Board Games for Early Mathematics: Mathematical Symbols

Start at the beginning, and stick to the order given. Skipping is OK if a learner can use the concepts to solve problems. For tips, background info, and an assessment to show if a different section would help, visit reckonmath.com.

This packet includes these mathematical symbols games and activities:

"Is the same as"
Equals sign
Inequality sign
Greater than sign, less than sign, dots
Greater than sign, less than sign, numerals
Think about what addition is
Plus sign
Think about what subtraction is
Minus sign
Plus sign or minus sign?
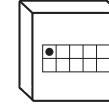Is this number sentence true or false?
Is this number sentence true or false? You decide.

"Is the same as"

The [top / bottom] number sentence is true.

One 0-5 frame die, and two counters.

If you get used to thinking about number sentences as statements that are either true or false, you will have a big advantage in any mathematics class.

How to play: On your turn, roll the die. If you roll a zero, roll again. Move forward that many spaces. In each space, the sentence in one square is true and the sentence in the other square is false. Put your counter on the true sentence. **The first player to land on END wins.**

END

| is the same as 1 | is the same as 3 | is the same as 4 | is the same as 3 | is the same as 2 |
| is the same as 2 | is the same as 1 | is the same as 3 | is the same as 2 | is the same as 1 |

| is the same as 3 | is the same as 4 | is the same as 4 | is the same as 1 | is the same as 3 | is the same as 4 |
| is the same as 5 | is the same as 2 | is the same as 2 | is the same as 2 | is the same as 5 | is the same as 2 |

| is the same as 2 | is the same as 2 | is the same as 2 | is the same as 4 | is the same as 4 | **START** |
| is the same as 3 | is the same as 3 | is the same as 1 | is the same as 5 | is the same as 5 | |

Equals sign

The [top / bottom] number sentence is true.
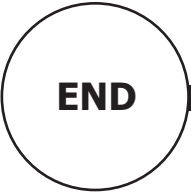
MS

Questions? **reckonmath.com**

One 0-5 frame die, and two counters.

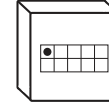If you get used to thinking about number sentences as statements that are either true or false, you will have a big advantage in any mathematics class. **Notice that "is the same as" from the previous game has turned into "=" here.** This is the equals sign. The equals sign has the same distance between the lines at both ends, which reminds us that the equals sign means "is the same as". **How to play:** On your turn, roll the die. If you roll a zero, roll again. Move forward that many spaces. In each space, the sentence in one square is true and the sentence in the other square is false. Put your counter on the true sentence. **The first player to land on END wins.**

Game board:

Top row:
- END
- •• = 1 / •• = 2
- • = 3 / • = 1
- (4 dots) = 4 / (4 dots) = 3
- (3 dots) = 3 / (3 dots) = 2
- •• = 2 / •• = 1

Middle row:
- (3 dots) = 3 / (4 dots) = 5
- •• = 4 / •• = 2
- (4 dots) = 4 / (4 dots) = 2
- • = 1 / • = 2
- (5 dots) = 3 / (5 dots) = 5
- •• = 4 / •• = 2

Bottom row:
- •• = 2 / •• = 3
- (3 dots) = 2 / (3 dots) = 3
- • = 2 / • = 1
- (5 dots) = 4 / (5 dots) = 5
- (4 dots) = 4 / (4 dots) = 5
- START

Inequality sign

The [top / bottom] number sentence is true.

