

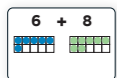
ADDITION BY HEART

See video instructions and more ways to play at mathforlove.com/add

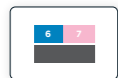
In the box:



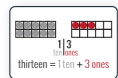
Deck 1
Dice patterns
25 cards
+ 1 How to Use Card



Deck 2
Ten frames
75 cards
+ 1 How to Use Card



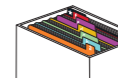
Deck 3
Bar diagrams
32 cards
+ 1 How to Use Card



Reference Deck
Number Names
10 cards



Guided practice spinner



Tab cards for mastery tracking

INTRODUCTION

MASTERING ADDITION FACTS ...

Addition by Heart is designed to help master addition facts in a meaningful, visual way.

WITH ONLY FIVE MINUTES OF PRACTICE A DAY ...

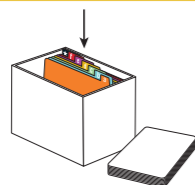
Using the flash cards for five minutes of practice a day will help your child understand addition and achieve true fluency.

WHILE HAVING FUN ...

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

SET UP

Remove the card decks from the box. Place tab cards in the box as shown in the diagram. Tab cards make pockets for you to place and organize cards as you play. Unwrap Deck 1.



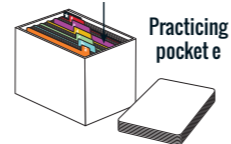
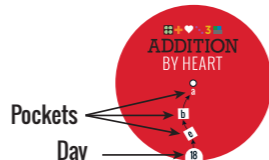
1

FIVE RULES TO FOLLOW WHEN USING YOUR VISUAL FLASH CARDS

Rule 1

The spinner tells 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.

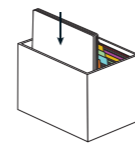
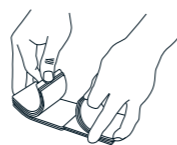
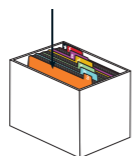


Rule 2

No cards in pocket a?

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

Then place them in pocket a.

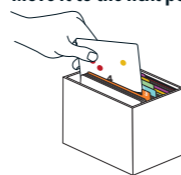


Rule 3

Draw a card.

Know the answer?

Move it to the next pocket.



Rule 4

Draw a card.

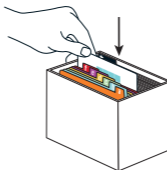
Don't know the answer?

Move it back to pocket a.



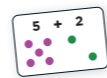
Rule 5

When all the cards are in the "mastered" area, in front of the mastered pocket (★) you're done!



QUICK START GUIDE - What to do the first 3 days

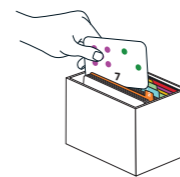
Day 1 - Getting started



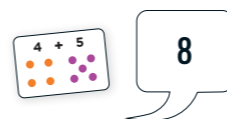
Shuffle the cards in Deck 1. Turn up the first card. It will look something like this.



Do you know the answer? If you do, say "5 plus 2 equals 7." Then turn the card over.



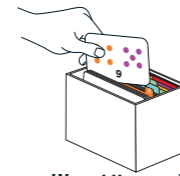
We got it right! So the card moves up to pocket b.



Go on to the next card. I'm not sure about this one. Maybe... "4 plus 5 equals 8"



Now turn the card over. Oops: 4 plus 5 equals 9.

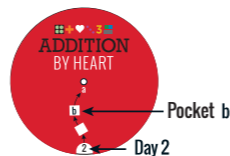


We got it wrong! So we put the card in pocket a.

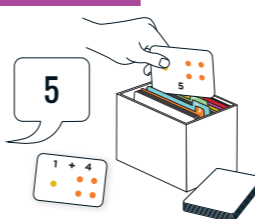
Keep going until you've gotten through all the cards in the first deck. They should all now be in pocket a or pocket b.

That's it for today!

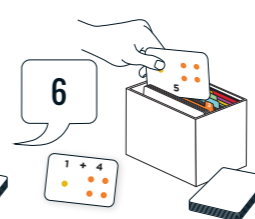
Day 2 - Using the spinner and pockets



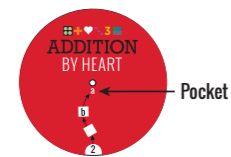
Today, let's get the spinner going. Turn the spinner to Day 2. It says start with pocket b.



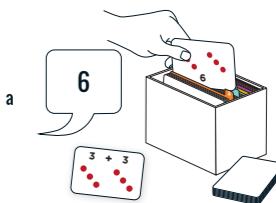
Take the cards from pocket b, shuffle them, and put them in a pile. Every time you get one right, put it in pocket c.



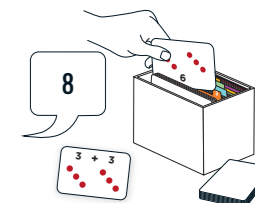
When you miss one, or can't remember it, place it in pocket a.



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



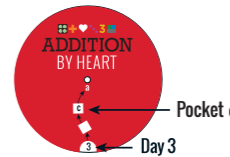
Take the cards from pocket a, shuffle them, and put them in a pile. Every time you get one right, put it in pocket b.



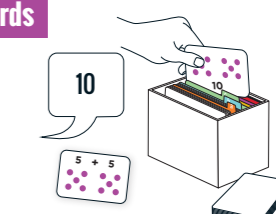
When you miss one, or can't remember it, place it in pocket a.

