

**Mason City Community Schools
Summer Math Activities
For Students Entering Grade 4**



It is very important that you continue to practice your mathematical skills over the summer to be ready for 4th grade.

In this document, you will find a chart of activities for the months of June, July, and August. Print off the chart. Once you have completed an activity, have an adult family member initial in the box on the chart. Some activities tell you to solve and show your work in your math journal. This math journal will be used to record your answers, and to show your work. Use a new page for each activity (use both sides), write the number of the activity at the top of the page. You will also find a list of websites you can go on to practice your math skills, especially math facts, and a list of books you can find at your local library that are great math thinking stories!

Don't forget to bring your journal, and the charts to school on the first day of fourth grade. Your new teacher will be looking to see how much math you have done over the summer and using this work during the first few days of 4th Grade!

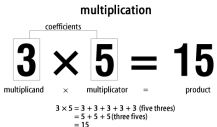
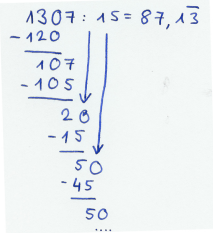
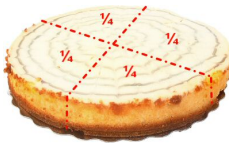

Happy Thinking!




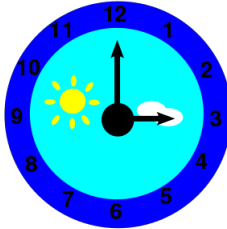
Math Journal: Create a personal and fun Math Journal by stapling several pieces of paper together or use a notebook or binder with paper. Be creative and decorate the cover with markers or crayons or other materials to show math in your world.

June, July, and August

Parents/Guardians: Please confirm completion of tasks by writing your initials in the appropriate box

Students: Be sure to show your work, so your teacher can see how you got the answer to each problem.

| | | | | | |
|---|--|---|--|--|---|
| <p>Multiplication</p>  | <p>#1 In your journal show an array for both 6×4 and 8×3.</p> | <p>#2 Fill out the 100 Chart with Skip Counting Circles to practice multiplying by 6.</p> | <p>#3 If you double your age, how old would you be? How old would you be if you tripled your age?</p> | <p>#4 On which day of the month were you born? Is your birthday a multiple of 2? 3? 4? 5? 10? List all it is a multiple of.</p> | <p>#5 Play Flip it and Multiply. (directions attached)</p> |
| <p>Division</p>  | <p>#6 Write and solve a division summer story problem for $24 \div 6 =$.</p> | <p>#7 In your journal show 28 pennies divided so that 4 are in each group.</p> | <p>#8 In your journal show 5 ways to divide 30 into equal groups.</p> | <p>#9 Practice division facts. A good online site for this is: http://xtramath.org/</p> | <p>#10 Make flash cards for the division facts you still need to practice.</p> |
| <p>Fractions</p>  | <p>#11 Four people want to share 7 brownies equally. How can you divide 7 brownies, so they all get the same amount? Show how you got the answer.</p> | <p>#12 Name two fractions that are greater than $\frac{1}{2}$. Show how you know these fractions are greater.</p> | <p>#13 Show $\frac{2}{3}$ on a number line. Show $\frac{5}{8}$ on a number line, like the one below. 0 _____ 1</p> | <p>#14 If you rode your bike $\frac{3}{4}$ of a mile today and $\frac{3}{8}$ of a mile yesterday, which day did you go farther? Show how you know.</p> | <p>#15 Draw 20 small squares. Color $\frac{1}{4}$ of them red. Color the rest blue. How many of them are red? How many are blue?</p> |
| <p>Estimation</p>  | <p>#16 (There are, 100 paper clips in 1 box.) You have 5 boxes of paper clips. You use 72 clips. How many hundreds are in the number of paper clips you have left?</p> | <p>#17 Find a grocery store receipt and staple it into your journal. Round 3 items to the nearest dollar, then round the total to the nearest dollar.</p> | <p>#18 Write five numbers in the hundreds, (like 237). Round each to the nearest ten.</p> | <p>#19 Write five numbers in the hundreds, (like 317). Round each to the nearest hundred.</p> | <p>#20 Ask an adult to tell you when they have used estimation. Share their story in your journal.</p> |

