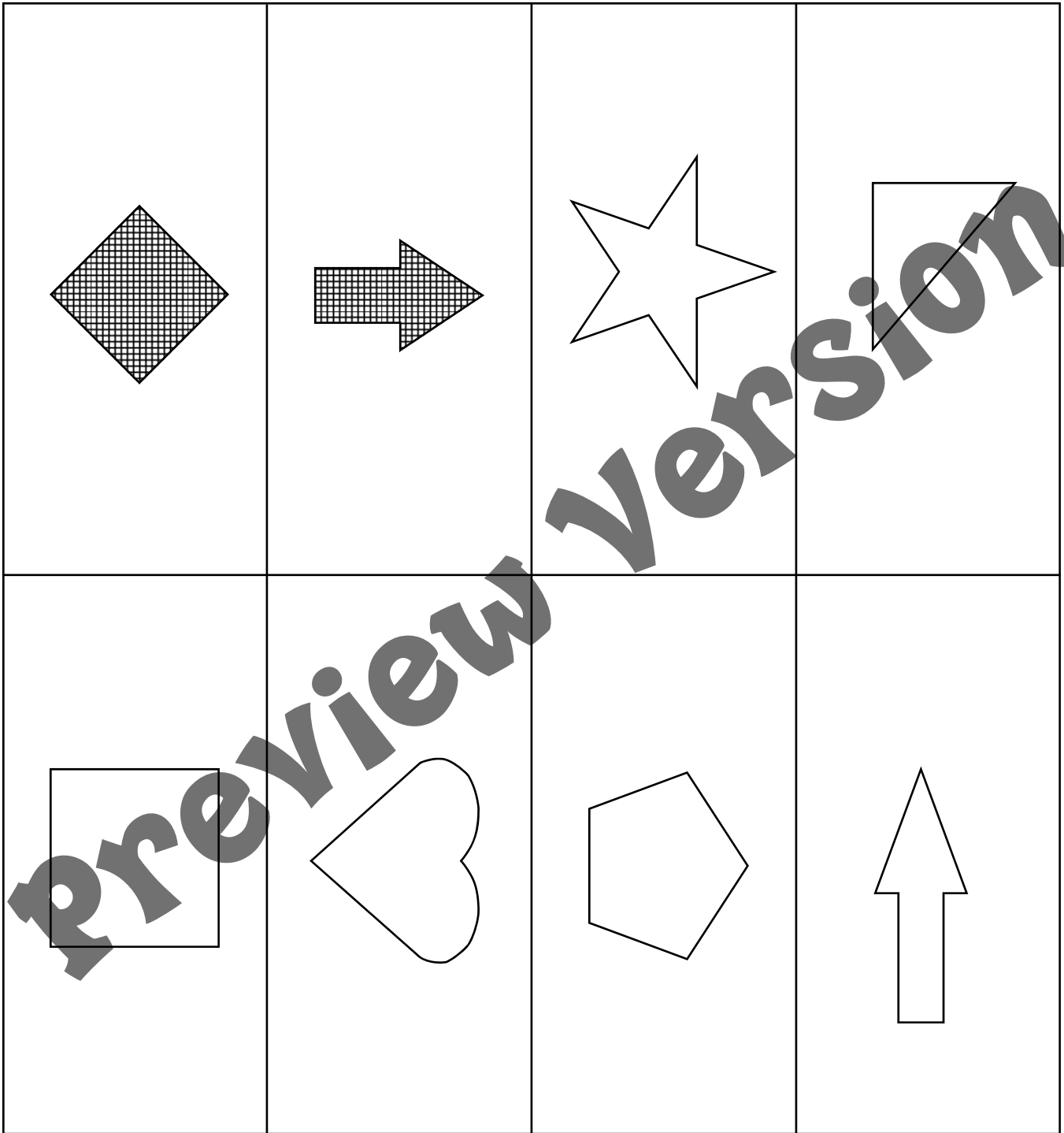


Note: Everyone needs their own copy of this ruler. The symbol cards go in the center of the playing area.

