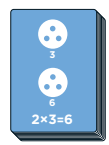


MULTIPLICATION BY HEART

See video instructions and more ways to play at multiplicationbyheart.com

In the box:



Deck 1
25 cards



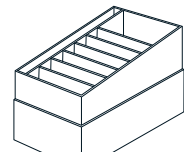
Deck 2
100 cards



Deck 3
37 cards



Guided
practice spinner



Pockets for
mastery tracking

INTRODUCTION

MASTERING MULTIPLICATION FACTS ...

Multiplication by Heart was designed to help kids master their multiplication facts in a meaningful, connected way.

WITH ONLY FIVE MINUTES OF PRACTICE A DAY ...

Using the flash cards for five minutes of practice a day will help your child understand multiplication and achieve true fluency.

WHILE HAVING FUN ...

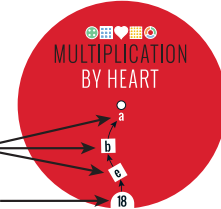
There are also minigames and explorations, so you can play with mathematical concepts, have fun, and make deeper connections.

LET'S DIVE IN!

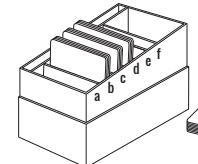
FIVE RULES TO FOLLOW WHEN USING YOUR VISUAL FLASH CARDS

Rule 1

The spinner tell you which pockets to practice each day.



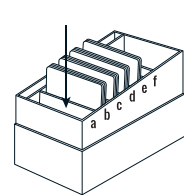
When you practice a pocket, take the cards from that pocket, shuffle them, and place them in a pile.



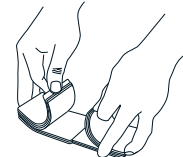
Practicing pocket e

Rule 2

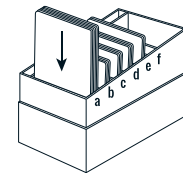
No cards in pocket a?



Take the next 10 cards from the deck, shuffle them ...



Then place them in pocket a.



Rule 3

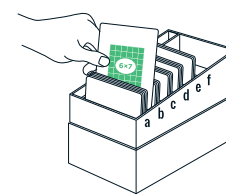
Draw a card.



Know the answer?

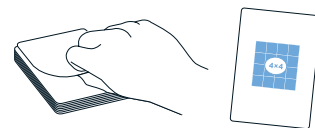


Move it to the next pocket.



Rule 4

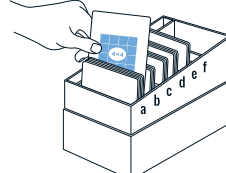
Draw a card.



Don't know the answer?

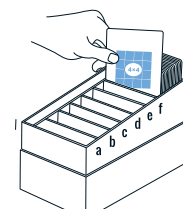


Move it back to pocket a.



Rule 5

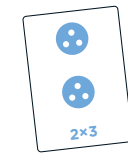
When all the cards are in the "mastered" pocket, you're done!



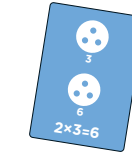
"mastered" pocket

QUICK START GUIDE - What to do the first 3 days

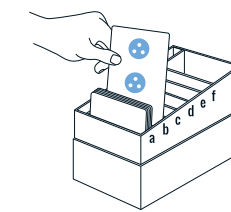
Day 1 - Getting started



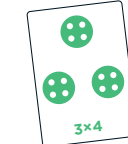
Unseal Deck 1 and shuffle the cards. Turn up the first card. It will look something like this.



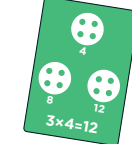
2 x 3 means "2 groups of 3." Do you know how many 2 groups of 3 is? If you do, say "2 groups of 3 is 6." Then turn the card over.



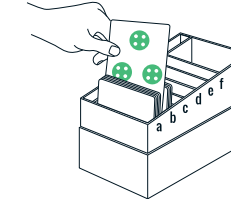
We got it right! So the card moves up to pocket b.



Go on to the next card. I'm not sure about this one. Maybe... "3 groups of 4 is 10?"



Now turn the card over. Oops: 3 groups of 4 is actually 12.

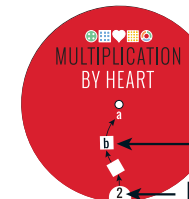


We got it wrong! So we put the card in pocket a.

Keep going until you've gotten through all the cards in the first deck. They should all now be in pocket a or pocket b.

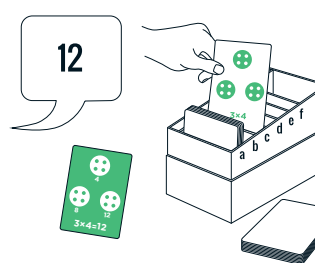
That's it for today!

