Multiplication & Division FLASHCARD GAMES

by Susan Dillon

I'd like to dedicate this book...
to April, Carol, Donna, Melanie, Penny, and Rochelle—
for your dedication, creativity, enthusiasm, and love of teaching

that inspires your children (and their parents) every day.

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Introduction

Learn the facts in a flash...with flashcard games! Simple to learn and to teach, and enriching for all math levels, these 25 games put a new spin on facts practice and require little preparation or equipment.

Plus, these games are written so children can learn and play on their own! Photocopy and distribute the game pages for fun practice in class or at home.





Two flashcards in one!

ABOUT THE GAMES

The banner at the top of the page tells you that the game or games on the page are suitable for pairs, small groups (four to eight players), or large groups (nine or more).

All games include

- Object of the game: A brief explanation of the game and its purpose.
- You'll need: The specific flashcards needed, plus other equipment or preparation requirements.
- Instructions: Easy-to-follow directions written for children in grades 3 to 4 (younger players may need some initial adult guidance).
- Wariation: An easy way to change the game for variety and/or to increase or decrease the level of challenge.
- Fair Play Tip: Simple advice on how to keep a more competitive or high-energy game in check.
- Flashcard Hint: How to put together certain games with specific flashcard requirements using the flashcard collection on pages 25–48.
- Graph It: Ideas on creating a corresponding graphing activity.

Skills practice: To find out if a game is played with multiplication or division flashcards, or both, see the symbols (x and ÷) at the top of the page. While most games focus strictly on facts practice, players also practice fractions skills with Frantic Fractions (page 20), geometry skills with Shapes & Sides (page 21), and language arts skills with King & Queen Bee and Read-by-Numbers (page 22).

A note to teachers, parents, or supervising adults:

These games have been created for unsupervised play, which means that most children will be able to read the instructions and play these games with minimum guidance. You can tailor the games to the specific needs of your group. For instance, some games specifically ask players to solve an equation in a specified amount of time. You can increase or decrease the given time to suit the level of the group or even that of individual children.

You can customize the flashcard set for a specific skill or level of difficulty by weeding out harder or easier problems, or adding more problems of your own (see page 6, Create Your Own Flashcards).

TIPS FOR PLAYING

Here are some great ways to help children get the most out of these flashcard games.

Pairing Up

It's important in the pairs games to pair up players who are similar in math skills and competitive styles.

Choosing Who Goes First

If every player wants to go first, you may need to step in to help assign this coveted role. You might choose a specific child who is having a little trouble concentrating. (You might also look for games that require a game timer, another active role for children who need help focusing.) Simply let each player choose one multiplication flashcard from a facedown set; the player with the highest answer goes first (play again with a tie). For other ideas, see Fast 9 (page 10), Wild Card (page 13), Three in a Flash (page 15), and 15-Second Flash (page 16).

You might also let children earn the position of first player. Create an "I Go First!" sticker (use any standard label) to be given daily or weekly to children as a reward for outstanding work or behavior. The sticker is the child's "ticket" to being the player who goes first when it's game time.

Checking Answers

In many cases, an incorrect answer results in a penalty. Players must be in charge of checking other players' answers, which is great practice and a way to keep all minds in the game at all times. You might want to make available a copy of the Facts Table Answer Key on page 49 in case there is a disagreement about the answers.

PLAYING-CARD GAMES— WITH FLASHCARDS

You'll find a number of fun and familiar games for pairs and small groups. These games, adapted from traditional playing card games such as *War* (see *X Caliber*, page 7).

Here are a few tips on playing-card basics to model for children:

- Shuffle the flashcards in various ways. The most thorough method is to put half the set in each hand (thumbs on top), bend the flashcards slightly inward with your index finger knuckle, and fold in the two sets together. Demonstrate this and let players try it out. Show them other methods you know. If this proves too difficult for small hands, spread out flashcards facedown on a desk and mix them around.
- Deal the flashcards the first time, showing players how to pass facedown flashcards to each player, one at a time. Let children take turns practicing this role, with your guidance. Make sure to identify "faceup" (side up) and "facedown" (side down), since these are important key words in the directions. For all games in which the dealer plays a hand, the dealer goes first.
- Fan a hand of flashcards to get ready to play. Have each player spread out the cards so the equations are visible to him or her only. Players hold their flashcards at the bottom corners by the thumb in front and support the cards with flat fingers in back. (Make sure children use the hand that's most comfortable.) Remind players to hold their flashcards straight up and close enough to their faces so others can't peek; you may need to remind them frequently in the first game or two.

Small hands having trouble holding the cards? Check out Einstein Design's Card Holda, a crafty device that holds up to 20 cards and offers a small, easy-to-grip handle for child-size hands.

Cut-Apart Flashcards

The special set of ready-to-go flashcards on pages 25–48 can be used to play all of the games in this book—or simply to practice facts.

Special features include:

- 2-in-1 flashcards: A multiplication and a division problem appear on the same flashcard with one problem right-side up and the other upside down. Multiplication problems are purple and division problems are black, so they are easy to identify. Want to mix up the practice? Simply turn some flashcards multiplication-side up and others division-side up.
- no answers: Many games in this book are "hands-on," meaning players pick up flashcards; thus, answers can't be visible. Note that page 49 contains answers for all multiplication and division facts from 0 through 12; those problems included in the flashcard set are highlighted.
- playing-card-size flashcards: smaller dimensions make the flashcards easy to hold.

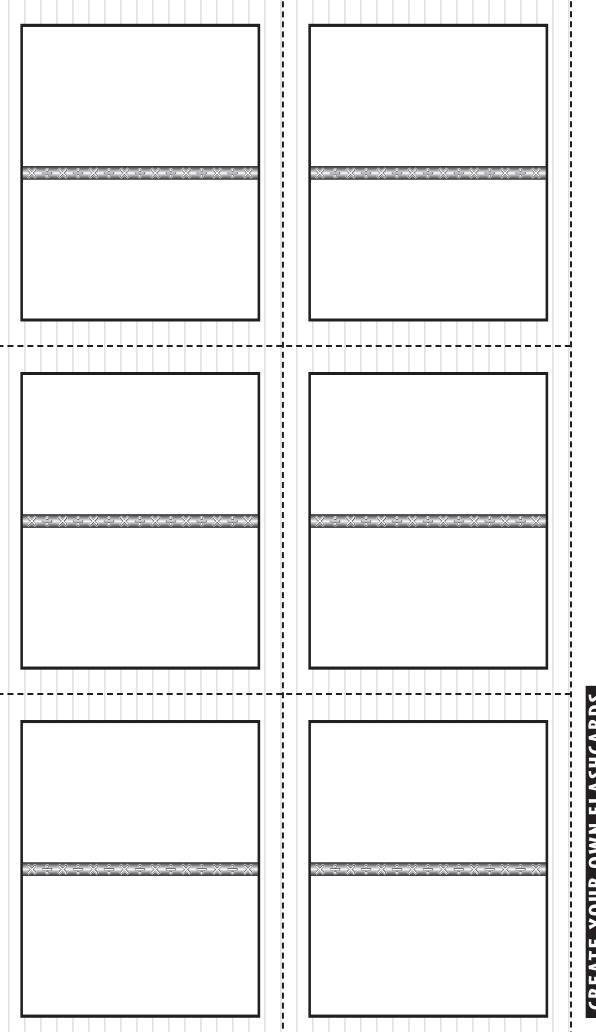
Create Your Own Flashcards

Need more problems than we provide? Want additional sets of flashcards for multiple games? Photocopy the flashcard template on page 6 onto card stock and write in your own equations. Be sure to laminate these homemade flashcards so they withstand the wear and tear of movement-based games such as *Flacamagama!* (page 12) and *Frantic Fractions* (page 20). For easy laminating, try self-adhesive laminating sheets, which can be found at any office-supply store.

Use a Standard Set of Flashcards

Any standard set of flashcards will work fine with these games. For games in which children are holding their own flashcards, hide answers with sticky notes cut to fit the shape of the card. Make a similar adjustment to cover the backside of a two-sided card if there is another equation showing.

Let the games begin!



CREATE YOUR OWN FLASHCARD

Need another set of flashcards or some additional problems? Use this template!

- 1. Print out copies on card stock.
- 2. Write in your own equations.
 - 3. Cut out each flashcard.

- 4. Laminate for endurance.
- 5. For a key to multiplication and division facts 0–12, see page 49.

X Caliber



OBJECT OF THE GAME: In this variation on War, players battle to win flashcards when they say their equation answers first.

YOU'LL NEED: set of 72 multiplication flashcards (more or less)

INSTRUCTIONS:

- Two players sit facing one another. One player deals first. The dealer shuffles and deals all the flashcards facedown, half to each player. Both players hold their facedown pile in their hands.
- At the same time, players flip over their top flashcard and place them faceup next to each other. Players race to announce the answer to their own equation first. The first to answer correctly takes both flashcards, keeping them in a facedown "captured" pile. If the first player answers incorrectly, the other player takes the flashcards.
- 🛛 If players answer their flashcards correctly at the same ime, the tiebreaker is "X Caliber." At the same time, players discard four flashcards, chanting "X CAL-I-BER!" (one syllable for each flashcard discarded). They race to answer their fourth flashcard, discarded together. The first to answer takes all 10 flashcards.
- Players use their own captured flashcard pile when their hand is empty. When one player runs out of flashcards, the other player is the winner and is the dealer for the next game.

VARIATION

Play 9X Caliber. Create a custom set of flashcards (see page 6) with equations from the 9 times table only. 9X Caliber occurs when the two flashcards discarded are exactly the same, and answered at the same time. Try this with other target times tables.

How to Pick Pairs

For competitive games, group together players who calculate at similar speeds to provide an appropriate level of challenge. You may pair up players who finish first in the Who Goes First? activity below.

Who Goes First?

Suggestion: Play Card Duel

- 1. Two players stand on opposite sides of a table or desk. The teacher/supervisor or another player places 5 cards facedown in front of each player.
- 2. On the signal (count together, "1-2-3 Go!"), players flip their cards over and race to arrange them in highest-tolowest answer order. The first player to finish with the cards placed in the correct order raises his or her hand and is the dealer or first player in the game.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4–5.



l Divide It

OBJECT OF THE GAME: Players compete to be the first to get rid of all their flashcards in order by divisor—both by solving and making up equations to trick their opponent.

YOU'LL NEED: set of 72 division flashcards (more or less)

INSTRUCTIONS:

- Two players sit facing one another. One player deals first. The dealer shuffles and deals seven facedown flashcards to each player including him or herself, then puts the rest to the side in a facedown draw pile. (Each player should fan his or her hand so the other player can't see.)
- Taking turns, players put one flashcard from their hand facedown in a discard pile. Players discard flashcards in least-to-greatest divisor order. For instance, a player might put down the following in the course of four turns: $4 \div 0$, $3 \div 1$, $6 \div 2$, $9 \div 3$. On his or her turn, each player must announce the problem and its answer.
- Now here's the trick: If the player doesn't have the flashcard with the next divisor in order, he or she can try to trick the other player by putting down any other flashcard and calling out a made-up equation with the correct divisor.
- If one player suspects that the other player is making up the flashcard equation, he or she can challenge it, saying "I Divide It!" The challenger must then turn over the suspicious flashcard, read the equation, and give its answer.
- If the first player was telling the truth, the challenger must take the pile of flashcards. If the player wasn't telling the truth, he or she must take the pile and lose a turn. After the players have discarded 13 flashcards (divisors 0–12), the game continues with 0.
- If a player doesn't have a flashcard with a divisor in the right order and doesn't want to try a trick, he or she can pass and take a flashcard from the pile.
- The player who gets rid of his or her flashcards first wins and is the dealer for the next game.

FAIR PLAY TIP

The "trick," as described in step 3, is a big part of the fun and the challenge of the game. To prepare for it, players can think of several equations with divisors 1–12 that could be used for tricking before the game.

VARIATION

Try I Divide and Multiply It and mix in multiplication flashcards. This time, players lay down their cards 1–12, in order by multiplicand—the first number in the multiplication problem.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4–5.

No 0!

OBJECT OF THE GAME: In a race to solve problems fastest, a player who gets a flashcard with an answer that contains a 0 must run in a circle.