Customary Ruler Showdown



Ruler Showdown

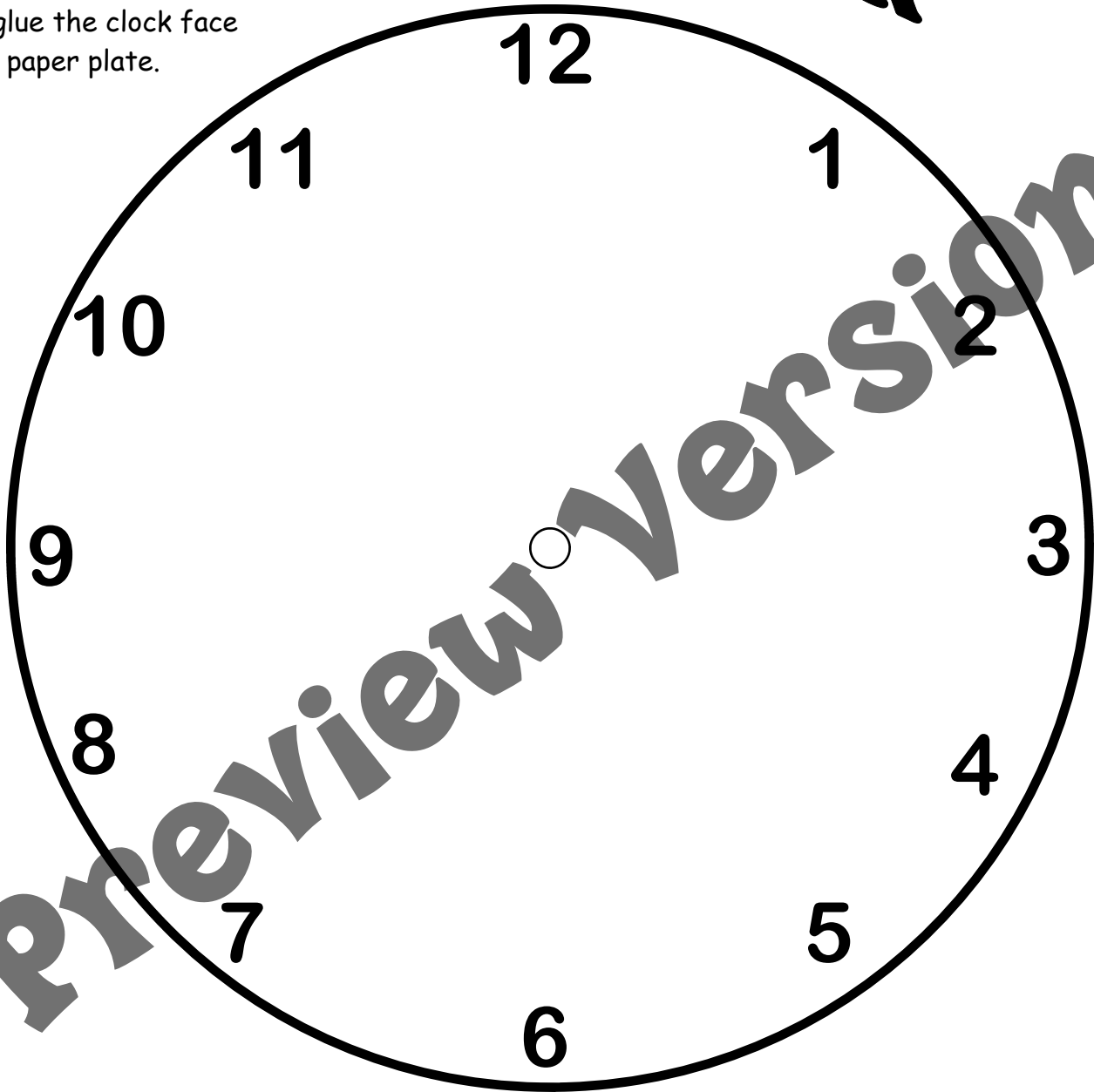


Ruler Showdown

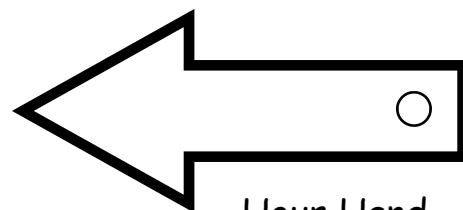
Make Your Own Clock

Directions:

Color the hands of the clock. Cut out the hands and clock face. Use a paper fastener to attach the hands to the face. Make sure the hands turn freely. Then glue the clock face onto a paper plate.