That's the end of Day 2!

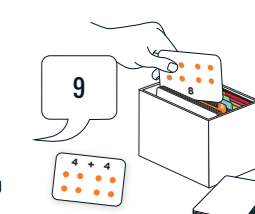
Day 3 - Adding new cards



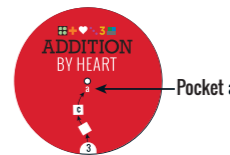
Move the spinner to Day 3. It says to do pocket c first. So start there.



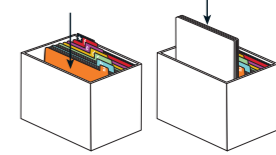
Take the cards from pocket c, shuffle them, and put them in a pile. Every time you get one right, put it in pocket d.



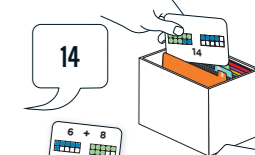
When you miss one, or can't remember it, place it in pocket a.



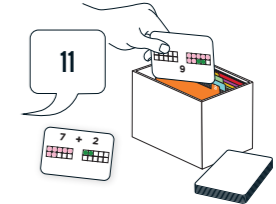
When you're done with pocket c, the spinner says do pocket a next.



If pocket a is empty, remove 10 cards from Deck 2 and add them 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.

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Day 4 and forward

Now you know all the rules! When you get a card right, move it one pocket forward.

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

The spinner tells you what pockets to practice each day. After Day 20, the spinner starts again at Day 1.

As you master each deck, unlock the minigames and challenges below!

MINIGAMES & EXPLORATIONS

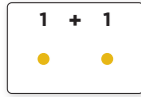
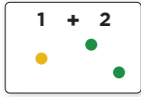

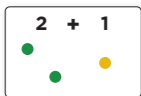

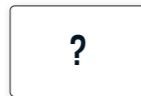
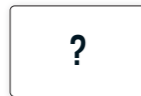
See video instructions and more ways to play at mathforlove.com/add

EXPLORATION "The Sum Most Seen"

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

Deck 1 mastered → Unlock Exploration "The Sum Most Seen"

Try to arrange deck 1 in order from least to greatest. You start with one card that sums to 2, followed by the two cards that sum to 3. Keep going! How many times does each sum appear? Which sum appears most?

		
= 2	= 3	= ?
One card sum to 2.		
		
	= 3	= ?
Two cards sum to 3.		
		
One card sums to 2. Two cards sum to 3. How many sum to 4? To 5? Keep going until you have all the cards arranged. Which sum will you see most?		

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MINIGAME "Addition War"

Deck 2 mastered → Unlock Minigame "Addition War"

Played with 2 or more players.

Divide up Deck 2 between players, so every player has about the same number of cards in their own stack.

Each player puts forward their top card. As they play, they say the sum.

If all players say their sum correctly, whoever's sum is largest wins all the cards in the middle. If any player says their sum incorrectly, their card counts as zero for that turn.

In the case of ties, whoever tied plays another round. The winner of that round takes all the cards played.

Play once through your starting deck, and then count to see who has won the most cards.

Player 1 had the highest card, but said the incorrect sum. Players 2 and 3 said their sum correctly. Of the sums said correctly, 13 is highest, so Player 2 takes all three cards.

MINIGAME "Rising Rows"

Deck 3 mastered → Unlock Cooperative/Solitaire Game "Rising Rows"

Shuffle Deck 3, and take one card at a time from the top of the deck. Place the card in one of 9 spots as shown.

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MINIGAME "Rising Rows" continued

Continue drawing and placing cards until all nine spots are full, as shown below.

Once you are done, turn your cards over.

Score one point for every row or column where the sum increases or stays the same as the cards go from left to right, or top to bottom.

Score a point for the top row (11, 14, 16) but not for the bottom two rows (14, 13, 16) or (17, 21, 20).

Score a point for the left and right column (11, 14, 17) (16, 16, 20) but not the middle column. Notice that the right column counts as a point because the sum 16 stayed the same for the first two cards.

What Each Deck Teaches

We chose each visualization carefully. Here's some of the learning packed into the decks.

Deck 1 - Dice patterns

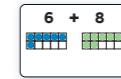


This deck is meant to connect counting with addition. It's okay to use your fingers here! With enough practice, you may find some shortcuts so you don't have to count every dot every time.

7

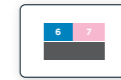
What Each Deck Teaches continued

Deck 2 - Ten Frames



This deck highlights the importance of making tens! You'll find you won't need to use your fingers nearly as much once you can visually recognize sets of ten dots.

Deck 3 - Bar Diagrams



You won't be able to count on your fingers here! Bar diagrams are more abstract, and perfect for testing to see whether you really have your addition facts memorized! (Bonus: bar diagrams are also super useful for story problems and

Timed Facts (optional)

Research and experience have taught us to avoid time pressure when beginning to learn math facts. However, it can be useful to notice whether you actually have automatic recall before you declare a fact "mastered." If you want to include time as a part of your practice, you don't need a stopwatch. Just require that any facts from pockets d, e, and f can't progress without knowing them more or less instantly. If you get the fact from pocket d, e, or f right away, move it forward. If remembering the fact takes you more than a couple of seconds, move it back to pocket a, more practice is required for full, automatic recall!

Cards still move forward from pockets a, b, and c when you get them right on the first try, regardless of how quickly or slowly you get them.

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.

See video instructions and more ways to play at mathforlove.com/add

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