YOU'LL NEED: 20 multiplication flashcards per player—including 5 (or more) flashcards with answers that contain 0, desk or small table, clock or timer

The flashcards on pages 25-48 include 16 equation answers that equal or contain 0: $0 \times 4 = 0$, $2 \times 0 = 0$, $5 \times 2 = 10$, $5 \times 4 = 20$, $5 \times 6 = 30$, $10 \times 3 = 30$, $4 \times 10 = 40$, $8 \times 5 = 40$, $10 \times 5 = 50$, $12 \times 5 = 60$, $10 \times 7 = 70$, $8 \times 10 = 80$, $10 \times 9 = 90, 10 \times 10 = 100, 11 \times 10 = 110,$ $12 \times 10 = 120$.

INSTRUCTIONS:

The first player stands at a desk, shuffles the flashcards, and puts them facedown in a pile on the desk. (Make sure he or she has a clear path and can move easily around the desk.)

The other player is the timer and stands in a spot that is out of the way, but where the flashcards are still visible. At the signal, the first player draws and answers one flashcard at a time. When the player gets a flashcard with an answer that contains 0 (0, 10, 20, and so on), he or she runs around the desk in a circle to the right while the clock runs. After making the circle, the player returns to draw cards and solve problems again. If another flashcard answer that contains 0 is drawn, he or she must run around the desk again. If the timer notices any problem answered incorrectly, he or she must tell the player to go back and give the correct answer.

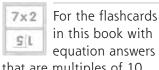
When the player finishes the pile, the timer irecords the time. The player with the fastest (lowest) time wins. The timer now gets a turn to play and the first player is the new timer.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4-5.

Tabletoppers

OBJECT OF THE GAME: Players must "pay up" flashcards if the other player discards flashcards with answers that are multiples of 10.

YOU'LL NEED: set of 72 multiplication flashcards (more or less)—with at least 10 flashcards with equation answers that are multiples of 10



that are multiples of 10, see No O!

INSTRUCTIONS:

Players sit facing one another. One player deals first. The dealer shuffles and gives half the flashcards to each player. Both players hold their piles facedown in their hands.

The starting with the dealer, players take turns riangleq discarding their top flashcards faceup into a center pile and solving the problems.

When one player discards a "tabletopper"— a flashcard with an answer that is a multiple of 10 (10, 20, 30, and so on)—the other player must "pay" the number of flashcards indicated by the tens place in the answer: 1, 2, 3, or more flashcards respectively. For instance, the answer 10 (5×2) requires 1 paid flashcard; the answer 20 (5×4) requires 2, and so on. The player makes the payment from his or her own pile to the center pile, announcing the answer to each flashcard as it is paid.

If at any time the paying player discards a tabletopper, the first player must then pay up the number of flashcards indicated by the discarded tabletopper.

The last player to pay without discarding a tabletopper takes the next turn. When one player discards his or her last card, the other is the winner and is the dealer for the next game.





Dividing Minds

OBJECT OF THE GAME: Players figure out a hidden flashcard problem by using clues about the equation to make a good guess.

YOU'LL NEED: set of 72 division flashcards (more or less), clock or timer (see Variation)

INSTRUCTIONS:

- The two players agree on the game time (such as 10–15 minutes).
- Players sit facing one another. One shuffles and places the set of flashcards in a facedown pile in the center.
- The first player draws the top flashcard and without looking at it, places it on his or her forehead faceup, so the second player can see it. (The second player should figure out the answer silently before the first player takes a turn.)
- The first player begins guessing the equation for the flashcard that he or she has drawn. The other player gives hints to help the first player guess the correct equation. For example, the flashcard reads $18 \div 3$. If the first player guesses "Twelve divided by three equals four," the second player says "three," to show that 3 (the divisor) is in the equation. If the first player guesses "Twenty-four divided by six equals four," the second player says "four" (the answer). If no numbers in the equation are correct, the second player says "none." Using the numbers revealed and his or her family of facts skills, the first player guesses the correct division equation.
- When the first player guesses the equation, the second player gets a turn. There is no winner in this game.

VARIATION

To add competition, each player gets two minutes to guess each flashcard's equation. A player gets one point for every equation correctly guessed. If time runs out and the player has not guessed the answer, he or she gets no points and the other player takes a turn. The player with the most points at the end of the game time wins.

Who goes first?

Suggestion: Play Fast 9

- 1. Both players get a piece of scrap paper and pencil. On the signal (count together "1-2-3 GO!"), they turn over one division flashcard.
- **2.** The players race to write down nine other equations with the same answer (they may use any combination of operations: addition, subtraction, multiplication, or division). The first player with nine (correct) equations goes first.

(Need to pair players? Play Fast 9 with the whole group, and pair those who finish at about the same time.)

FAIR PLAY TIP

Players may have trouble keeping the flashcard up on their foreheads without getting tired or feeling the temptation to peek.
Instead, let the other player hold the flashcard in his or her hands.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4–5.

Calculated Stress



OBJECT OF THE GAME: In this flashcard version of a favorite recess-time game, players race to collect flashcards with the same answer.

YOU'LL NEED: 52 division flashcards—13 sets of four same-answer flashcards

INSTRUCTIONS:

Two players sit facing one another. One player deals first. He or she shuffles the flashcards and places the first four flashcards faceup in a horizontal row between them. This is the "trading floor." Then the dealer deals six piles of four facedown flashcards to each player, setting the piles in a row in front of the player.

n the signal (count together "1-2-3 GO!"), both 🚄 players turn their cards over and race to trade cards in each of their six piles so that each pile contains flashcards with the same answer. To do this, players exchange one flashcard from one pile at a time with one of the faceup flashcards in the middle. (Players cannot trade a flashcard in one of their six piles directly for a flashcard in another pile they must trade through the cards on the trading floor.) For example, if one of a player's piles has $6 \div 3$, $8 \div 2$, $12 \div 6$, and $9 \div 3$, the player already has two cards that equal 2 and will trade for more cards that equal 2. If the flashcard $10 \div 5$ is available on the trading floor, he or she can take that card and replace it with one that doesn't fit from the pile $(8 \div 2 \text{ or } 9 \div 3)$. As the game continues, the player looks for another opportunity on the trading floor to trade for a flashcard equal to 2.

After completing a same-answer pile, the player must announce the answer and put the four flashcards aside faceup.

The first player to get six same-answer piles and announce "Calculated Stress!" is the winner, and is dealer for the next game.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4–5.

The flashcards on pages 25–48 include four sameanswer flashcards for each

answer 2-12; for the two more sets required, use a second set from the answers 4, 6, and/or 8.

Note: To avoid confusion over which problem to play with when you're using the two-problem punch-out flashcards, cover the problem that's not being used with a small sticky note. This way, only one equation shows. Players may also need to adjust the position of the faceup flashcard or adjust their own seating position to clearly see the problem.

FAIR PLAY TIP

It's important that with each discard, both players put their flashcards neatly faceup in the middle. If a player does not keep things neat, the other player or teacher/supervisor can require that player to "clean up" (straighten the piles) in the middle of the game—thus allowing the other player to gain a few seconds' lead time.





Numeral Pursuit

OBJECT OF THE GAME: Players "win" flashcards if the number rolled on the dice equals the answer to the problem.

YOU'LL NEED: set of 30 division flashcards, a pair of dice

INSTRUCTIONS:

Players sit facing one another. One player is the dealer. The dealer shuffles the flashcards and deals out a circle of 14 flashcards facedown. The rest of the flashcards go in a pile on top of the first flashcard. This is the starting spot.

The dealer rolls the dice, counts that number of igspace flashcard spaces to the right of the starting spot, and solves the flashcard where he or she stops. For example, the dealer rolls a 3. The dealer counts three flashcards from the starting spot, turns over the flashcard in that spot, and answers the problem.

 $\operatorname{\mathbb{Z}}$ If the divisor, dividend, or answer is the same as the number rolled, the player wins the flashcard and collects it. If no numbers in the equation match the number of the dice roll, the dealer turns the flashcard over. In either case the flashcard pile goes on that spot, which becomes the new starting spot. (Leave one flashcard in the previous starting spot.)

Players take turns in the same way; see steps 2-3.

After the pile is gone, players continue to take turns rolling the dice and going around the circle taking flashcards (skip the empty spaces). When all the flashcards from the circle are gone, the game is over. The player who has the most flashcards wins, and is the dealer for the next game.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4–5.

Flacamagama!

OBJECT OF THE GAME: In this game with the crazy name (short for FLAshCArdMAthGAmeMAnia!), players race to put down flashcards in least-togreatest order by answer.

YOU'LL NEED: set of 20 multiplication and/or division flashcards (more or less)

INSTRUCTIONS:

Two players sit facing one another. One player deals first. The dealer shuffles and passes out 15 flashcards to each player, setting the cards in a faceup row in front of the player. The dealer puts the rest of the flashcards facedown in a center draw pile, and turns over the top flashcard, setting it faceup next to the draw pile to create a discard pile.

7) Players race to put their 15 flashcards on top d of the faceup flashcard in least-to-greatest order by answer. For example, if the top flashcard is 1 x 4, a player can discard any flashcard with an answer equal to or greater than 4—for example, 2×3 , but not $3 \div 1$. Players must discard their flashcards one at a time, always discarding a card with an answer equal to or greater than the one on top of the discard pile. As they discard each flashcard, players must announce the answer.

If one player believes that the other player discarded a flashcard with an answer that is less than the top flashcard, that player puts his or her hand on top of the discard pile to stop play and announce a challenge. If the challenger is incorrect, he or she must take the pile and add the cards to his or her own; if the challenger is correct, the other player must take the pile.

When there are no more flashcards with answers equal to or greater than that of the top card in the discard pile, play stops. The dealer then turns over the next flashcard from the draw pile to start again.

The first player to discard all of his or her flashcards yells out "Flacamagama!" (Flak-ah-MAG-ah-mah!) and wins. He or she is the dealer for the next game.

Craze-Equations



OBJECT OF THE GAME: In this Crazy Eights variation, players race to discard all their flashcards by matching their flashcards with the faceup flashcard on the discard pile. Players call a "wild" number to add an element of surprise.

YOU'LL NEED: set of 72 multiplication flashcards (more or less)

INSTRUCTIONS:

Players sit in a semicircle. One player deals first. He or she calls a "wild" number such as 8 (see step 3). The dealer shuffles and deals out seven flashcards to each player. He or she puts the rest of the flashcards facedown in the center to form a draw pile, and sets the top flashcard faceup next to the draw pile to create a discard pile. Players fan their hands of cards so others can't see.

The Play starts with the dealer, and moves around the circle to 4 his or her right. The dealer announces the answer to the problem on the faceup flashcard, then discards a "matching" flashcard from his or her hand. To make a match, at least one number from the equation of the discarded flashcard must match a number from the equation of the faceup flashcard. For instance, if the faceup flashcard is 6×3 , the player may discard any flashcard with an equation containing 6, 3, or 18 (see "Ways to make a match" at right). As players discard their flashcards, they must announce the problem and the answer.

When a player cannot find a match, he or she can artheta discard any flashcard with the wild number as part of the equation. For example, if 8 is called wild, players can put down 8×3 or 4×2 on any turn.

If a player can't discard a wild card, he or she must take the top flashcard from the draw pile and add it to his or her hand. If the player finds a match between the faceup flashcard and the flashcard he or she just picked, the player can discard the new card, and this ends the turn.

The game continues with players taking turns moving to the right ground the size at 1000 miles. the right around the circle. The first player who discards all of his or her flashcards wins, and is the dealer for the next game.

Who's the first dealer?

Suggestion: Play "Wild Card"

- 1. Deal out five multiplication flashcards facedown to each player. Turn over the next flashcard in the deck; that flashcard is the "wild card."
- 2. On the signal (count together 1-2-3 GO!), all players turn over their flashcards one by one and calculate the answers. The first player to hold up his or her flashcard with the wild card answer is the first dealer.

Ways to make a match:

9 x 2 6 x 3

same answer (18)

 7×1 12 x 7

multiplicand matches multiplier (7)

1x9 3 x 3

multiplier matches answer (9)

wild number matches any other number (8)

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4–5.