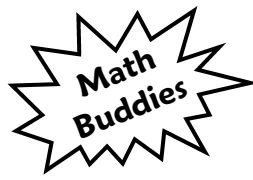


Minute Hand -
Color Red



Hour Hand -
Color Blue

Telling Time

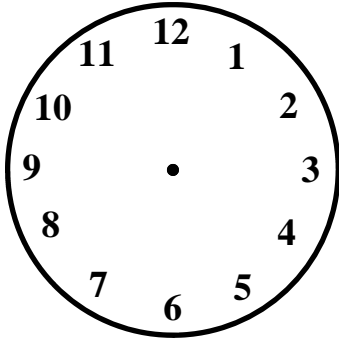


Partner 1 _____

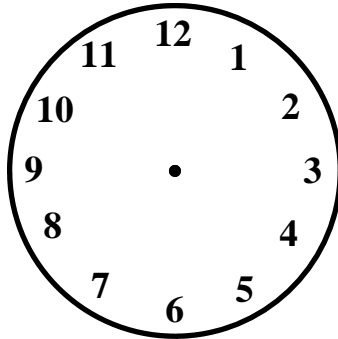
Partner 2 _____



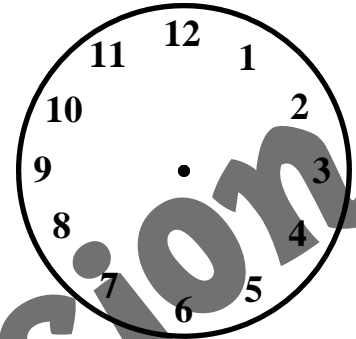
Directions: Take turns with your partner. Say the time on the analog clock face, and if your partner agrees, write it on the line below the clock. Continue taking turns to complete the activity sheet.



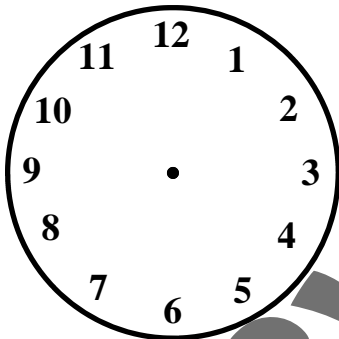
1. _____



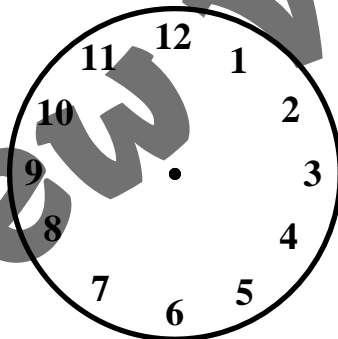
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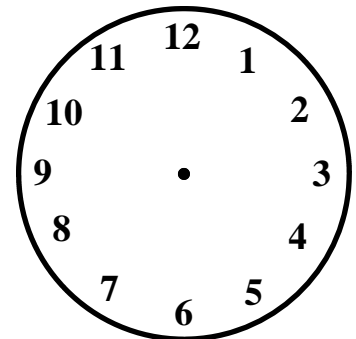
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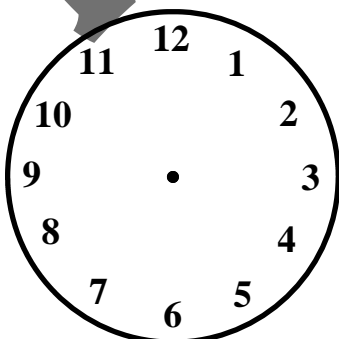
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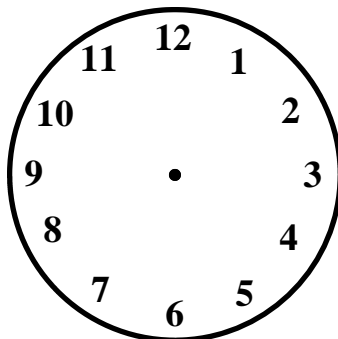
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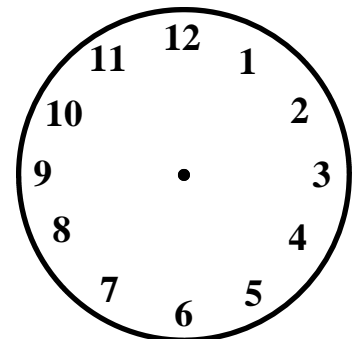
6. _____