END

Top / Bottom
•• ≠ 1
•• ≠ 2

| • ≠ 3 |
| • ≠ 1 |

| (4 dots) ≠ 4 |
| (5 dots) ≠ 3 |

| (3 dots) ≠ 3 |
| (3 dots) ≠ 2 |

| •• ≠ 2 |
| •• ≠ 1 |

| (3 dots) ≠ 3 |
| (4 dots) ≠ 5 |

| ••• ≠ 4 |
| •• ≠ 2 |

| (4 dots) ≠ 4 |
| (3 dots) ≠ 2 |

| • ≠ 1 |
| • ≠ 2 |

| (5 dots) ≠ 3 |
| (5 dots) ≠ 5 |

| •• ≠ 4 |
| •• ≠ 2 |

| •• ≠ 2 |
| •• ≠ 3 |

| (3 dots) ≠ 2 |
| (3 dots) ≠ 3 |

| • ≠ 2 |
| • ≠ 1 |

| (4 dots) ≠ 4 |
| (5 dots) ≠ 5 |

| (4 dots) ≠ 4 |
| (5 dots) ≠ 5 |

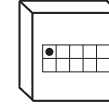**START**

One 0-5 frame die, and two counters.

If you get used to thinking about number sentences as statements that are either true or false, you will have a big advantage in any mathematics class. **The equals sign with a slash through it means "is not the same as".** One name for it is the inequality sign. You can also call it the not-equals sign. **How to play:** On your turn, roll the die. If you roll a zero, roll again. Move forward that many spaces. In each space, the sentence in one square is true and the sentence in the other square is false. **Example:** In the first space after START, the bottom sentence is true and the top sentence is false. Put your counter on the true sentence. **The first player to land on END wins.**

Greater than sign, less than sign, dots

The [top / bottom] number sentence is true.

•• > 1	• < 3	∷ = 4	∴ > 6	•• > 2
•• > 3	• < 0	∷ = 3	∴ > 2	•• > 1

END

∴ < 1	•• < 4	∷ > 6	• < 1	⁙ = 3	•• < 5
∴ < 5	•• < 1	∷ > 2	• < 2	⁙ = 5	•• < 1

•• < 1	∴ > 2	• = 2	⁙ > 2	∷ < 3
•• < 3	∴ > 3	• = 1	⁙ > 8	∷ < 5

START

MS

One 0-5 frame die, and two counters.

A sideways V has more distance between the lines on one end than on the other end. When the greater number is on the left, we put the end with more distance is on the left and we call it the "greater than" sign. When the lesser number is on the left, we put the end with less distance is on the left and we call it the "less than" sign. **Examples:** "4 < 5" means "4 is less than 5". "5 > 4" means "5 is greater than 4". **How to play**: On your turn, roll the die. If you roll a zero, roll again. Move forward that many spaces. In each space, the sentence in one square is true and the sentence in the other square is false. Put your counter on the true sentence. **The first player to land on END wins.**
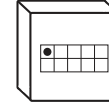
Greater than sign, less than sign, numerals

The [top / bottom] number sentence is true.

MS

One 0-5 frame die, and two counters.