OBJECT OF THE GAME: Players get points for solving equations and a big bonus for finding the flashcard with the answer 24.

YOU'LL NEED: set of 72 multiplication flashcards (more or less), including 3 flashcards with the answer 24 and at least 5 with the answers 20, 21, 22, 25, 27, 28, pencil and paper for scoring

The flashcards on pages 25–48 include three with the answer 24 (3 x 8, 6 x 4, 12 x 2) and seven others with answers between 20 and 30

 $(5 \times 4, 7 \times 3, 11 \times 2, 7 \times 3, 5 \times 5, 3 \times 9, 7 \times 4).$

INSTRUCTIONS:

Players sit in a semicircle. One player deals first. The dealer shuffles the flashcards and passes each player two flashcards, placing the first card faceup and the second card facedown next to it. The dealer holds the remaining flashcards in a facedown pile. (The dealer or another player who sits out may keep score.)

ne by one, players must calculate their 4 faceup flashcard equations. Any player who has a flashcard with the answer 24 faceup earns 50 points. Players whose faceup flashcard answers are in the 20s (21, 24, 25, 27, 28) earn 20 points. Any other answer earns 10 points. Players then may choose to turn over their facedown flashcards. If the answer is 24, the player doubles his or her score. If it's not, a player's score drops to zero

Players put aside their cards and the dealer deals a second round of flashcards to the group, following step 1. Play continues following

The player who gets to 240 points first wins and is dealer for the next game.

Royal Flash

OBJECT OF THE GAME: In this Poker-type game, players look for matches between the flashcard answers in their hands and the flashcard answers in a faceup deck.

YOU'LL NEED: set of 72 multiplication flashcards (more or less)

SIL

To avoid confusion over which equation to play with when using the flashcards on pages 25-48, cover one equation on each flashcard

with a sticky note. Players can also try adjusting the position of the faceup flashcard, or their own seating.

INSTRUCTIONS:

Players sit in a semicircle. One player deals first. The dealer shuffles and deals five flashcards to all players, except him or herself. The dealer puts the next five flashcards faceup in a horizontal row in front of all the players—these are the Royal flashcards. Players fan their hands so others can't see. The dealer holds the remaining flashcards in a facedown pile.

7) Players look for any flashcards in their hands 4 that have same answers as the Royal flashcards. Players hold onto their Royal flashcard matches and put aside the rest. One at a time, the players ask the dealer for the number of flashcards they have just put aside. The dealer distributes cards from the facedown pile. (All players should have five flashcards in their hands.)

Players show all of the flashcards in their I hands that have the same answers as the Royal flashcards. The player with the most Royal flashcard matches in his or her hand wins. In a tie, the player holding the flashcard with the highest answer wins.

Flashed Cards

OBJECT OF THE GAME: Players race to calculate the answer of a "flashed" flashcard first.

YOU'LL NEED: set of 72 multiplication and/or division flashcards (more or less)—15 flashcards per round, desk or table

INSTRUCTIONS:

Multiplication & Division Flashcard Games © Susan Dillon, Scholastic Teaching Resources

- Players agree on a playing time period (say 15 to 20
- no One player is the first "flashperson." He or she shuffles the 4 flashcards and then takes the top 15 flashcards and places them in a facedown pile on a desk. The flashperson stands on one side of the desk; the other players stand side by side in a line facing the flashperson, several feet in front of the desk.
- The flashperson "flashes" a flashcard, taking the top ilashcard and flipping it up so that it can be seen by all the players (but only for a second) and then holding it down, away from them again.
- Players calculate the answer. The first to call out the correct answer keeps the flashcard.
- When all 15 flashcards are gone, players count their flashcards. The player with the most flashcards wins that round, and is the flashperson for the next round.
- The player who wins the most rounds in the playing time period wins.

FAIR PLAY TIP

Flashpeople must place their fingertips on the flashcard edges (so as not to cover the numbers) and hold the flashcards high so they are visible. No player should be able to get a sneak peek at the cards.

Who goes first?

Suggestion:

- Play Three in a Flash
- 1. The teacher/supervisor sets three flashcards faceup on a desk and covers them with a large piece of paper or any type of cover so players can't see the equations.
- 2. All players come up to the desk. The teacher/supervisor lifts the cover just long enough for the players to read the three cards, and then replaces the cover. Players quickly calculate the three problems, and raise their hands as soon as they're ready to answer.
- 3. The teacher/supervisor calls on players in the order they raised their hands (the first to raise his or her hand gets to answer first). To answer, a player must say from memory the answers to the three problems. If one or more answers are incorrect, the next player gets a chance to answer, and so on until there is a winner.
- 4. If none of the players answers correctly, the game can be repeated with three new flashcards each round, until a winner is determined. The winner gets to go first in the next flashcard game.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4-5.



Master Flash

OBJECT OF THE GAME: Players race to answer flashcards fastest to become "Master Flash."

YOU'LL NEED: 10 multiplication and division flashcards per round (3 rounds), scrap paper and pencils for all players, long table or several desks

INSTRUCTIONS:

- One player deals first. The rest of the players sit facing the dealer with scrap paper and pencil. They number their papers 1-10, leaving space for each flashcard answer.
- The dealer puts 10 mashiculus raccop ... row so all players can see the problems (players may The dealer puts 10 flashcards faceup in a horizontal need to adjust their positions or the placement of the cards to see clearly). On the signal (the dealer counts "1-2-3 GO!"), each player races to write down the 10 answers in order, left to right.
- Players put their pencils down and raise their hands as goon as they have finished. As the dealer sees each player's hand go up, the dealer tells the player what number he or she has finished. The player writes the number down on the top of his or her paper.
- After all players have finished, the dealer calls out the correct answers. (Players may pass their paper to the player to their right for checking.) The first five finishers to answer accurately go on to the semifinal round.
- The five players get 10 new flashcards to solve; the top three players go to a final round.
- The winner of the final round becomes "Master Flash" and gets to deal in the next game.

Who goes first? Suggestion:

Play 15-Second Flash

- 1. Players sit at a desk or table with scrap paper and pencil. They number their papers 1-5, leaving a space for each flashcard answer. Each player gets five facedown flashcards (these may be hand-selected by the teacher/supervisor according to math levels).
- 2. On the count ("1-2-3 GO!") the teacher/supervisor starts timing and players flip over their flashcards and write down the answers in order on the paper.
- 3. When 15 seconds are up, the player with the most correct answers wins. For a tiebreaker, play again with another round of flashcards and set the time for 10 seconds.

VARIATION

To even the playing field, the teacher/supervisor may give each player 10 facedown flashcards. (He or she can give appropriate problems to players depending on their skill levels.) On the signal, the players flip over one flashcard at a time and write down their answers. The game continues from step 3.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4–5.

Diviplication

OBJECT OF THE GAME: Players seek to uncover and answer all the multiplication and division flashcards in the circle.

YOU'LL NEED: one set of 36 multiplication and 36 division flashcards (more or less)

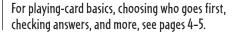
INSTRUCTIONS:

- Players sit in a circle facing one another. One player is the leader. The leader shuffles the multiplication and division flashcards separately, and deals one round of multiplication flashcards facedown and then one round of division flashcards facedown so that each player including him or herself gets one of each flashcard. The multiplication flashcard is held facedown in the player's right hand, the division card facedown in the left hand.
- ົກ The leader calls on another player, and shows that 🗸 player the flashcard in his or her right hand (multiplication). The player who was called on solves that problem, calls on another player, and shows that player the flashcard in his or her left hand (division). This call-andanswer game continues with different players around the circle. (Players must keep their cards hidden until they're ready to show the player they've called on.)
- Play continues until all flashcard equations have been artheta solved. Some cards may be played several times. There is no winner in this game; the group works together to uncover all the flashcards in the circle. The player to show the last uncovered flashcard is the leader for the next game.

Who's the first leader?

Suggestion: Play Quick Division

- 1. Players stand in a long line, one in back of the other. The teacher/supervisor is the timer for the game; he or she holds a pile of division flashcards faceup.
- 2. The teacher/supervisor calls out "Quick Division! Ten seconds!," hands the pile to the first player, and starts timing. The first player has 10 seconds to read and solve the problem, put the flashcard at the bottom of the pile, and pass the pile to the player in back of him or
- **3.** If a player completes the task in the allotted time, he or she remains standing in line. If a player isn't able to solve the flashcards in time, he or she must stand aside. (As players leave the line, the remaining players should move closer together to shorten the distance between them.)
- 4. Players continue answering the top flashcard and passing the pile through the line. The last player in line reverses the direction of play and passes the pile forward through the line. Whenever the direction of play is reversed, the timer can shorten the time that players have to calculate. For example, on the second pass the teacher/supervisor might call out "Quick Division! Nine seconds!," and allow players nine seconds to solve the problem and pass the cards. On the next round, the time might be set at eight seconds, and so on.
- **5.** The last player left is the first leader of the game.





Multi-Tasking

OBJECT OF THE GAME: Players do multiple tasks while solving problems.

YOU'LL NEED: set of 72 multiplication and division flashcards (more or less) with answers less than 20, clock or timer

INSTRUCTIONS:

One player is the leader and stands at the front of the room, facing the rest of the players and holding a set of multiplication flashcards facedown. The other players stand up at their seats, facing the leader.

7) The leader holds up two flashcards and calls ut the problems, naming a fun task for each, such as "Rub your belly 2 x 3 times and pat your head 5×2 times." Then the leader chooses any player to answer. The player who answers may do the tasks alone or lead the class in doing them together. Here are some simple tasks to pair:

- blink eyes
- wiggle ears
- puff out cheeks
- ⊗ bob head
- ⊗ jump in place
- ⊗ clap hands
- hop on one foot
- pat one knee with opposite hand
- swing arms
- stand up/sit down
- ⊗ close hands in fists/open them
- wrinkle nose

VARIATION

For a less-challenging game, let each player solve only one flashcard and perform one task on each turn.

Division of Labor

OBJECT OF THE GAME: Players solve problems to divvy up jobs and make clean-up time fun.

YOU'LL NEED: set of 72 division flashcards (more or less), clock or timer

Players make a list of jobs that need to be done around the room, such as picking papers up off the floor, putting books away, putting game pieces away, and so on. (The jobs should have an element of repetition or include taking care of a number of items.)

ne player (or the teacher/supervisor) is the riangleq leader and stands at the front of the room near the posted list, holding a set of division flashcards facedown. The other players wait at their seats.

One by one, the leader shows each player a 🕘 flashcard. The player answers and chooses a job from the list. He or she repeats that job the number of times indicated by the flashcard answer.

When a player finishes his or her job, the leader crosses off the job, and if there are still jobs remaining, gives the player another flashcard. The player picks another job to complete.



- pick up math manipulatives
- find missing puzzle pieces
- put up chairs
- return books to library
- recycle papers you don't need
- sharpen class pencils



For playing-card basics, choosing who goes first, checking answers, and more, see pages 4-5.

"What's the Times?"

OBJECT OF THE GAME: Players find flashcards with answers that match the time of day. Great for a five-minute transition activity.

YOU'LL NEED: set of 72 multiplication flashcards (more or less), scrap paper and pencil, clock or timer, poster board (optional)

INSTRUCTIONS:

One player (or the teacher/supervisor) is the leader. At any time during the day, the leader may call out "What's the Times?" and place the set of flashcards in front of a player. The leader calls out "1-2-3 Go!" and starts timing.

The player tirst reaus ine cicci., the exact time of day in hours and minutes. The player first reads the clock, announcing Then he or she searches for flashcards in the pile with answers that match the numbers in the time the "times answers." For instance, if the time is 2:14 p.m., the player would pull out any flashcards with the answers 2, 1, 4, 21, 14, 12, 24, and 42. (The player may write the "times answers" on a piece of scrap paper first.)

When the player has pulled all the cards he or she can find, the leader records the finish time. The player hands the cards to the leader (or another player), who checks to see if the "times answers" pile has all the correct answers.

All players get a turn over the course of a given time period (such as a day or week). The player with the fastest time wins, and is leader for the next game.

FAIR PLAY TIP

If determining the "times answers" in step 2 is difficult for players, the teacher/ supervisor (and the rest of the group) can help the player create the list.