7. _____



8. _____



9. _____

Math Game

Number Cards

1

2

3

4

5

6

7

8

9

0

1

2

3

4

5

6

7

8

9

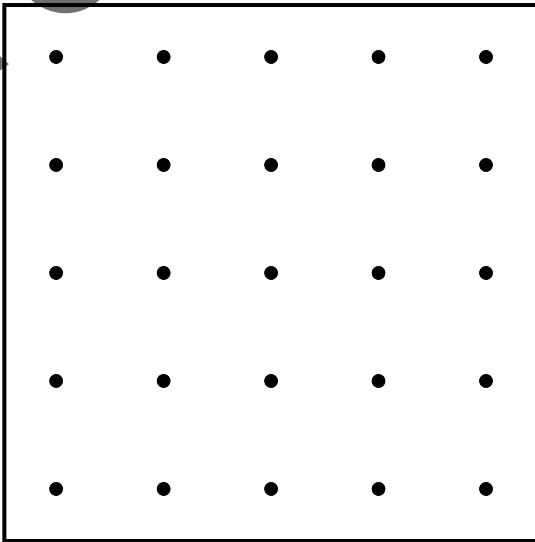
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Name _____

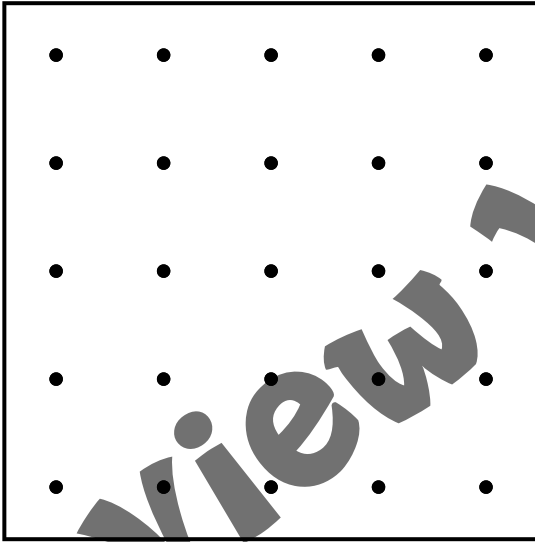
Geoboard Practice

Directions: Work with a partner and take turns creating the shapes and drawing them on the dot paper.

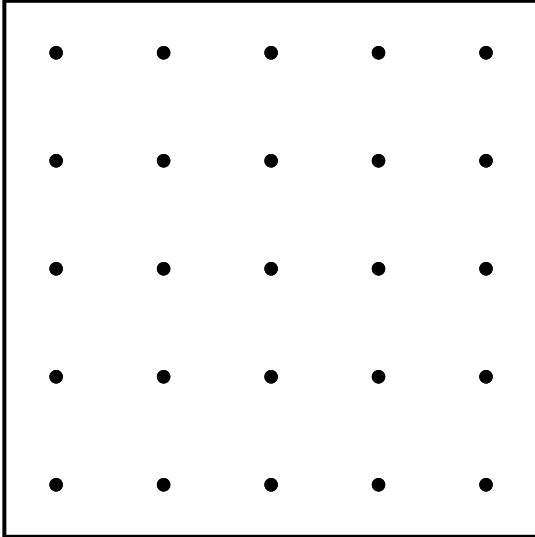
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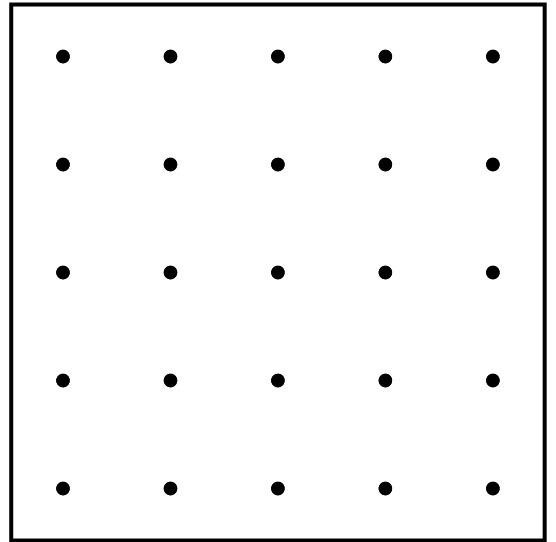
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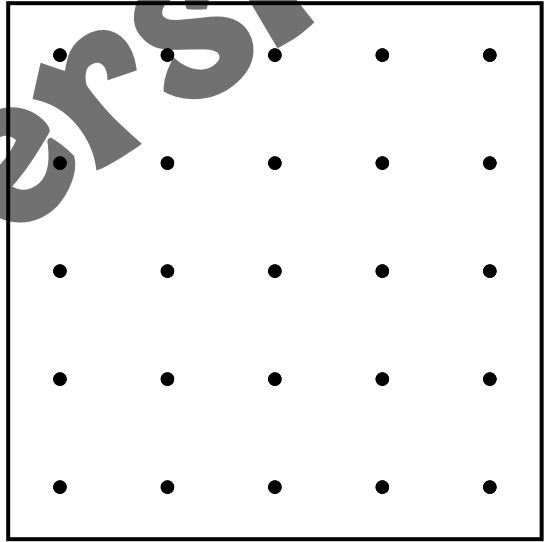
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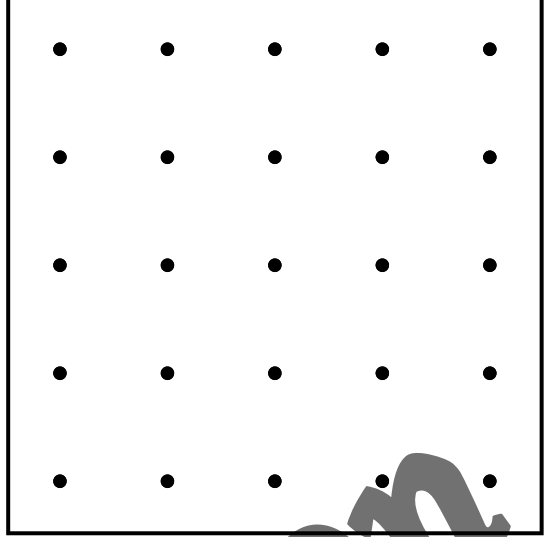
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5