| | | | | | |
|---|--|---|--|--|---|
| <p>Addition</p>  | <p>#21 Write and solve a summer story problem for this number sentence. $37 + 178 =$</p> | <p>#22 Play the \$1.00 word game from this site: http://www.education.com/activity/article/Make-a-dollar-word/</p> | <p>#23 Write down your address. Add 256 to the number in your address. Then add 38 more.</p> | <p>#24 Play one of the games you can play with a deck of cards. (attached) Write down which you played, and tell about it.</p> | <p>#25 The sum of two, 2-digit numbers is 87. What could the two 2-digit numbers be? Can you find more than one combination of two digit numbers that have a sum of 87?</p> |
| <p>More Fact Practice</p>  | <p>#26 Fill out the 100's Chart by Skip Counting. Color all the multiples of 5 blue, and of 8 red. Circle the ones that are multiples of both 5 and 8.</p> | <p>#27 Make flash cards for the multiplication facts of the 7's and 9's. Practice!</p> | <p>#28 List all of the multiplication equations to show how you could arrange 24 chairs.</p> | <p>#29 Draw 42 x's. How many groups of 6 are there? Write the division problem that goes with your x picture.</p> | <p>#30 Practice multiplication and division facts. At one of the websites below, or with flashcards.</p> |
| <p>Money</p>  | <p>#31 List at least 5 different combinations of coins that would add up to 25 cents.</p> | <p>#32 If you bought candy at the store for \$1.35. How much change would you get back from \$5.00?</p> | <p>#33 Plan a meal for you and a friend from a take-out menu. List. Write each item's cost, and the total cost.</p> | <p>#34 Grab a handful of coins. Record how many of each coin you have. Find the total value.</p> | <p>#35 Cut out three grocery store coupons and paste them in your journal. How much money did you save in all?</p> |
| <p>Time</p>  | <p>#36 What time was it when you got up this morning? What time was it 1 hour and 15 minutes later?</p> | <p>#37 Write what time the sun sets tonight. What time was it 2 hours and 30 minutes before the sun set?</p> | <p>#38 Practice your multiplication and division facts for 5. How many sections of 5 minutes are there on a round clock?</p> | <p>#39 Draw two clocks, show: When you woke up and <i>When you ate lunch</i>. How much time passed between the two?</p> | <p>#40 There 60 minutes in each hour. How many minutes are in 7 hours?</p> |
| <p>Subtraction</p> <p><i>Am I the reverse of addition?</i></p> | <p>#41 Use the digits 2, 3, and 4 to make the largest and the smallest 3 digit numbers. Find the difference.</p> | <p>#42 Play "Deep Dive" subtraction at this site: http://fun4thebrain.com/subtraction/deepdivesub.html</p> | <p>#43 Write and solve a summer story problem for this problem. $156 - 74 =$ Show your answer.</p> | <p>#44 Play a math game at this site: http://www.learninggamesforkids.com/math_subtraction_games.html</p> | <p>#45 You have traveled 138 miles. How far do you need to go if the total trip is 220 miles?</p> |

100's Chart

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

100's Chart

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

Flip It & Multiply

Number of players: 2

Materials: A deck of playing cards (eliminating the face cards)

Objective: The player with the most cards at the end is the winner.

Directions:

1.

Mix the cards and deal them evenly to each player. Players place their stack of cards face down in front of them.

2.

Players simultaneously say, "1-2-3 Flip It" and turn over the top 2 cards from each of their piles.

3.

Each player finds the product of his or her own two cards. *(For example, if a player flips a 7 and a 8, then the player multiplies 7×8 to get 56.)*

Both players call out their products.

4.

The player with the greatest product takes all four cards and places them in a separate pile. *(For example, if player one flips a 9 and 3 and player two flips a 6 and 7 then player two is the winner of that hand because 42 (6×7) is greater than 27 (9×3)).*

5.

Play continues until all cards in the pile have been flipped or until time runs out.

6.

If both players have the same product, then the players flip 2 more cards each. The player with greatest product keeps all 8 cards.

Skill: multiplication facts to 10×10

SIMPLE MATH GAMES TO PLAY AT HOME WITH A DECK OF CARDS

WAR AND DOUBLE WAR:

Use a regular deck of cards (optional: remove face cards for young children). Deal out the cards evenly between game participants. Aces represent one and face cards are ten. Play one of these versions:

Highest card wins: This is the traditional game where each player turns over the top card from their own pile and the player with the largest card wins all the cards. In the event of ties, everyone turns over an additional card and the winner takes the larger pile. In this version, students practice numeral recognition, number value, and greater than and less than.

Addition Double War: Follow the rules of War with each player turning over two cards at a time. Players add the value of their two cards and the largest sum wins. Students can practice addition strategies: counting all the “pips” on both cards for the sum, starting with one card and counting on using the pips on the second card, doubles facts, special “tricks” for adding ten and nine, sharing, and making a ten. To make this game a little more challenging, turn over three cards each time and find their sum.

Subtraction Double War: Follow the directions for Addition Double War, only the biggest difference wins. Good opportunity to practice subtraction strategies and facts.

Multiplication Double War: Follow the directions for Addition Double War, only this time the largest product wins. For a student just learning multiplication facts, use two decks of cards and start with the easiest fact families first, gradually adding the larger numbers.