X the Great Divide



OBJECT OF THE GAME: In this transition activity, two players race to answer problems and get to the finish line first.

YOU'LL NEED: set of 72 division and multiplication flashcards (more or less)

INSTRUCTIONS:

Players form groups of three. In each group, a leader holds a pile of division flashcards facedown and stands at the finish line, about 15 feet away from the other two competing players. The competing players stand next to one another at the starting line. (Players may use the lines of tiles or floorboards or a piece of tape to mark the starting and finish lines.)

The leader flips over the top flashcard and acalls out the problem. The first player to answer correctly takes a step toward the leader at the finish line. If a player answers incorrectly, he or she must take a step backward. The other player gets an opportunity to answer the problem; if that player gets it right, then he or she may take a giant step forward.

The first to "X [cross] the great divide," passing the leader at the finish line, wins—but only if he or she can answer one extra multiplication flashcard. He or she is the leader for the next game and chooses two new players.

VARIATION

Play Divide the Great X, using multiplication flashcards throughout the game and one division flashcard for the winner (see step 3).

> For playing-card basics, choosing who goes first, checking answers, and more, see pages 4-5.



Frantic Fractions

OBJECT OF THE GAME: Players race to find flashcards with answers that are the same as or equivalent to the fraction given.

YOU'LL NEED: set of 72 division flashcards (more or less), table or desk, blackboard or erasable board (or piece of paper)

INSTRUCTIONS:

One player is the leader. Counting off by "evens and odds," the rest of the players separate into two even teams, standing front-to-back in two lines about five feet away from a table. The leader shuffles the flashcards, takes half the pile for him or herself, and then spreads the rest faceup on the table.

The leader stands in back of the table facing the lines and holds up the first two flashcards. The answers to these flashcards (smaller answer over bigger answer) make up the first fraction. For instance, if the two flashcard problems are $4 \div 2$ and $12 \div 4$, the fraction is $\frac{2}{3}$.

On the signal (the leader calls out "1-2-3 Go!"), the first player for each team races up to the table and looks for two flashcards with answers that make up the same fraction as the leader's fraction. The first player to find two flashcards with answers that make up the same fraction holds them high in the air and earns 1 point for his or her team. Or the player may find two flashcards that make up an equivalent fraction (e.g., $\frac{4}{5}$ or $\frac{6}{7}$ for $\frac{2}{3}$), and earn 3 points for their team. After one matching or equivalent fraction has been found, the turn ends. (To keep the game moving, the leader or a timer may allow 20 seconds for each turn.)

The leader writes the score on the board for each team. Players set the cards they picked up back on the table.

On each turn, the leader holds up two more flashcards from his or her set for the next two players, who seek to find matching or equivalent fractions, and so on down the line. After all players get a turn, the team with the highest score wins. The fastest player from the winning team gets to be leader of the next game. Mix up players to create two new teams.

FAIR PLAY TIP

Players who get too pushy or messy while looking frantically for their fractions get a 1-point deduction from their team score.

VARIATION

Eliminate the "frantic" from this game so players have more time to search for matching and equivalent fractions. Allow both players one minute to find the flashcards and earn points. Players may also find more than one fraction set during their turn. The team with the highest score wins.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4–5.

Multiplication & Division Flashcard Games © Susan Dillon, Scholastic Teaching Resources

Shapes & Sides

OBJECT OF THE GAME: Players call out the name of the two-dimensional shape with the same number of sides as the division answer.

YOU'LL NEED: set of 72 division flashcards (more or less), blackboard or erasable board

INSTRUCTIONS:

One player goes first. The first player selects another player to time the game (or the teacher/supervisor can time all games). The first player stands facing the rest of the players who are sitting at their desks (or on the floor). The first player shuffles the flashcards and deals one card facedown to each of the other players.

n On the signal (the timer says "1-2-3 GO!"), the first player acalls on any other player to show his or her flashcard. The first player must figure out the answer and then call out the shape with the same number of sides as the answer. For instance, a flashcard with the answer 3 would equal "triangle" (3 sides). The answer 11 would equal "decagon, line segment" and the answer 12 would equal "decagon, angle."

7 The first player continues calling on players until all artheta flashcards have been shown and he or she has answered every equation with the correct "shape" answer. After the last card has been turned, the timer records the first player's time (see Graph It suggestion).

The first player picks another player to take a turn. Play follows steps 1-3.

Every player gets a turn; the fastest (lowest) time wins.

Before the game: Players must be familiar with the names of figures and shapes. In this game, an answer equals the number of lines, line segments, or sides of a figure:

- 1 = line segment or circle
- 2 = angle
- 3 = triangle
- 4 = quadrilateral (other answers include square, rhomboid, parallelogram)
- 5 = pentagon
- 6 = hexagon
- 7 = heptagon
- 8 = octagon
- 9 = nonagon
- 10 = decagon

GRAPH IT

Record each player's time on the board or piece of poster board, writing names on the x-axis and times on the yaxis. Who is the fastest?

VARIATION

If players are just learning their shapes, draw each figure and write the number of corresponding sides on the board. Players can check the board for help.

> For playing-card basics, choosing who goes first, checking answers, and more, see pages 4-5.





King& Queen Bee

OBJECT OF THE GAME: Players attempt to stump other players in a spelling bee by finding a word in a book that corresponds to a flashcard answer.

YOU'LL NEED: set of 72 division flashcards (more or less), 1 fiction or nonfiction chapter book at the players' reading level, clock or timer

INSTRUCTIONS:

Players sit on the floor or at their desks in a large circle. The teacher/supervisor chooses a book.

One player goes first. The first player shuffles the flashcards and deals the whole pile of flashcards so all players (including him or herself) get several facedown flashcards.

The first player turns over his or her top flashcard, reads the problem, and solves it. The player then searches for a word in the book that starts with the first letter of the answer or that has the same number of letters as the answer. For instance, with the flashcard answer 7, the player might choose a word beginning with the letter s, such as "salutation," or choose a word with seven letters, such as "charade."

The first player chooses another player to spell the word without looking. If the chosen player spells the word incorrectly, the first player gets 1 point. If the chosen player spells the word correctly, he or she gets 1 point. The chosen player takes a turn at finding a word in the book to test a new player. The first player to earn 3 points is the King or Queen Bee, and goes first in the next game—with new

(shuffled) flashcards for

choice of book.

each player and his or her

FAIR PLAY TIP

If players are taking too long to find a word, enforce a time limit (such as 30 seconds per turn).

Read-by-Numbers

OBJECT OF THE GAME: Players take turns reading a story aloud by reading only the number of sentences indicated by their flashcard answer.

YOU'LL NEED: set of 36 division or low-answer multiplication flashcards (more or less), multiple copies of a book (one book per player) at the players' reading level

INSTRUCTIONS:

Players sit on the floor or at their desks in a large circle. Every player gets one facedown flashcard.

2 One player goes first. The first player turns over his or her flashcard, reads the problem aloud, and then starts reading from the book.

The player to his or her right is in charge of calculating the answer and stopping the reader after he or she has read an equal number of sentences. For instance, if the flashcard equation is 8 x 3, that player would stop the first reader after 24 sentences.

The reader chooses another player to go next, repeating steps 2 and 3. There is no winner in this game and it can last until the story or chapter is finished.

VARIATION

For struggling readers, let the flashcard answer determine how many words rather than sentences are to be read. To avoid stilted reading, the reader can count the words out ahead of time and then read through that section. Players should be encouraged to finish their last sentence if they stopped in the middle of a line.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4–5.

Xingo

OBJECT OF THE GAME: In this variation of *Bingo*, players solve multiplication problems to win spots on an answer grid.

YOU'LL NEED: Xingo board (a grid of nine boxes in three rows of three on an $8\frac{1}{2}$ - by-11-inch paper—photocopy and distribute one to each

player per game), multiplication flashcards—one for each equation in one (or more) times tables



The flashcards on pages 25-48 contain a full set

of each times table (1 through 9).

INSTRUCTIONS:

One player (or the teacher/supervisor) is the leader. The leader chooses a times table (1-9) for that game.

7) The leader calls out the multiples for the chosen fimes table one at a time and the players fill in their grids with the multiples. For example, if the leader chooses the 7 times table, the players write one multiple of 7 (7, 14, 21, 28, 35, 42, 49, 56, 63) in each of the nine boxes, mixing the numbers all over the board.

The leader selects and shuffles the chosen times table flashcards, and then puts them in a facedown pile. He or she turns over the top cards one at a time and calls out the problems. Players mark off the answers on their boards. For instance, if a flashcard reads 7 x 5, players cross out 35 on their boards.

The first player to make a large "X" of crossed-out answers on his or her board—the corners plus the middle space—and call out "Xingo!" (Zin-Go!) wins. He or she is leader for the next game. (The leader should check the winner's answers.)

VARIATION

For an extra challenge, play with three different times tables and use the regular Bingo format (a 5×5 grid). Leave out two random answers when filling in the Xingo grids.

Flashing Light





OBJECT OF THE GAME: As in the old favorite *Red* Light Green Light, the leader stops approaching players by turning around—but in this version, he or she must solve division problems first.

YOU'LL NEED: set of 72 division flashcards (more or less)

INSTRUCTIONS:

One player leads the game. The leader holds a pile of flashcards facedown and turns his or her back to the rest of the players, who are standing on the other side of the room facing the leader.

7) The leader flips over the first flashcard and reads the problem out loud. The players begin walking (not running!) forward. As soon as the leader calls out the answer and spins around, the players must "freeze."

If any player moves after the answer is given, or before the problem is read, that player must go back to where he or she started and freeze for the next flashcard

The leader continues to flip flashcards, answer problems, and turn around to catch players moving. The first player to tag the leader is the leader for the new game, and the former leader becomes a player in the new game.

FAIR PLAY TIP

The teacher/supervisor or a designated player might want to monitor and make sure all players remain frozen until it's time to move. If players walk too fast or leaders answer too slowly, have approaching players hop or take baby steps.

For playing-card basics, choosing who goes first, checking answers, and more, see pages 4-5.



Silent Flashball

OBJECT OF THE GAME: In this variation of the popular classroom game, players toss the ball silently around the classroom the number of times indicated by the flashcard answer.

YOU'LL NEED: set of 72 division or low-answer multiplication flashcards (more or less)—see Variation for higher-answer multiplication problems, a soft ball for safe indoor catching, a blackboard or erasable board, or scrap paper and pencil

INSTRUCTIONS:

Players spread out in a large circle. One player leads first. The leader stands outside the circle holding the ball and the flashcards facedown. Everyone except the leader must be silent throughout the game.

The leader hands the ball to any player to start, turns over the first flashcard, and announces the equation. Players must toss the ball to other players in the circle the number of times indicated by the flashcard answer. For example, if the flashcard reads $9 \div 1$, the players would pass the ball nine times.

When the players have thrown the ball the number of times indicated by the flashcard answer, the last player to catch the ball holds it up in the air.

Any player is out if he or she a) drops the ball, b) throws the ball so it cannot be caught any player, c) throws the ball after the number of times required without holding it in the air, or d) holds the ball in the air too early. Players are also out if they make any noise. If play is stopped for any reason, the leader (or teacher/supervisor) hands the ball to a player and announces the number count to resume the game.

The last player remaining wins, and is leader for the next game.

FAIR PLAY TIP

Make sure players know that they must remain silent once they are out of the game; remaining quiet will earn them a seat in the next game.