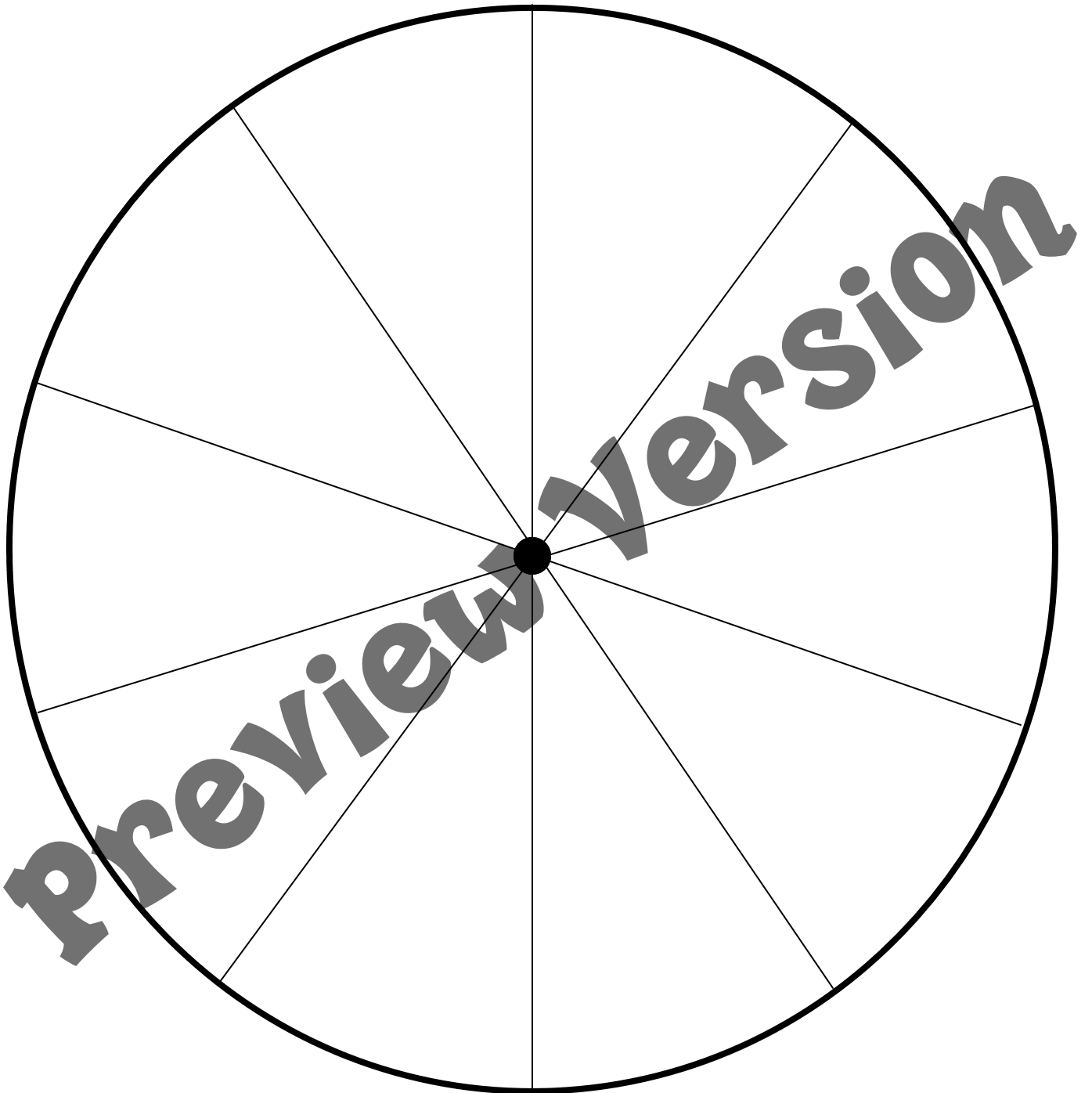
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