Fraction War: Each player turns over 2 cards at once and tries to make the largest fraction by laying the cards vertically. For example with a 3 and 5, you can make $\frac{3}{5}$ or $\frac{5}{3}$; if the other person has a 2 and 8, the fraction could be $\frac{2}{8}$ or $\frac{8}{2}$. Variations: only allow fractions less than one or use three cards at a time and create mixed numerals.

SALUTE:

This game helps students practice adding (or multiplying) and finding the missing addend (or factor).

This is a game for three players. Remove the face cards from a regular deck of cards (ace represents one). Deal out the cards evenly to two players who sit facing each other; each holds the stack of cards face down. The third player sits where s/he can see the other two players. When the third player says “Salute,” the two players with cards simultaneously take the top cards off their respective piles and hold them on their foreheads with the face of the card outwards so that they can only see the other person’s card. The third player announces the sum (or product for a more advanced version) of the two cards. Each of the two players holding a card tries to be the first to announce the number on his own card (which he cannot see). The winner takes both cards. Rotate players so everyone gets a chance to be the one who says, “salute,” and gives the sum and product.

PYRAMID:

Discard the face cards and use the aces to represent one. Lay out a pyramid of face up cards with one card at the top, two cards overlapping the bottom edge of that card, three cards overlapping the edges of the two cards, and so on, until there are six cards at the bottom of the pyramid. Only cards that are fully uncovered can be used. Pick up and discard cards with number combinations that equal ten. The easiest version is to discard cards in pairs that add up to ten ($2 + 8$, $3 + 7$, etc.) and the ten by itself. Make the game progressively more challenging by allowing any combination of cards that can be strung together in an equation to equal ten, for example, $9 + 3 - 2$ or $2 \times 3 + 4$. The game can also be played with the face cards with these values: J is 11, Q is 12, and K is 13 (change the target number to 13 for this version).

MAKE THE MOST OF IT:

Remove kings and jacks from the deck. Ace is one and Queen is zero. Players take turns drawing one card at a time, trying to create the largest 5 digit number possible. As each card is drawn it is placed (and cannot be moved) into the ones, tens, hundreds, thousands, or ten-thousands place. When the sixth card is drawn, the player can choose one of the cards on the table to discard and replace it with the sixth card. Largest 5 digit number wins.

Make this game easier or harder by varying the number of digits.

CLOSE TO 20:

Remove the kings and jacks from a deck of cards. In this game Aces are one and Queens are zero. The object of the game is to make an addition problem with three addends as close to 20 as possible (see the sample game board below). Each game has five rounds.

To play deal out five cards and place them so all players can see them. Each player uses the numbers on *any three* of the cards to make a total that is as close to 20 as possible; you may use each card only once. The player writes the numbers they chose and total on their score sheets. The points for each round is the *difference between the sum and 20* (for example a sum of 24 scores 4 points and so does a sum of 16). Put all five cards in a discard pile and deal out five more for the next round. After five rounds, players total their points and the player with the lowest score wins.

Score sheet:

Round 1: _____ + _____ + _____ = _____ pts
Round 2: _____ + _____ + _____ = _____ pts
Round 3: _____ + _____ + _____ = _____ pts
Round 4: _____ + _____ + _____ = _____ pts
Round 5: _____ + _____ + _____ = _____ pts

Variations:

1. Play Close to 25 and deal out six cards for each round and players may use any four cards to total as close to 25 as possible.
2. Instead of dealing the cards face up and everyone using the same numbers, deal out five cards to each player and spread the remainder in the center of the table face down. Each player uses three cards in his/her hand to add up to 20 and then discards those 3 cards face down to the center of the table. For the next round, each player chooses 3 cards from the center pile and so on until five rounds have been played.

MAKE 100:

In this game Aces are one, Queens are zero, and Kings and Jacks are wild cards. Each game has 5 rounds. To play deal six cards to each player. Players choose any four of the cards to make two double-digit numbers that when added come as close as possible to the total of 100. Wild cards can be assigned any value. Players record their numbers and the sums on the score sheet. The player's score for each round is the difference between the sum and 100 (for example sums of 95 and 105 both score 5 points). The used cards are discarded and the two cards remaining in each hand are kept for the next round. For rounds 2 to 5, deal out four cards to each player and make two double-digit numbers, add them, and score your points. At the end of five rounds, the player with the lowest value wins.

Scoring variation: Play is the same, but when you score use positive numbers for sums above 100 and negative numbers for score below 100. The player then adds up positive and negative numbers and the one with the grand total closest to zero after five rounds wins.