2 > 1	1 < 3	4 = 4	3 > 6	2 > 2
2 > 3	1 < 0	4 = 3	3 > 2	2 > 1

END

3 < 1	2 < 4	4 > 6	1 < 1	5 = 3	2 < 5
3 < 5	2 < 1	4 > 2	1 < 2	5 = 5	2 < 1

2 < 1	3 > 2	1 = 2	5 > 2	4 < 3
2 < 3	3 > 3	1 = 1	5 > 8	4 < 5

START
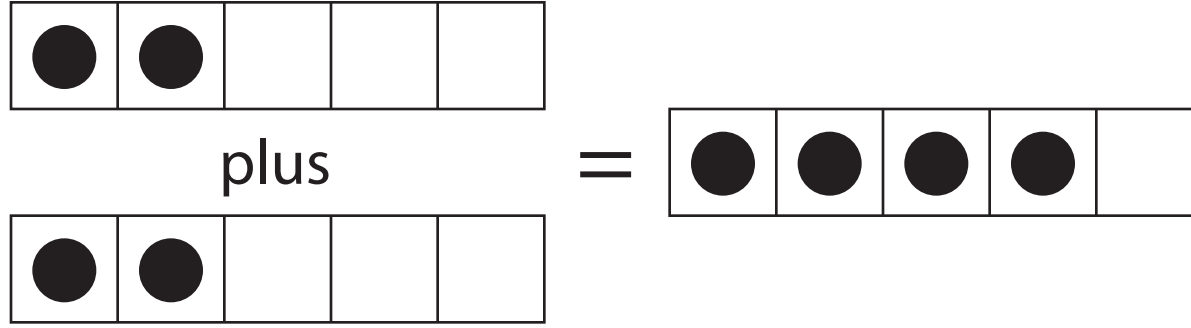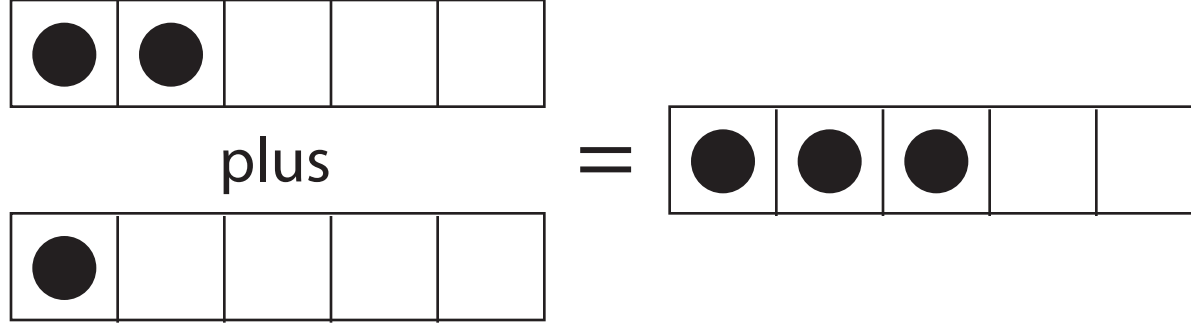
A sideways V has more distance between the lines on one end than on the other end. When the greater number is on the left, we put the end with more distance is on the left and we call it the "greater than" sign. When the lesser number is on the left, we put the end with less distance is on the left and we call it the "less than" sign. **Examples:** "4 < 5" means "4 is less than 5". "5 > 4" means "5 is greater than 4". **How to play**: On your turn, roll the die. If you roll a zero, roll again. Move forward that many spaces. In each space, the sentence in one square is true and the sentence in the other square is false. Put your counter on the true sentence. **The first player to land on END wins.**

Think about what addition is

The amounts on the left and the right are the same because _____.

plus

=

plus

=

Plus sign

The [top / bottom] number sentence is true.

| | 2 + 2 = 4 | 2 + 2 = 3 | 1 + 2 = 0 | 2 + 1 = 3 | 3 + 1 = 1 |
| **END** | 2 + 2 = 2 | 2 + 2 = 4 | 1 + 2 = 3 | 2 + 1 = 0 | 3 + 1 = 4 |

| 1 + 1 = 2 | 2 + 2 = 4 | 4 + 4 = 8 | 8 + 2 = 10 | 3 + 3 = 3 | 0 + 0 = 0 |
| 1 + 1 = 1 | 2 + 2 = 3 | 4 + 4 = 4 | 8 + 2 = 8 | 3 + 3 = 6 | 0 + 0 = 5 |

| 1 + 2 = 2 | 2 + 2 = 1 | 2 + 1 = 3 | 1 + 1 = 3 | 1 + 1 = 2 | |
| 1 + 2 = 3 | 2 + 2 = 4 | 2 + 1 = 4 | 1 + 1 = 2 | 1 + 1 = 4 | **START** |

One 0-5 frame die, and two counters.

If you get used to thinking about number sentences as statements that are either true or false, you will have a big advantage in any mathematics class. **How to play:** On your turn, roll the die. If you roll a zero, roll again. Move forward that many spaces. **+ is the plus sign.** We use it in addition sentences. In each space, the addition sentence in one square is true and the addition sentence in the other square is false. Put your counter on the true sentence, and say the true sentence. **Example:** If you land in the first space after START, put your counter on "1+1=2" and say "One plus one is two." **The first player to land on END wins.**

Think about what subtraction is

The amounts on the left and the right are the same because _____.