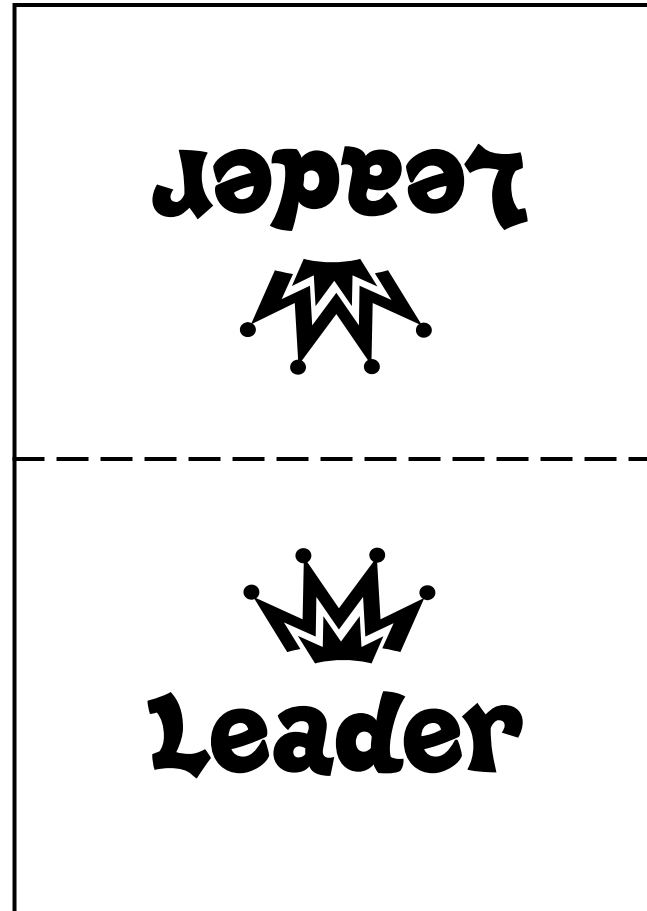
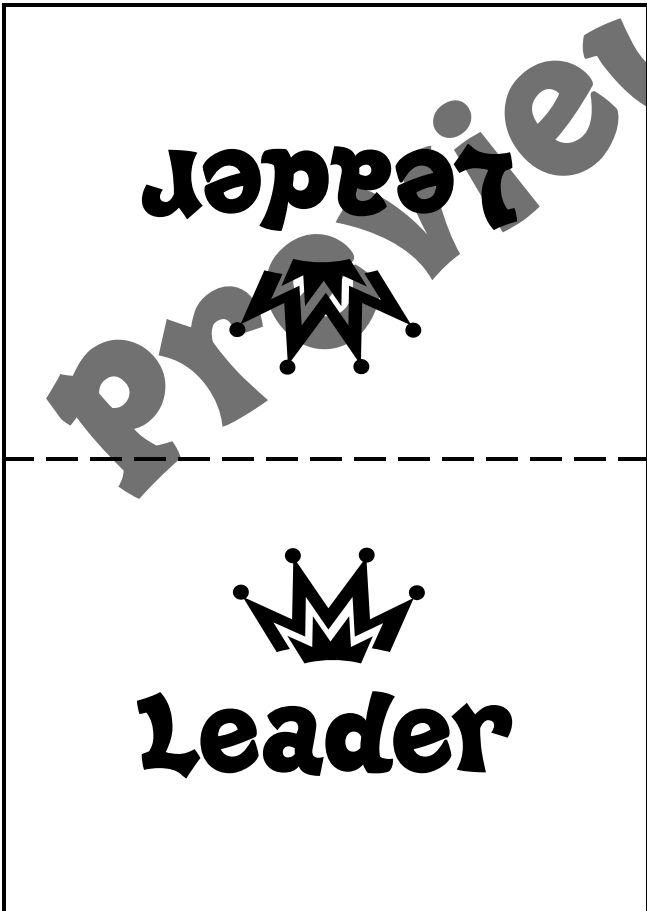