VARIATION

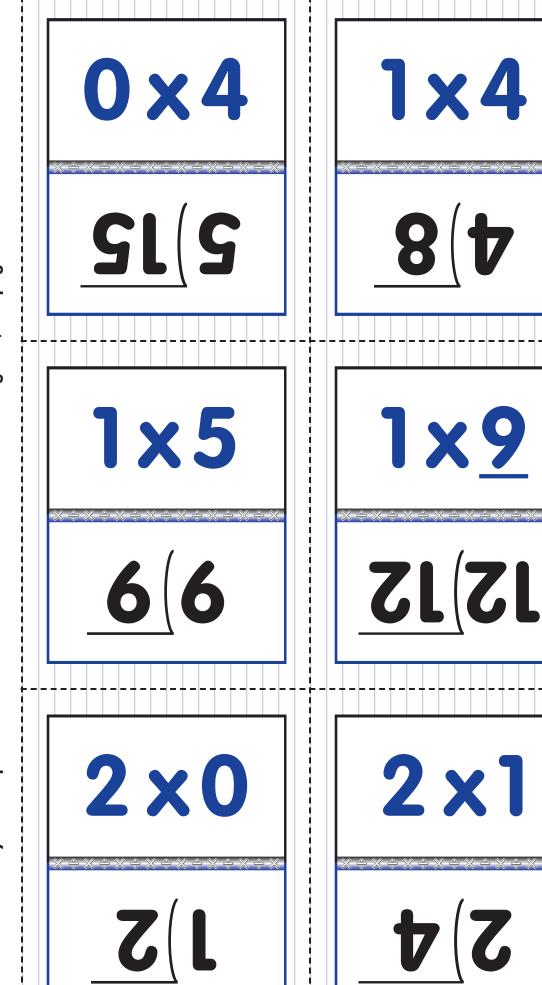
To practice multiplication problems with large answers, play Hot Potato Flashball. Players sit close together in a circle and pass the ball quickly around to the right rather than throwing the ball. Steps 3 and 4 are the same. Fewer players will drop the ball or toss wildly, but all players must pay close attention to the number of times the ball has been passed.

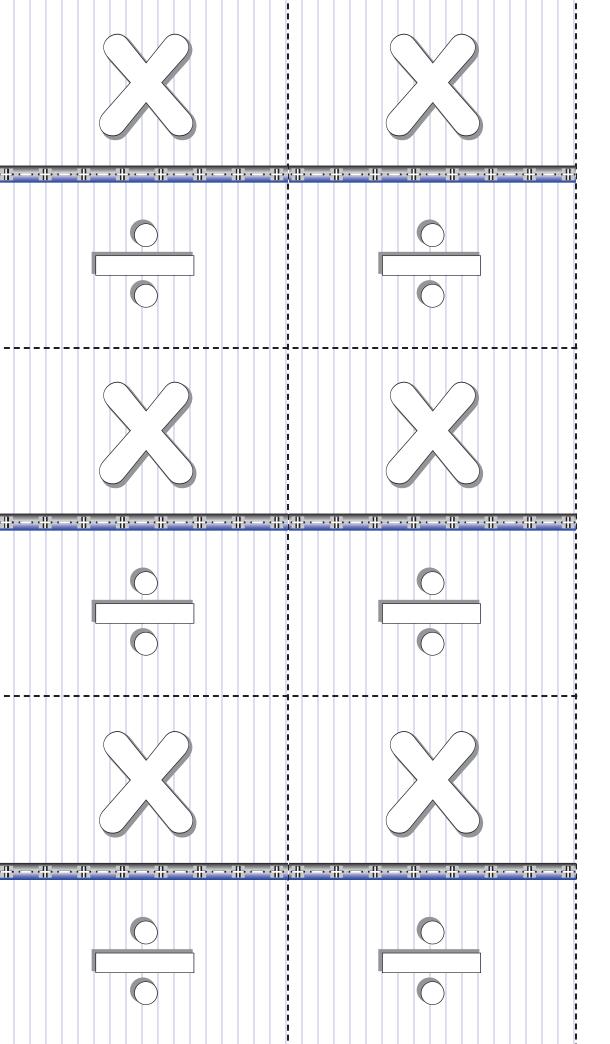
For playing-card basics, choosing who goes first, checking answers, and more, see pages 4–5.

-APART MULTIPLICATION/DIVISION FLASHCARDS

Here's how to create your set of 72 flashcards:

- I. Print the flashcards on pages 25-48. Tape or glue front and back sides together to make 2-sided cards.
- 2. Laminate whole flashcard pages for durability. Cut apart each individual flashcard.
- 3. To make extra flashcards, photocopy the flashcard template (page 6) and fill in the cards with needed equations. Laminate for durability, then cut apart.
 - 4. For a key to multiplication and division facts with answers 0 through 12, see page 49.

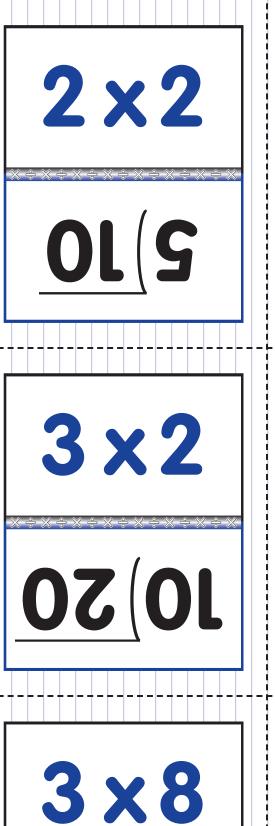




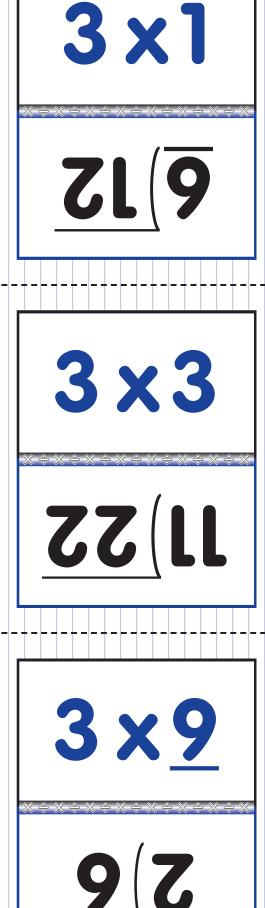
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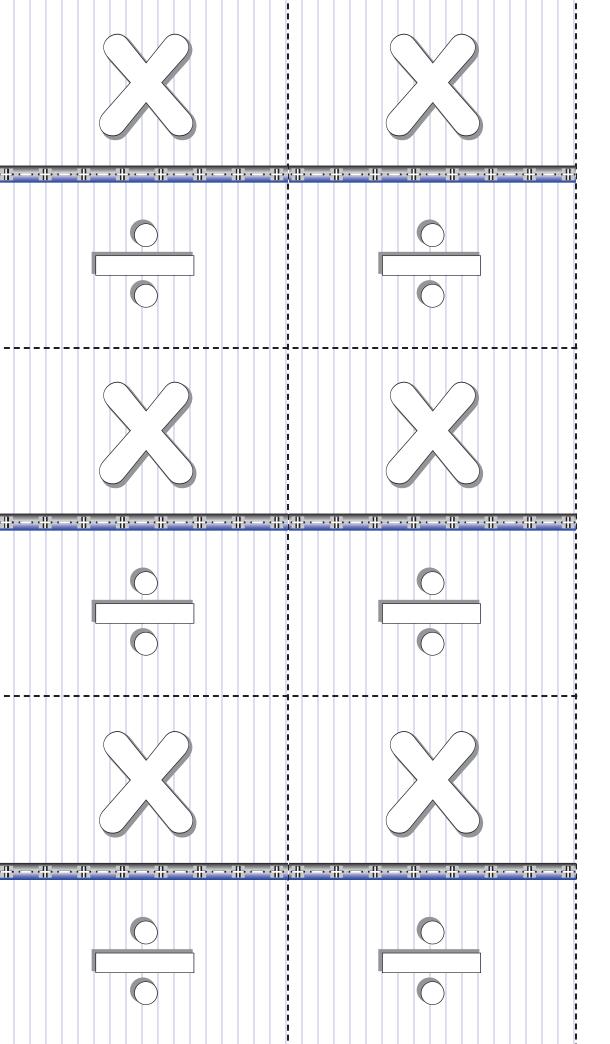
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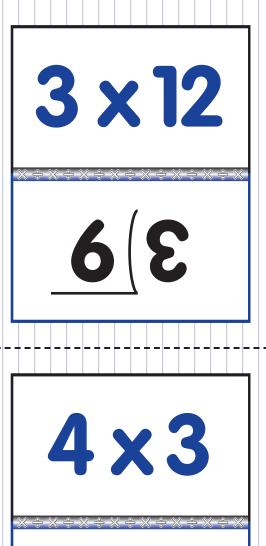


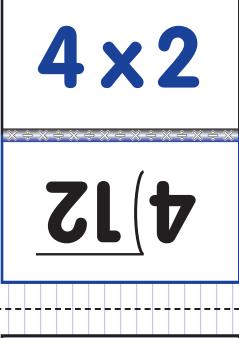


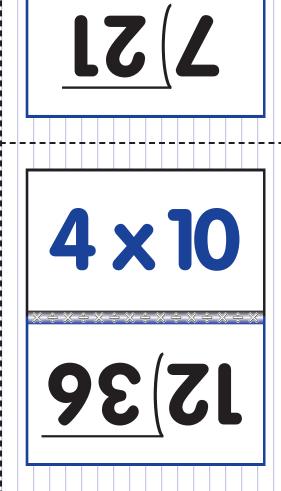
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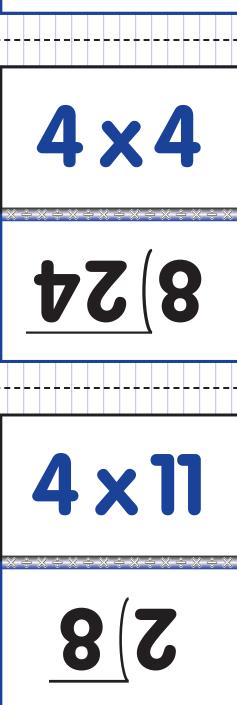
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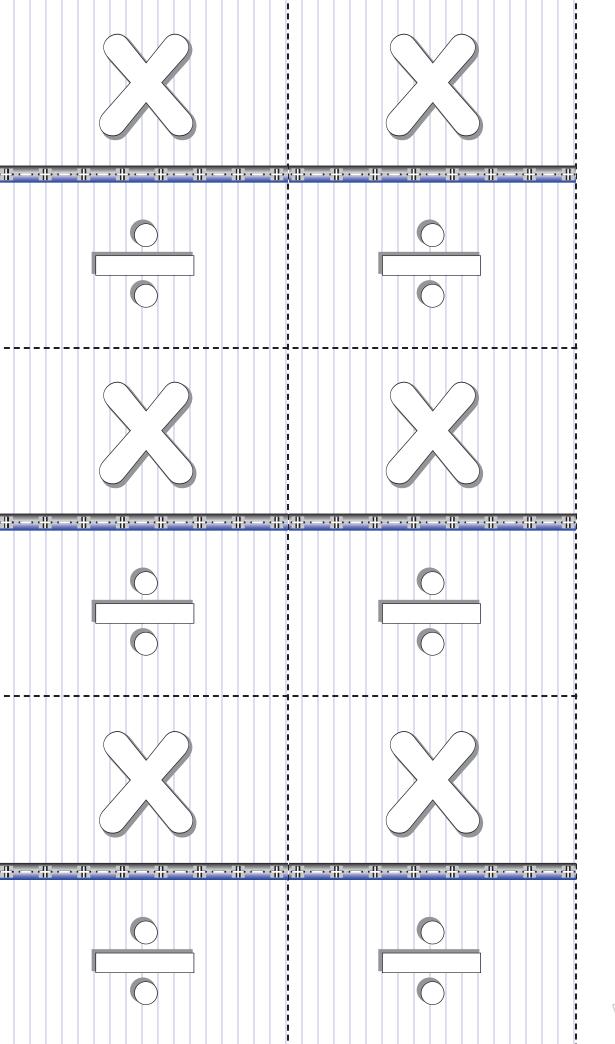