minus

=

minus

=
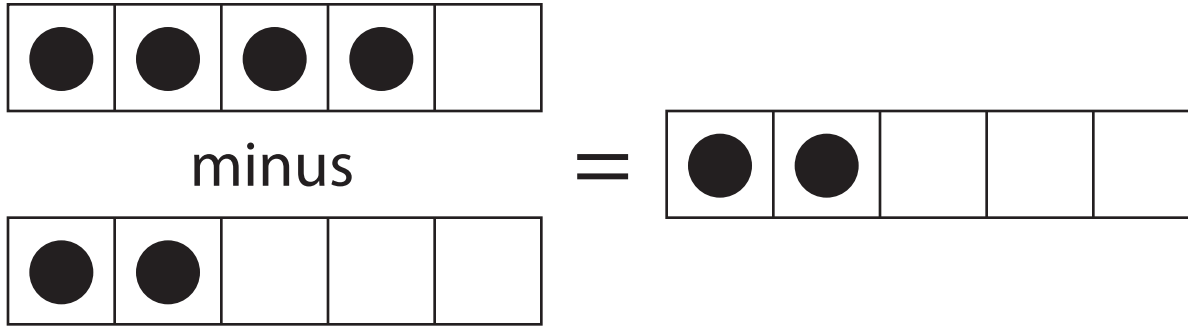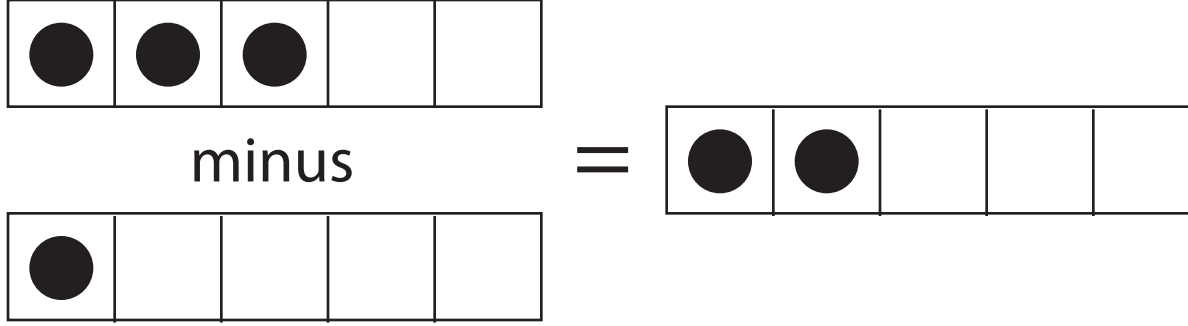
Look at the frames above the line. Can you and your partner figure out why there is an equals sign there? **Hint:** "Equals" means "is the same as". One of you, use words to tell your partner why the amount on the left of the equals sign is the s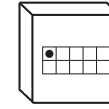ame as the amount on the right of the equals sign. Now look at the frames that are below the line. Switch roles. Whoever listened the last time, now you are the talker. Use words to tell your partner why the amount on the left of the equals sign is the same as the amount on the right of the equals sign.

Minus sign

The [top / bottom] number sentence is true.

$4 - 2 = 2$	$1 - 1 = 0$	$2 - 1 = 1$	$3 - 1 = 1$	$2 - 1 = 1$
$4 - 2 = 0$	$1 - 1 = 5$	$2 - 1 = 2$	$3 - 1 = 2$	$2 - 1 = 2$

END

$2 - 2 = 0$	$4 - 1 = 3$	$3 - 1 = 2$	$3 - 2 = 3$	$1 - 0 = 1$	$0 - 0 = 0$
$2 - 2 = 7$	$4 - 1 = 0$	$3 - 1 = 0$	$3 - 2 = 1$	$1 - 0 = 3$	$0 - 0 = 5$

$3 - 1 = 2$	$3 - 2 = 4$	$2 - 1 = 1$	$4 - 1 = 2$	$4 - 2 = 2$
$3 - 1 = 3$	$3 - 2 = 1$	$2 - 1 = 4$	$4 - 1 = 3$	$4 - 2 = 5$
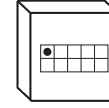
START

One 0-5 frame die, and two counters.