Day 2 - Using the spinner and pockets

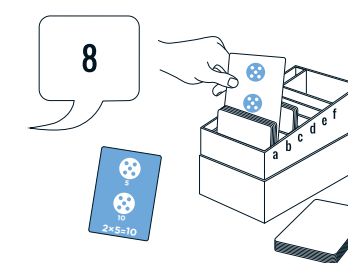


Pocket b

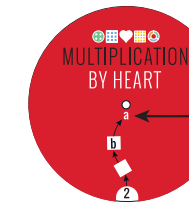
Today, let's get the spinner going. Turn the spinner to Day 2. It says start with pocket b.



Take the cards from pocket b, shuffle them, and put them in a pile. Every time you get one right, put it in pocket c.



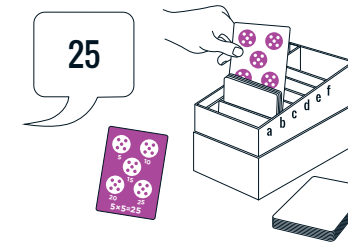
When you miss one, or can't remember it, place it in pocket a.



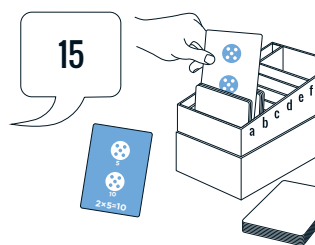
Pocket a

When you're done with pocket b, the spinner says do pocket a next.

That's the end of Day 2!

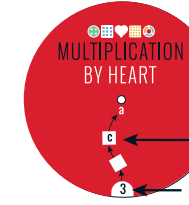


Take the cards from pocket a, shuffle them, and put them in a pile. Every time you get one right, put it in pocket b.



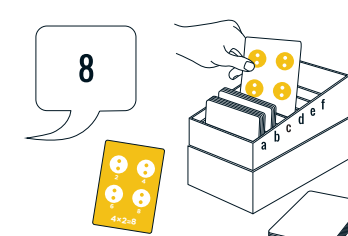
When you miss one, or can't remember it, place it in pocket a.

Day 3 - Adding new cards

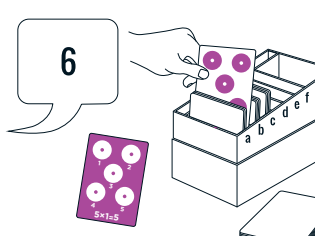


Pocket c

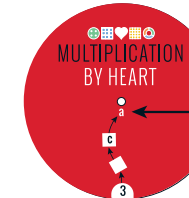
Move the spinner to Day 3. It says to do pocket c first. So start there.



Take the cards from pocket c, shuffle them, and put them in a pile. Every time you get one right, put it in pocket d.

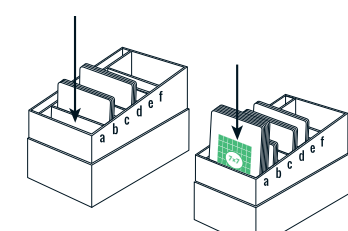


When you miss one, or can't remember it, place it in pocket a.

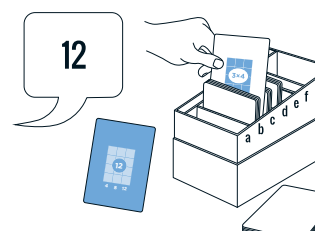


Pocket a

When you're done with pocket c, the spinner says do pocket a next.



If pocket a is empty, open Deck 2 and add 10 cards to pocket a.



Take the cards from pocket a, shuffle them, and put them in a pile. Every time you get one right, put it in pocket b.



When you miss one, or can't remember it, place it in pocket a.

Day 4 and forward

Now you know all the rules! The spinner tells you what to do. When you get cards right, they move forward a pocket.

When you get them wrong, they move to pocket a. If pocket a is ever empty, fill it with the next 10 cards in the deck.

When all the cards have been “mastered” ... more challenges for you below!

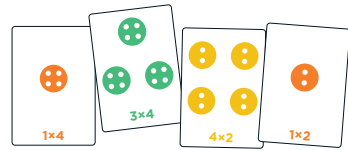
MINIGAMES & EXPLORATIONS

See video instructions and more ways to play at multiplicationbyheart.com

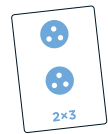
MINIGAME “Triptiks”

Every time you master a deck, you unlock a new minigame or exploration designed especially for that deck.

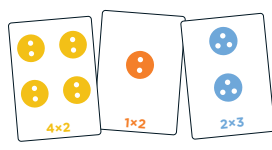
Deck 1 mastered → Unlock Minigame “Triptiks”



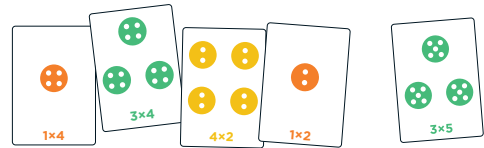
Shuffle Deck 1.
Lay out 4 cards facing up,
and put the rest of the cards
in a draw pile.