Score Sheet:

Round 1: _____ + _____ = _____ points
Round 2: _____ + _____ = _____ points
Round 3: _____ + _____ = _____ points
Round 4: _____ + _____ = _____ points
Round 5: _____ + _____ = _____ points

Summer Math Books for 4th Graders!!!

| Topic | Book | Author |
|---|--|------------------------------|
| <i>Addition, Subtraction, Multiplication and Division</i> | <i>A Remainder of One</i> | <i>Pinczes, Elinor J.</i> |
| <i>The Grapes of Math</i> | | <i>Tang, Gregory</i> |
| <i>Data, Chance, and Probability</i> | <i>Do You Wanna Bet?: Your Chance to Find Out About Probability</i> | <i>Pinczes, Elinor J.</i> |
| <i>Fractions, Decimals, and Percents; Rates and Proportions</i> | <i>Piece=Part=Portion: Fractions=Decimals=Percents</i> | <i>Gifford, Scott</i> |
| | <i>If You Hopped Like a Frog</i> | <i>Schwartz, David M.</i> |
| | <i>If Dogs Were Dinosaurs</i> | <i>Schwartz, David M.</i> |
| <i>Patterns and Algebra Concepts</i> | <i>The King's Chessboard</i> | <i>Birch, David</i> |
| | <i>One Grain of Rice: A Mathematical Folktale</i> | <i>Demi</i> |
| | <i>A Grain of Rice</i> | <i>Pittman, Helena Clare</i> |
| | <i>Eight Hands Round: A Patchwork Alphabet</i> | <i>Whitford, Paul, Ann</i> |
| <i>Geometry</i> | <i>Shape Up!</i> | <i>Adler, David A.</i> |
| | <i>The Greedy Triangle</i> | <i>Burns, Marilyn</i> |
| | <i>Ed Emberley's Picture Pie: A Circle Drawing Book</i> | <i>Emberley, Ed</i> |
| | <i>Actual Size</i> | <i>Jenkins, Steve</i> |
| | <i>Reflections</i> | <i>Jonas, Ann</i> |
| | <i>Fannie in the Kitchen: The Whole Story from Soup to Nuts of How Fannie Farmer Invented Recipes with Precise Measurement</i> | <i>Hopkinson, Deborah</i> |
| | <i>Inchworm and a Half</i> | <i>Pinczes, Elinor J.</i> |
| | <i>Millions to Measure</i> | <i>Schwartz, David M.</i> |
| | <i>Is a Blue Whale the Biggest Thing There Is?</i> | <i>Wells, Robert E.</i> |
| | <i>How Tall, How Short, How Far Away?</i> | <i>Adler, David A.</i> |

| | | |
|----------------------------------|---|----------------------------------|
| <i>Number and Order</i> | <i>Count Your Way through China</i> | <i>Haskins, Jim</i> |
| | <i>Sea Squares</i> | <i>Hulme, Joy N.</i> |
| <i>Number and Order (cont'd)</i> | <i>12 Ways to Get to 11</i> | <i>Merriam, Eve</i> |
| | <i>Ten Times Better</i> | <i>Michelson, Richard</i> |
| | <i>Moira's Birthday</i> | <i>Munsch, Robert</i> |
| | <i>Safari Park</i> | <i>Murphy, Stuart J.</i> |
| | <i>My Full Moon is Square</i> | <i>Pinczes, Elinor J.</i> |
| | <i>The History of Counting</i> | <i>Schmandt-Besserat, Denise</i> |
| | <i>If You Made a Million</i> | <i>Schwartz, David M.</i> |
| | <i>How Much Is a Million?</i> | <i>Schwartz, David M.</i> |
| | <i>On Beyond a Million: An Amazing Math Journey</i> | <i>Schwartz, David M.</i> |
| | <i>Math Curse</i> | <i>Scieszka, Jon</i> |
| | <i>Nine O'Clock Lullaby</i> | <i>Singer, Marilyn</i> |
| | <i>The Maya</i> | <i>Takacs, Stefanie</i> |

Here are some fun and exciting websites to visit over the summer for practice.



At the time this was created, the websites listed were checked by teachers and deemed child appropriate. However, parents should always monitor their child's use of any Internet site.

- *Multiplication Facts* www.multiplication.com
- *Math Cats is a great site with lots of fun games and activities in math.*
<http://www.mathcats.com/contents.html>
- *This website will help with multiple math skills interactively.*
<http://www.aplusmath.com/>
- *An amusement park of math designed for fun!* <http://www.coolmath.com/>
- *This website has a variety of math activities!* <http://www.funbrain.com/>
<http://www.funbrain.com/cashreg/index.html> (making change)
<http://www.funbrain.com/tens/index.html> (rounding numbers / place value)
- *Create a graph! This page will allow you to insert your information and create any kind of a graph that you want!!* <http://nces.ed.gov/nceskids/graphing/>
- *AAAmath has a variety of math activities!*
<http://www.aaamath.com>
<http://www.aaamath.com/B/geo.htm>(geometry)
<http://www.aaaknow.com/fra.htm>(fractions)