If you get used to thinking about number sentences as statements that are either true or false, you will have a big advantage in any mathematics class. **How to play:** On your turn, roll the die. If you roll a zero, roll again. Move forward that many spaces. **– is the minus sign.** In each space, the subtraction sentence in one square is true and the subtraction sentence in the other square is false. Put your counter on the true sentence, and say the true sentence. **Example:** If you land in the first space after START, put your counter on "4–2=2" and say "Four minus two is two." **The first player to land on END wins.**

Plus sign or minus sign?

The [top / bottom] number sentence is true.

$3 + 1 = 4$	$9 - 1 = 10$	$3 + 2 = 1$	$4 - 2 = 2$	$4 - 1 = 3$
$3 - 1 = 4$	$9 + 1 = 10$	$3 - 2 = 1$	$4 + 2 = 2$	$4 + 1 = 3$

END

$1 + 1 = 2$	$2 + 2 = 0$	$4 + 4 = 8$	$3 + 1 = 2$	$3 + 1 = 4$	$2 - 1 = 1$
$1 - 1 = 2$	$2 - 2 = 0$	$4 - 4 = 8$	$3 - 1 = 2$	$3 - 1 = 4$	$2 + 1 = 1$

$1 - 1 = 0$	$2 - 1 = 3$	$3 + 3 = 6$	$2 + 2 = 4$	$3 - 1 = 2$
$1 + 1 = 0$	$2 + 1 = 3$	$3 - 3 = 6$	$2 - 2 = 4$	$3 + 1 = 2$

START

One 0-5 frame die, and two counters.

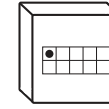If you get used to thinking about number sentences as statements that are either true or false, you will have a big advantage in any mathematics class. **How to play:** On your turn, roll the die. If you roll a zero, roll again. Move forward that many spaces. Each space has an addition sentence and a subtraction sentence. One of the sentences is true and the other one is false. Put your counter on the true sentence. **Example:** If you land in the first space after START, put your counter on "3–1=2" in the top square. **The first player to land on END wins.**

Is this number sentence true or false?

The number sentence is [true / false] because _____ .

Number sentence	Is it true?	
1 = 2	Yes, it is true	(No, it is false)
2 = 2	(Yes, it is true)	No, it is false
1 + 1 = 2	(Yes, it is true)	No, it is false
2 = 1 + 1	(Yes, it is true)	No, it is false
1 + 2 = 2 + 1	(Yes, it is true)	No, it is false
1 + 1 = 1 + 2	Yes, it is true	(No, it is false)
3 = 1 + 1	Yes, it is true	(No, it is false)
3 = 1 + 2	(Yes, it is true)	No, it is false

In this activity, you get to see some different kinds of true and false number sentences. Talk with a partner about these number sentences. Why are the false ones false? Why are the true ones true? Remember, the equals sign means "is the same as". When you see "1 = 2" you can read it "1 is the same as 2". **Hint 1:** A plus sign on both sides does not mean a number sentences is false. **Hint 2:** A plus sign on the right and no plus sign on the left does not mean a number sentence is false.

Is this number sentence true or false? You decide.

The number sentence is true. / The number sentence is false.

In this activity, you get to decide whether number sentences are true or false. **What to do:** For each number sentence, circle "Yes, it is true" or "No, it is false".

Number sentence	Is it true?	
2 = 1	Yes, it is true	No, it is false
1 = 1	Yes, it is true	No, it is false
1 + 2 = 3	Yes, it is true	No, it is false
3 = 1 + 2	Yes, it is true	No, it is false
2 + 1 = 1 + 2	Yes, it is true	No, it is false
2 + 1 = 1 + 1	Yes, it is true	No, it is false
3 = 1 + 2	Yes, it is true	No, it is false
3 = 1 + 1	Yes, it is true	No, it is false