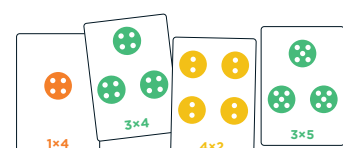
Draw a card.
If your card is the sum or
difference of two of the four cards,
move all three cards
to the discard pile.



8 - 2 = 6
Move these three cards
to the discard pile.



If it's not the sum or difference,
place it face up.
Keep drawing until you
run out of cards in the discard pile,
or until ten cards are facing up.
When ten cards are facing up, you lose.



If you get through all the cards
in the deck, you win!
Your score is the total
number of cards facing up.
The lower your score, the better.

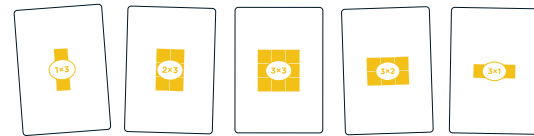
Score 4

EXPLORATION “Strange Sums”

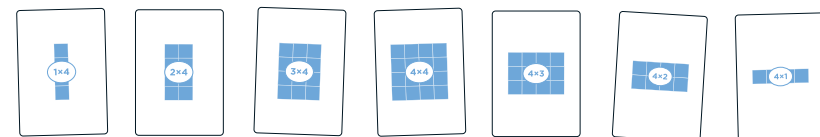
Deck 2 mastered → Unlock Exploration “Strange Sums”

Find the 5 cards that have 3 as their highest number. They are 1×3 , 2×3 , 3×3 , 3×2 , and 3×1 . (They are all the same color.)

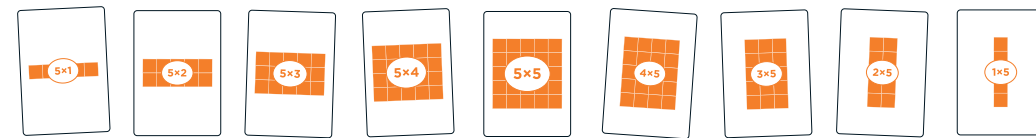
Add them all up and you get 27. That's the same as $3 \times 3 \times 3$.



What happens if you add up the 7 cards that have 4 as their highest number? Do you get $4 \times 4 \times 4$?



What if you add up the 9 cards that have 5 as their highest number? Keep going... what do you notice? What's going on?



Arrange all 100 cards into a multiplication table, as shown on the next page.

MINIGAME “Backward”

Deck 3 Mastered → Unlock Minigame “Backward”

Place Deck 3 in pocket a. Pick a card and look at the product on the back, not the factors.

Can you name all the factor pairs on the front of the card?

If you can, move the card up to pocket b.
If not, leave the card in pocket a.

You win if you can master Deck 3 in backward order.



$4 \times 6 = 24$
 $3 \times 8 = 24$
 $2 \times 12 = 24$

“Strange Sums” continued

Where are the groupings of cards you just explored? What is the sum of all 100 cards?

1x1	1x2	1x3	1x4	1x5	1x6	1x7	1x8	1x9	1x10
2x1	2x2	2x3	2x4	2x5	2x6	2x7	2x8	2x9	2x10
3x1	3x2	3x3	3x4	3x5	3x6	3x7	3x8	3x9	3x10
4x1	4x2	4x3	4x4	4x5	4x6	4x7	4x8	4x9	4x10
5x1	5x2	5x3	5x4	5x5	5x6	5x7	5x8	5x9	5x10
6x1	6x2	6x3	6x4	6x5	6x6	6x7	6x8	6x9	6x10
7x1	7x2	7x3	7x4	7x5	7x6	7x7	7x8	7x9	7x10
8x1	8x2	8x3	8x4	8x5	8x6	8x7	8x8	8x9	8x10
9x1	9x2	9x3	9x4	9x5	9x6	9x7	9x8	9x9	9x10
10x1	10x2	10x3	10x4	10x5	10x6	10x7	10x8	10x9	10x10

About Math for Love

At Math for Love, we believe mathematics begins by playing... with games, puzzles, patterns, shapes, numbers, structures, rules, and ideas.

Visit our website at mathforlove.com to learn how playful and beautiful mathematics can be.

Other Math for Love Games

Prime Climb is a perfect game for ages 10+ (or 8+ with adult guidance) to explore mathematical structure in multiplication, division, and prime numbers in a fast-paced, dynamic game of strategy and luck.

primeclimbgame.com



Tiny Polka Dot is the playful way for children ages 3 - 8 and up to fall in love with numbers. With eye-catching, colorful cards and 16 easy-to-learn games, Tiny Polka Dot is built to grow with your child, teaching critical skills in counting, arithmetic, and logic along the way.

tinypolkadot.com



See video instructions and more ways to play at multiplicationbyheart.com



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