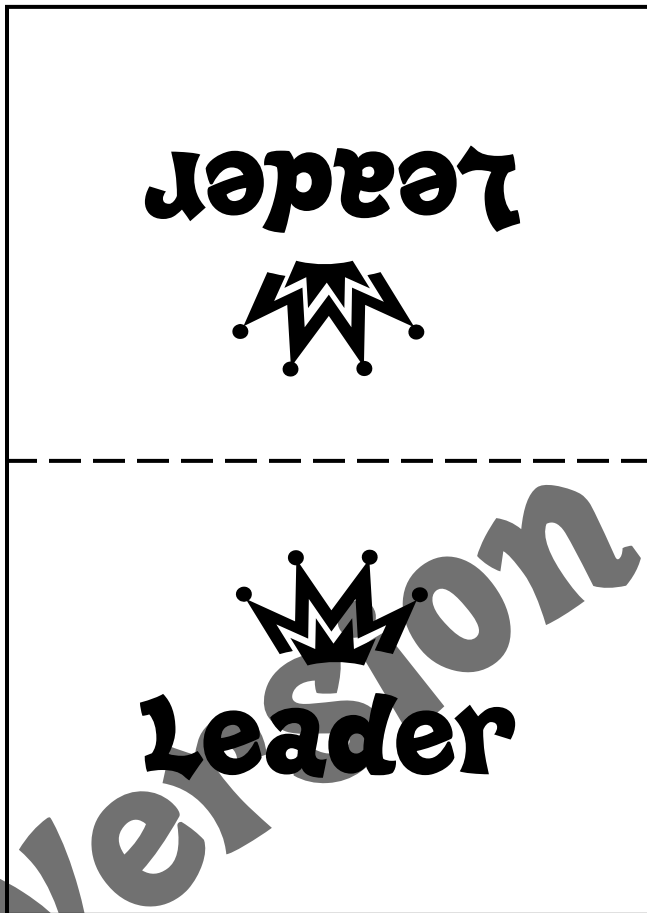
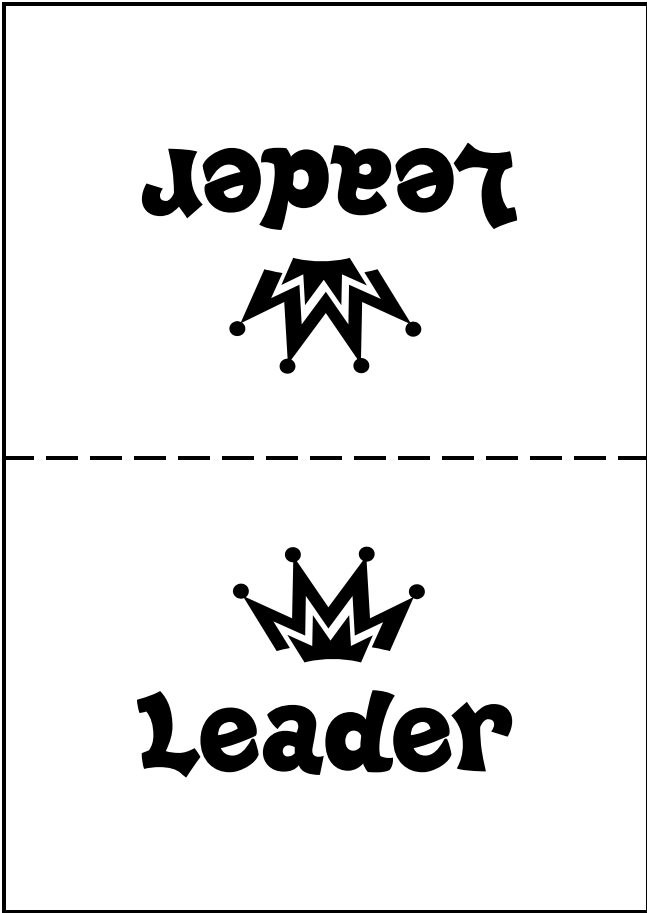
Math Task Cards