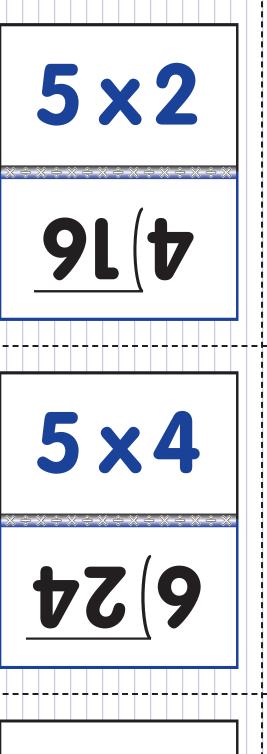
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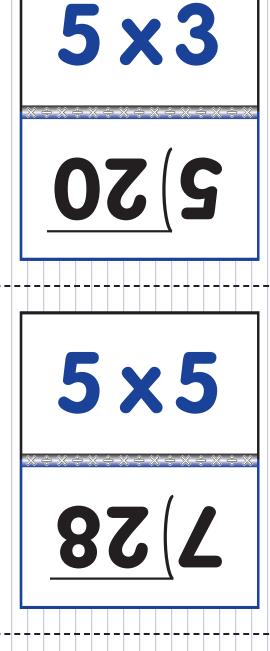


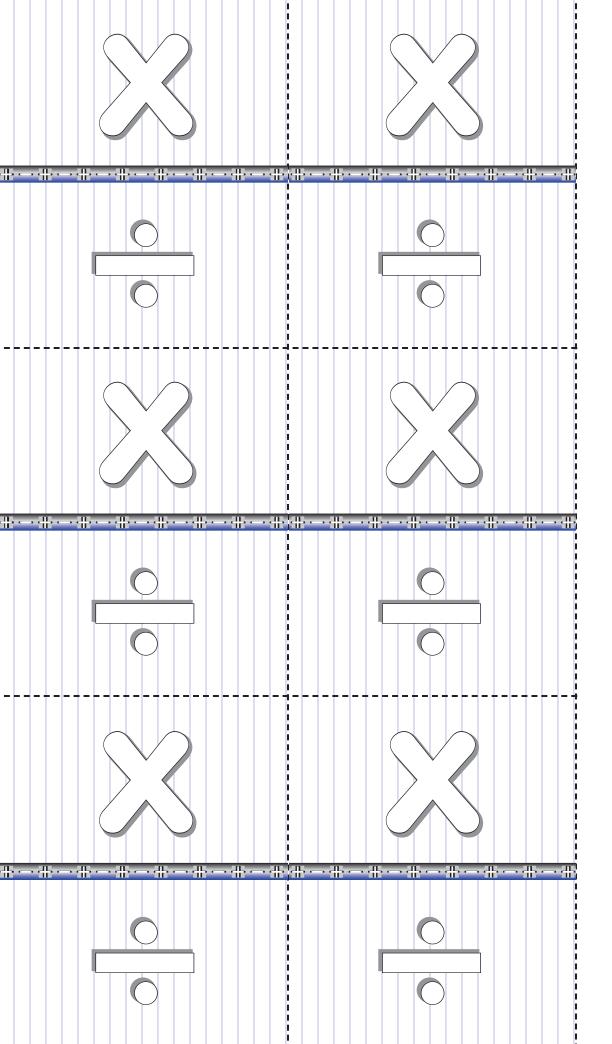
CUT-APART MULTIPLICATION/DIVISION FLASHCARDS

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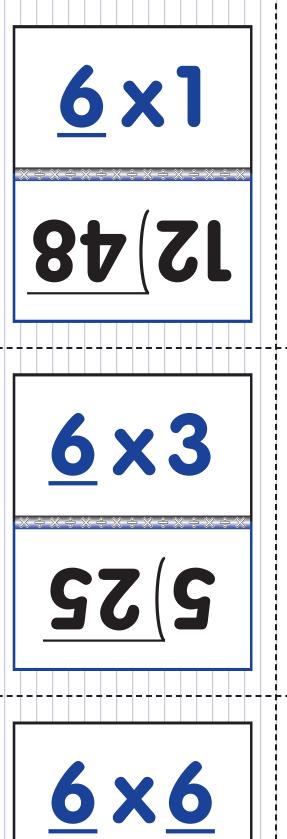




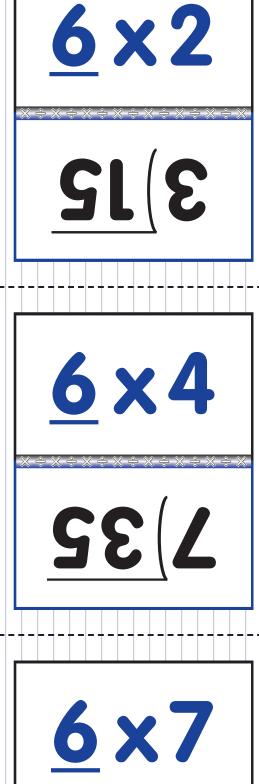
CUT-APART MULTIPLICATION/DIVISION FLASHCARDS

Here's how to create your set of 72 flashcards:

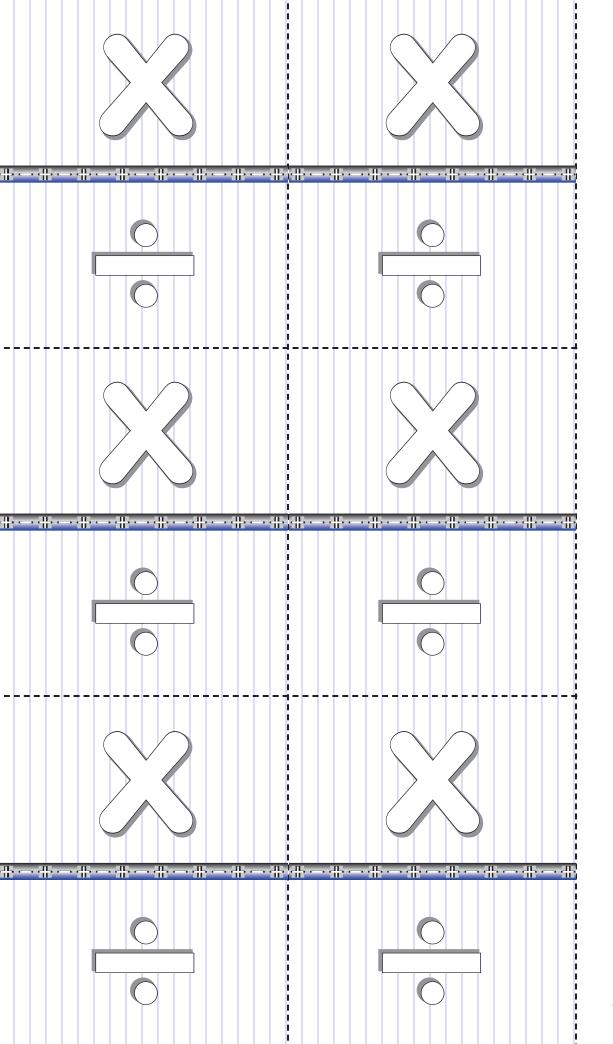
- 1. Print the flashcards on pages 25-48. Tape or glue front and back sides together to make 2-sided cards.
- 2. Laminate whole flashcard pages for durability. Cut apart each individual flashcard
- 3. To make extra flashcards, photocopy the flashcard template (page 6) and fill in the cards with needed equations. Laminate for durability, then cut apart.
- 4. For a key to multiplication and division facts with answers 0 through 12, see page 49.



57



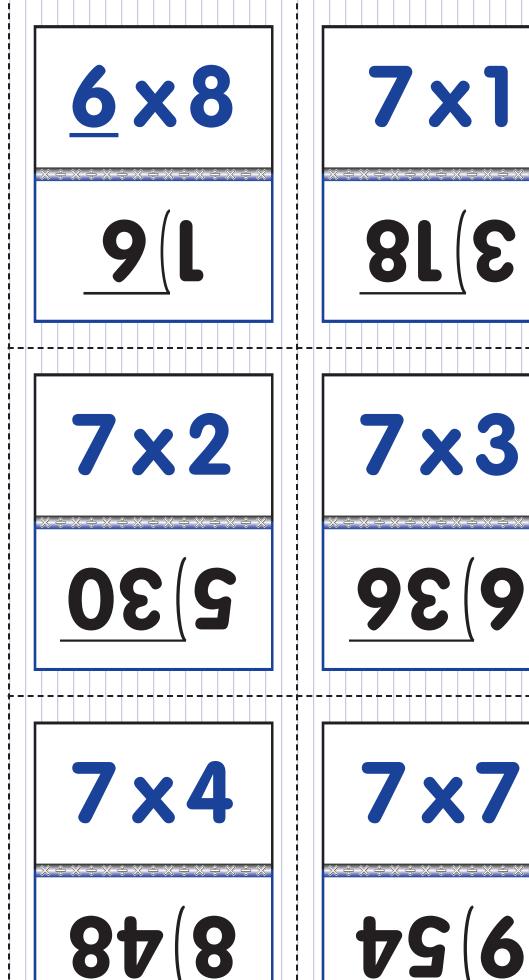
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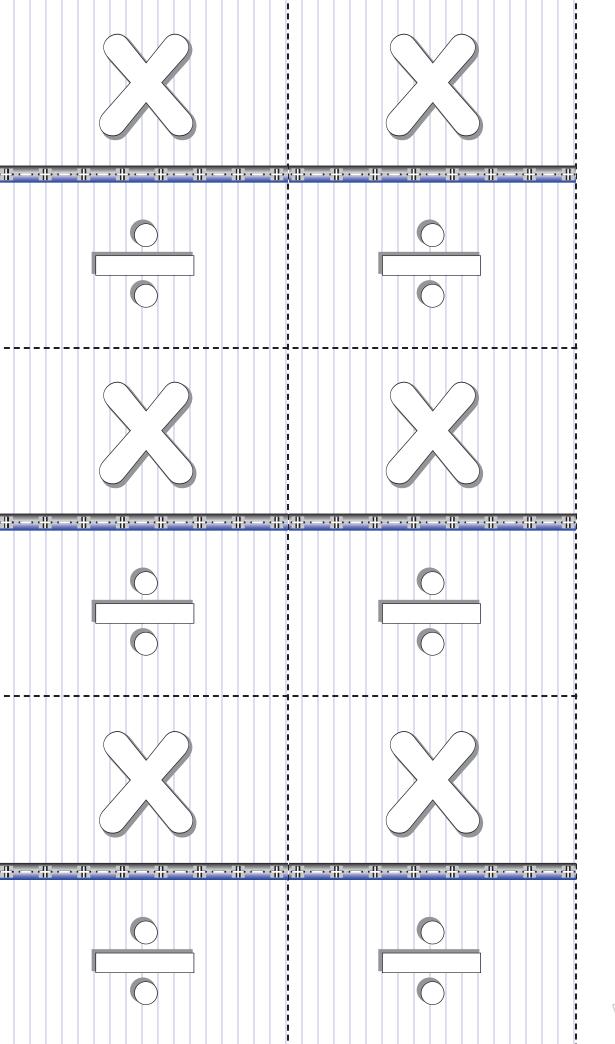


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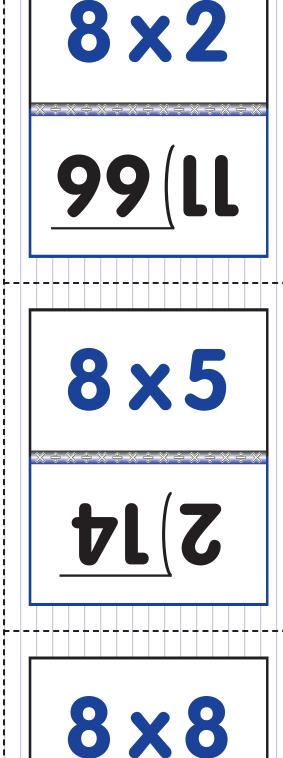


