Guess That Equation: Game Show

Object of the Game

Welcome to Guess That Equation, the game show where the contestant tries to guess the numbers in an equation before running out of game pieces.

Materials

- 1 set of Number Cards (4 each of the numbers 0–9)
  Print the cards or make your own

- 1 set of Equation Symbol Cards (+, –, =)
  Print the cards or make your own
  If you're unable to print or make number and equation symbol cards at this time, you can still play the game. See the last game variation in the Change It Up section for details

- 5 game pieces (coins, paper clips, buttons, or other small household items)

- Scratch paper

- Pencil or pen

Skills

This game helps us practice

- Adding a 2-digit and 1-digit number up to 100

- Using the relationship between numbers in an equation to determine an unknown number

How to Play

*This game is best played with a child and an adult or older family member.*

1. Get ready to play the game:

    » Choose who will role play the game show host and who will be the contestant. To start, it's a good idea for an adult or older family member to be the game show host. After the student becomes more comfortable with the game, consider switching roles.

    » Consider adding some drama to your gameshow as you play.

        ¤ Each time the contestant guesses a number correctly, the host can make a bell sound and applaud. Each time the contestant loses a game piece, the host can make a buzzer sound.

        ¤ Play for prizes! You can use anything found at home as a prize.

2. Set up the game:

    »   Divide the number cards into 2 groups. The game show host gets three of each card 0–9.

    »   The host creates an equation using the number cards and the equation symbol cards. While the host makes the equation, the contestant closes their eyes. Here's a bit more guidance on the equation:

        ¤   Write the equation down on scratch paper to help remember it.

        ¤   If it's addition, it can be any 2-digit plus 1-digit number that totals up to 99. Some examples to get started: $45 + 7 = 52$, $20 + 8 = 28$, $55 + 9 = 64$.

        ¤   The number cards in the equation are turned over so they are not visible

    »   The contestant gets one of each card 0–9 and 5 game pieces.

        ¤   The contestant places the numbers cards face up in a line, in order from 0 to 9, and sets the 5 game pieces next to the cards.
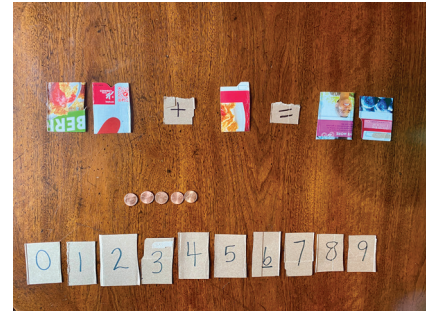
3. Start the game show by introducing the contestant. Invite the contestant to guess a number from 0 to 9 that might be in the equation and have them turn over that number card in their line of number cards to indicate the number that was guessed. For example, if the contestant guesses the number 4, they turn the number 4 card facedown.

    »   If the contestant guesses a number that is in the equation, the game show host turns the card(s) in the equation faceup, revealing the number everywhere it appears in the equation.

        ¤   If the number guessed is in the equation, the contestant gets to keep all of their game pieces.

        ¤   If the number guessed is not in the equation, the contestant loses 1 game piece.
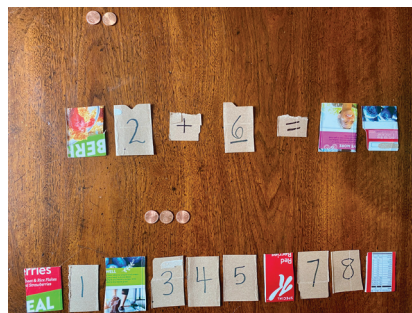
Carlos guessed a 2 and a 6 correctly, so now he knows that the number in the ones place has to be an 8 because $2 + 6 = 8$. He wonders what the tens number will be.

4. Play continues until the contestant solves the equation by revealing all the numbers in it, correctly guesses the equation, or runs out of game pieces.