A large dashed-line grid for writing math task cards. The grid is 4 rows by 2 columns. A small scissors icon is at the top-left corner. A large diagonal watermark reading "Preview Version" is overlaid across the grid.

Spinner



Directions: To use the spinner, you'll need a paper clip and a pencil. Put the paperclip down with one end over the center dot. Put the pencil point down inside the paper clip, and thump the paper clip to spin it.



Directions: Cut out Leader cards and fold on the dotted lines to make "tents." When directions call for one student to be the Leader, have the Leaders place the Role Cards in front to them. The Leader card should be passed to the left during each round of the game.

Math Task Cards

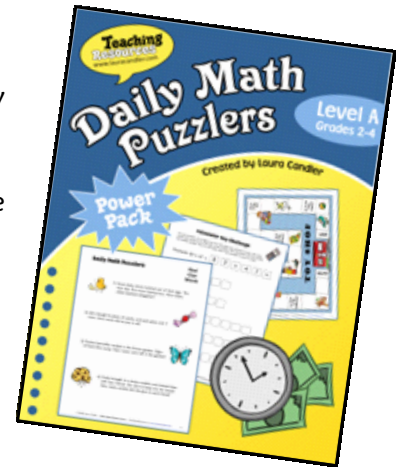
Preview Version

More Great Teaching Resources!

Daily Math Puzzler Program (Levels A - D)

I just implemented Laura's Math Puzzlers, and after two weeks I can already see changes in my class. They are picking up good habits like underlining key words, and writing complete answers already! Each day when we take out the sheet, they know what to do and enjoy doing it. I think part of the fun comes from the program's title "Math Puzzlers". Somehow, they seem to think puzzles are way more fun than math word problems. I also have to say that the breadth of topics and strategies covered in just one weekly sheet is impressive. It is a great way to keep math topics fresh, and have kids apply them to real situations. Each problem could be solved using different strategies, so it has been great for my kids to see all the different ways they could have approached the problem.

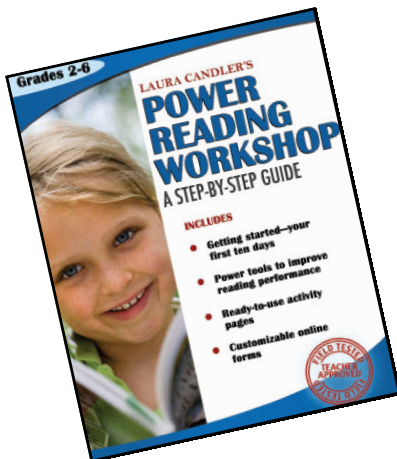
~ Dawn, Minnesota



Laura Candler's Power Reading Workshop: A Step-by-Step Guide (Digital and Print Available)

I was able to begin using your materials and Reader's Workshop beginning 2nd semester last year. By the end of the 3rd quarter my students were hooked, and so was I. The students who were already readers were, of course, thrilled to have time to read books of their choice. The students who had been less enthusiastic readers turned into kids who asked for reading time, chose to read when they had a spare moment, and who groaned when Reader's Workshop time ended. Wow! What a difference!

~Jewelina Oswald, Kansas



Mastering Math Facts

I used the Ice Cream Scoop system from Mastering Math Facts this year. I have never had students learn their facts so quickly or be so motivated before! The kids were so excited every time they came up to put a scoop on their cones! The scoops provide a visual reward for each level the kids pass. It really motivates them. What was surprising was the number of parents at parent conferences who asked about the "scoops." Some of the students were actually bugging their parents to help them learn their multiplication facts. Those students who had a more difficult time with memorizing their multiplication facts found that their friends were more than willing to spend their lunch recess to help them! This cooperation actually brought the class together. The kids thoroughly enjoyed it, I found the results to be fantastic, and I will certainly use it again this year. This was, by far, the easiest way to teach multiplication I've ever used. It was awesome! ~ Sharon Manka, Grade 3



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Teaching Resources Website

www.lauracandler.com



Ready-to-Use Resources for Teachers!

- Free printables and activity sheets
- Lesson plans and teaching strategies
- Cooperative learning methods
- Classroom management and motivation
- Literacy & Reading Workshop strategies
- Mathematics instructional resources
- Weekly Newsletters



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- Each book, ebook or lesson pack includes ready-to-use directions, printables, and teaching tips!
- Popular titles include:
 - **Mastering Math Facts**
 - **Daily Math Puzzler Series**
 - **Math Stations for Middle Grades**
 - **Laura Candler's Power Reading Workshop**



Created by
Laura Candler
Milken Educator