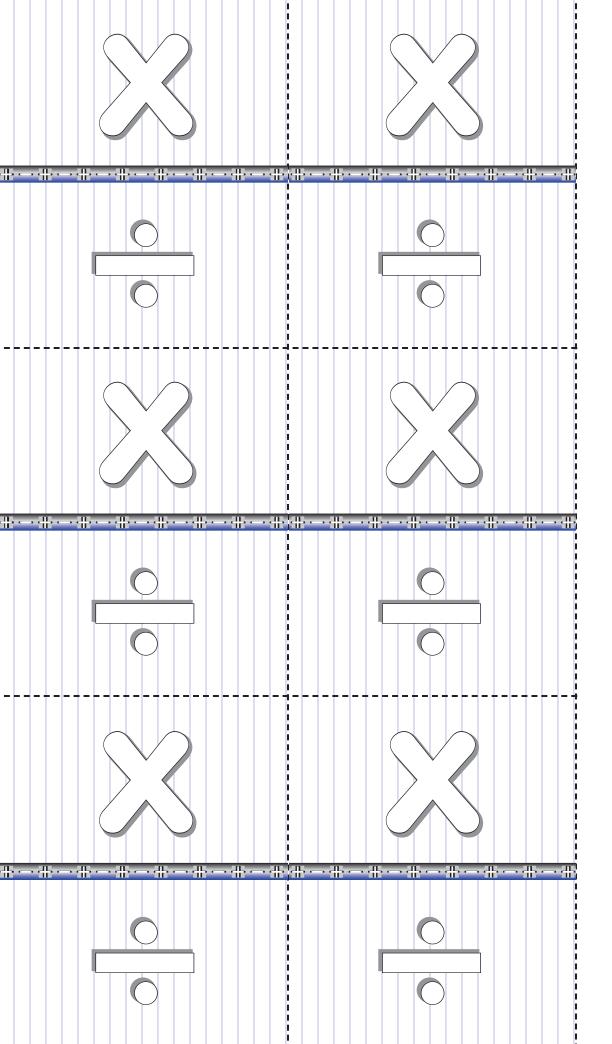
T-APART MULTIPLICATION/DIVISION FLASHCARDS

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8 x 1
09(OL
8 x 4
72131
8 x 7
77 (9

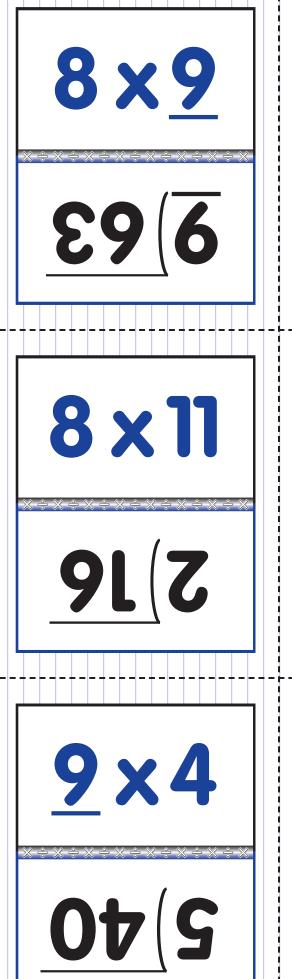




IT-APART MULTIPLICATION/DIVISION FLASHCARDS

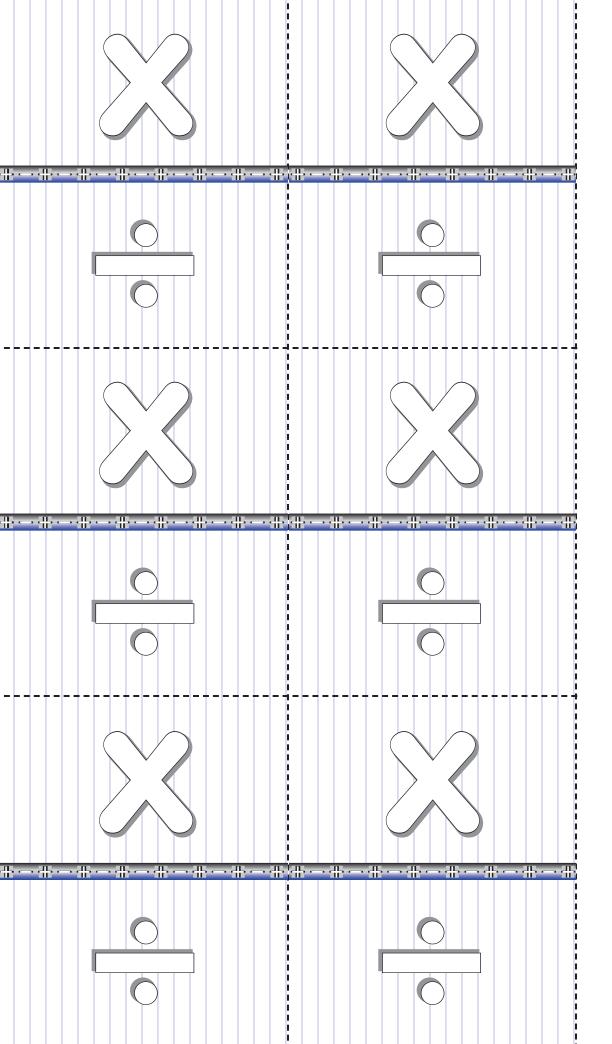
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9 x 5

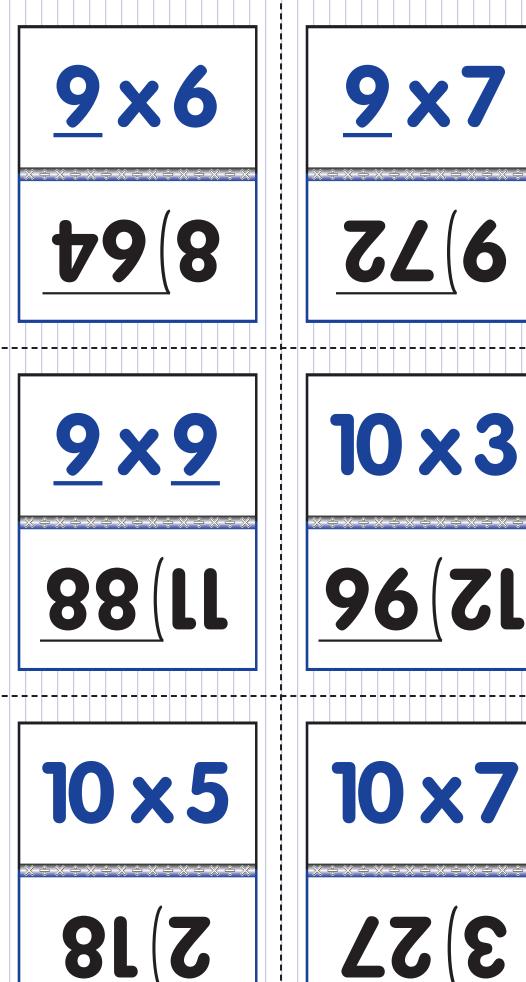
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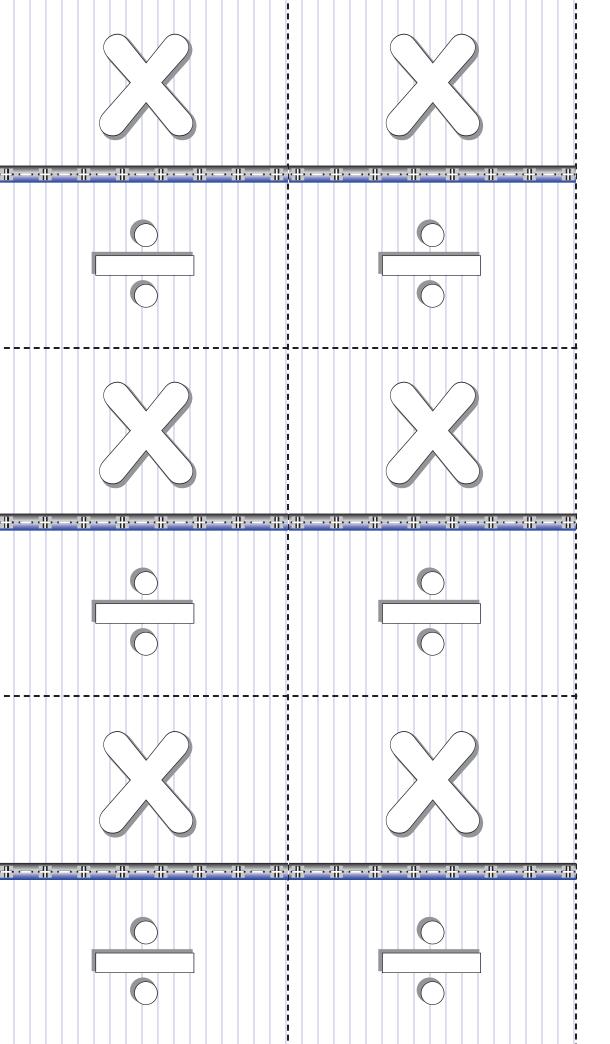


CATION/DIVISION FLASHCARDS CUT-APART MULTIPLI

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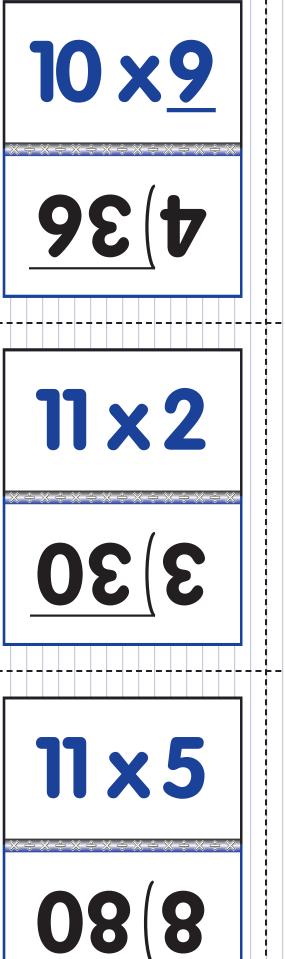




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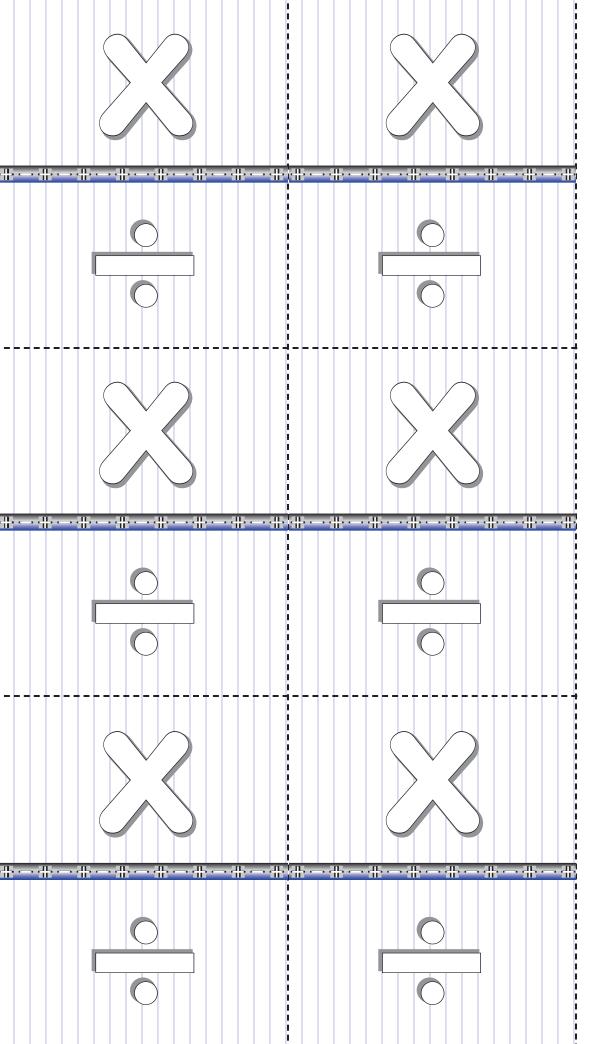


F8 <u>9</u> 1x3 02/2

11 x 6

066

10 x 10



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11 x 10

x÷x÷x÷x÷x÷x÷

OLL(LL

12 x 2

333

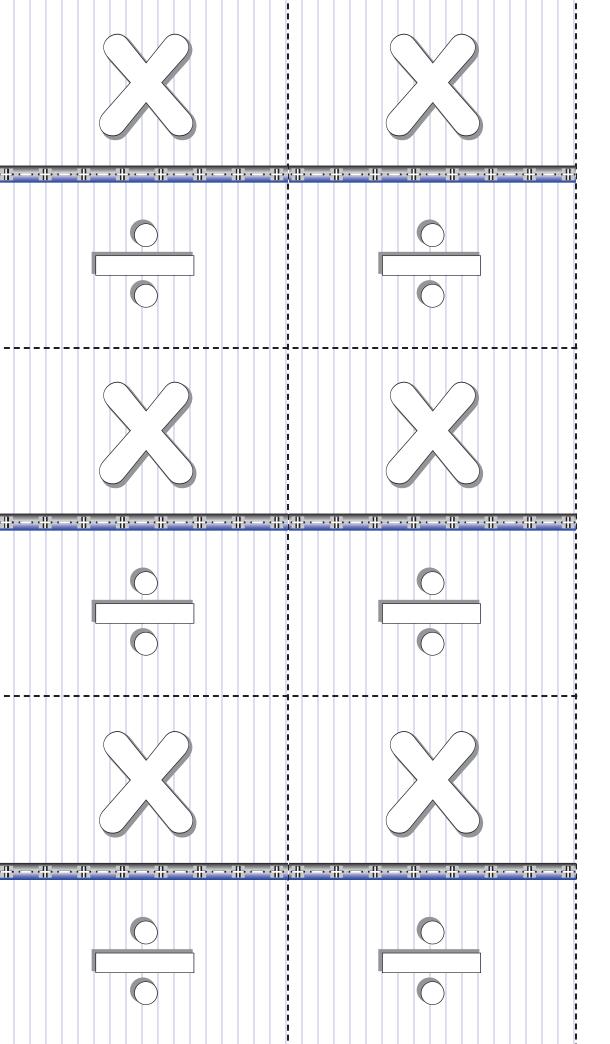
12 x 6

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11×11 07L(7L

12 x 5

<u>SS</u>|S

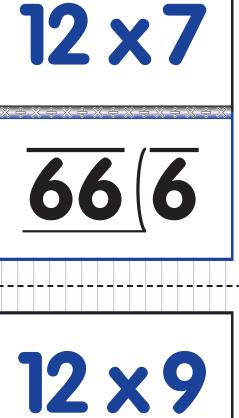


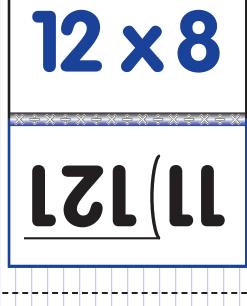
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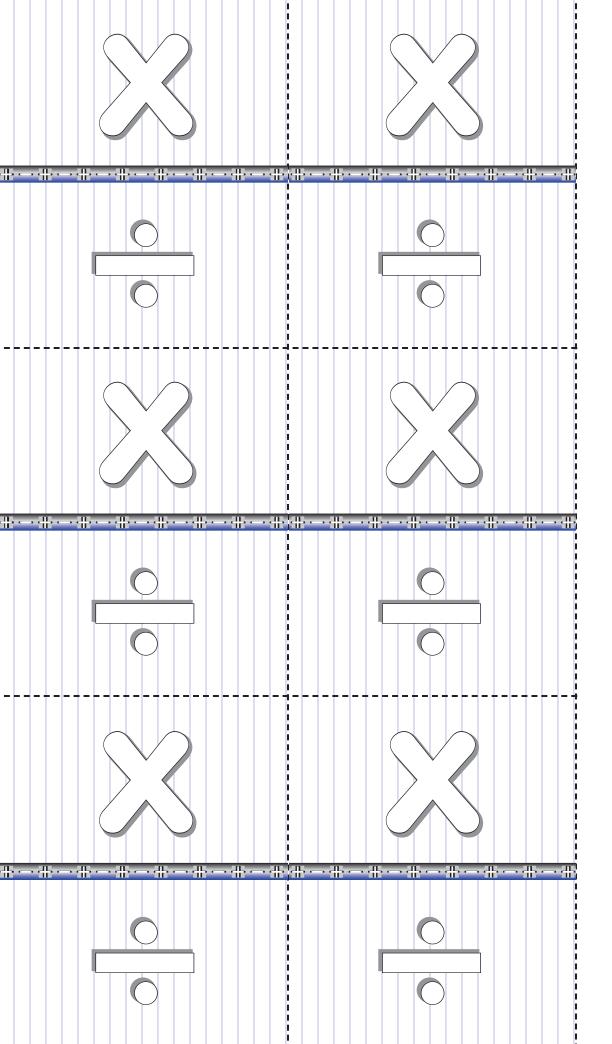
 2×10

80L 6 2 x 12 12/144

11)135

12 x 11

09/5



Facts Table Answer Key

Here are multiplication and division facts with answers 0–12. The highlighted equations give the answers to the punch-out flashcard set on pages 25–48.

	dillotty of 5 Te	me ponent	our masheara	ser on pages	25-40.				
MULTIPLICATION FACTS									
	$0 \times 0 = 0$ $0 \times 9 = 0$	$0 \times 1 = 0$ $0 \times 10 = 0$	$0 \times 2 = 0$ $0 \times 11 = 0$	$0 \times 3 = 0$ $0 \times 12 = 0$	$0 \times 4 = 0$	$0 \times 5 = 0$	$0 \times 6 = 0$	0 * 7 = 0	0 × 8 = 0
		1 × 1 = 1 1 × 10 = 10	$1 \times 2 = 2$ $1 \times 11 = 11$	$1 \times 3 = 3$ $1 \times 12 = 12$	$1 \times 4 = 4$	1 x 5 = 5	1 x 6 = 6	1 x7 = 7	$1 \times 8 = 8$
	2 x 0 = 0 2 x 9 = 18	2 x 1 = 2 2 x 10 = 20	2 x 2 = 4 2 x 11 = 22	$2 \times 3 = 6$ $2 \times 12 = 24$	$2 \times 4 = 8$	2 × 5 = 10	2 x 6 = 12	2 x 7 = 14	$2 \times 8 = 16$
	$3 \times 0 = 3$ 3 x 8 = 24	3 x 1 = 3 3 x 9 = 27	3 x 2 = 6 3 x 10 = 30	3 x 3 = 9 3 x 11 = 33	$3 \times 4 = 12$ 3 x 12 = 36	$3 \times 5 = 75$	3 x 6 = 18	$3 \times 7 = 21$	
	$4 \times 0 = 4$ $4 \times 9 = 36$	$4 \times 1 = 4$ $4 \times 10 = 40$	4 x 2 = 8 4 x 11 = 44	4 x 3 = 12 4 x 12 = 48	4 x 4 = 16	4 x 5 = 20	4 × 6 = 24	$4 \times 7 = 28$	4 x 8 = 32
	$5 \times 0 = 0$ $5 \times 9 = 45$	$5 \times 1 = 5$ $5 \times 10 = 50$	5 x 2 = 10 5 x 11 = 55	5 x 3 = 15 5 x 12 = 60	5 x 4 = 20	5 x 5 = 25	5 x 6 = 30	5 x 7 = 35	5 x 8 = 40
	$6 \times 0 = 0$ 6 x 8 = 48	6 x 1 = 6 6 x 9 = 54	6 x 2 = 12 6 x 10 = 60	6 x 3 = 18 6 x 11 = 66	6 x 4 = 24 6 x 12 = 72	6 x 5 = 30	6 x 6 = 36	6 x 7 = 42	
	$7 \times 0 = 0$ $7 \times 9 = 63$	7 x 1 = 7 7 x 10 = 70	7 x 2 = 14 7 x 11 = 77	7 x 3 = 21 7 x 12 = 84	7 x 4 = 28	7 x 5 = 35	7 × 6 = 42	7 x 7 = 49	$7 \times 8 = 56$
	$8 \times 0 = 0$ 8 x 8 = 64	8 x 1 = 8 8 x 9 = 72	8 x 2 = 16 8 x 10 = 80	8 × 3 = 24 8 × 11 = 88	8 x 4 = 32 8 x 12 = 96	8 x 5 = 40	8 x 6 = 48	8 x 7 = 56	
	$9 \times 0 = 0$ 9 x 9 = 81	$9 \times 1 = 9$ $9 \times 10 = 90$	9 x 2 = 18 9 x 11 = 99	9 x 3 = 27 9 x 12 = 108	9 x 4 = 36	9 x 5 = 45	9 x 6 = 54	9 x 7 = 63	9 × 8 = 72
		$10 \times 1 = 10$ $10 \times 9 = 90$	10 x 2 = 20 10 x 10 = 100	10 x 3 = 30 10 x 11 = 110	$10 \times 4 = 40$ $10 \times 12 = 120$	10 x 5 = 50	10 × 6 = 60	10 x 7 = 70	
	$11 \times 0 = 0$ $11 \times 8 = 88$	11 x 1 = 11 11 x 9 = 99	11 x 2 = 22 11 x 10 = 110	11 x 3 = 33 11 x 11 = 121	$11 \times 4 = 44$ $11 \times 12 = 132$	11 x 5 = 55	11 x 6 = 66	11 × 7 = 77	
	$12 \times 0 = 0$ 12 x 8 = 96	$12 \times 1 = 12$ $12 \times 9 = 108$	12 x 2 = 24 12 x 10 = 120	12 x 3 = 36 12 x 11 = 132	12 x 4 = 48 12 x 12 = 144	12 x 5 = 60	12 x 6 = 72	12 x 7 = 84	
DIVISION FACTS									
	$1 \div 1 = 1$ 9 ÷ 9 = 1	$2 \div 2 = 1$ $10 \div 10 = 1$	$3 \div 3 = 1$ $11 \div 11 = 1$	$4 \div 4 = 1$ 12 ÷ 12 = 1	.5 ÷ 5 = 1	$\delta \div \delta = 1$	$7 \pm 7 = 1$	8 + 8 = 1	
		4 ÷ 2 = 2 20 ÷ 10 = 2	$6 \div 3 = 2$ 22 ÷ 11 = 2	8 ÷ 4 = 2 24 ÷ 12 = 2	10 ÷ 5 = 2	12 ÷ 6 = 2	$14 \div 7 = 2$	16 ÷ 8 = 2	
	$3 \div 1 = 3$ $27 \div 9 = 3$	6 ÷ 2 = 3 30 ÷ 10 = 3	9 ÷ 3 = 3 33 + 11 = 3	12 ÷ 4 = 3 36 ÷ 12 = 3	15 ÷ 5 = 3	18 ÷ 6 = 3	21 ÷ 7 = 3	24 ÷ 8 = 3	
		40 ÷ 10 = 4	44 ÷ 11 = 4	$16 \div 4 = 4$ $48 \div 12 = 4$	20 ÷ 5 = 4	24 ÷ 6 = 4	28 ÷ 7 = 4	32 + 8 = 4	
	45 ÷ 9 = 5	$10 \div 2 = 5$ 50 ÷ 10 = 5	55 ÷ 11 = 5	60 ÷ 12 = 5	25 ÷ 5 = 5		35 ÷ 7 = 5		
	$54 \div 9 = 6$	12 ÷ 2 = 6 60 ÷ 10 = 6	18 ÷ 3 = 6 66 ÷ 11 = 6	72 ÷ 12 = 6	30 ÷ 5 = 6		42 ÷ 7 = 6		
	63 ÷ 9 = 7		$21 \div 3 = 7$ $77 \div 11 = 7$		35 ÷ 5 = 7	42 ÷ 6 = 7		56 ÷ 8 = 7	
	72 ÷ 9 = 8	16 ÷ 2 = 8 80 ÷ 10 = 8		$32 \div 4 = 8$ $96 \div 12 = 8$	40 ÷ 5 = 8	48 ÷ 6 = 8		64 ÷ 8 = 8	
	81 ÷ 9 = 9	18 ÷ 2 = 9 90 ÷ 10 = 9		108 ÷ 12 ⊨ 9	45 ÷ 5 = 9	54 ÷ 6 = 9			
		20 ÷ 2 = 10 100 ÷ 10 = 10		120 ÷ 12 = 10	50 ÷ 5 = 10	60 ÷ 6 = 10			
	99 ÷ 9 = 11	22 ÷ 2 = 11 110 ÷ 10 = 11	33 ÷ 3 = 11 121 ÷ 11 = 11						
		$24 \div 2 = 12$ $120 \div 10 = 12$		$48 \div 4 = 12$ 144 ÷ 12 = 12	60 ÷ 5 = 12	$72 \div 6 = 12$	$84 \div 7 = 12$	96 ÷ 8 = 12	