5. The contestant wins the game if they guess all the numbers in the equation before running out of game pieces.

6. Have fun!
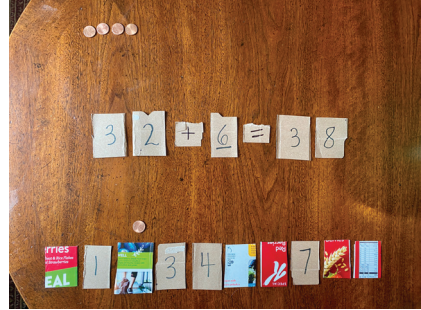
After a few more guesses, Carlos chose 3 and solved the equation: 32 + 6 = 38!

Tips for Families

Before you play:

- Talk about the parts of an equation and what the + and = signs mean.

- Practice building some addition equations using the +, = and number cards. Here are some examples to help you get started: 19 + 8 = 27, 30 + 6 = 36, 45 + 9 = 54.

During the game:

- Ask questions:

  » What numbers do you think are best to begin with guessing? Why do you think so?

  » Are there any numbers you know cannot be in the equation, given the numbers you can see revealed? How do you know?

  » Why did you guess that number?

  » If the student solves the equation before all of the numbers are revealed, ask: How did you solve the equation? How did you figure out what numbers are in it?

Change It Up

Making even small changes to a game can invite new ways of thinking about the math. Try making one of the changes below. How did it change your strategy for winning the game?

Make your game show come to life:

- Play a bonus round with different rules.

  » Let the contestant pick any 5 of their number cards all at once. Reveal those numbers if they're in the equation.

  » Give the contestant 30 seconds to call out any possible equation that might work. There's no penalty for guesses during the 30 seconds. Can they solve the equation before the time is up?

- Include dollar amounts ($1, $5, or $10) on the back of the contestant's number cards. Each time they correctly guess a number in the equation, they can add that amount to their winnings. At the end of the game, find the total of the winnings.

- Write "EXTRA TURN" on the back of one of the contestant's number cards. When they turn over that number card, they get an extra game marker!

- Write "LOSE A TURN" on the back of another number card, and take away a game marker when the contestant turns it over.

- At the start of each game, the host can announce an equation category, such as "No Odd Numbers Here," "It's a Double!", or "Greater Than 50."

- Play with 1 host and 2-3 contestants playing to solve the equation first. If you choose to do this, you'll need an additional set of 0-9 number cards and 5 game markers for each contestant.

For extra support:

- Play with two 1-digit numbers. Examples include: 8 + 7 = 15, 9 + 4 = 13, 6 + 6 = 12

- Invite the student and an older sibling or family member to play the role of contestant together, while another adult or older family member is the host.

- Allow the contestant to request a hint. The hint can be phrased as "This number is greater than ___" or "This number is less than ___."

- Arrange the number cards vertically to help your student think about place value when adding.

- Play with subtraction equations. Use multiples of 10 up to 90. Examples include: 50 – 20 = 30, 70 – 20 = 50, 90 – 60 = 30. You'll need to add a minus (–) symbol card.
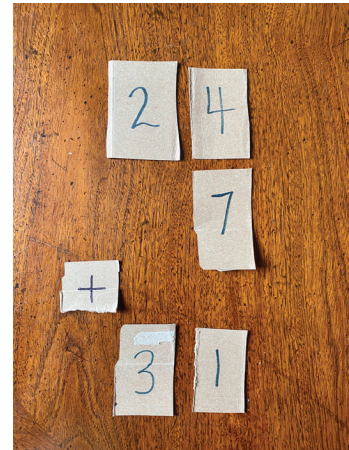
For a challenge:

- Vary the location of the equal sign in the equations. You can place it at the end (__ + __ = __) or the beginning (__ = __ + __).

- Challenge the contestant to keep as many game pieces as possible. Can they solve the equation while keeping 2 game pieces? 3 game pieces?

- Play with equations that add two 2-digit numbers (with or without regrouping).

  » Examples without regrouping include:

    ¤ 25 + 32 = 57

    ¤ 30 + 19 = 49

    ¤ 81 + 11 = 92

» Examples with regrouping include:

¤ 26 + 17 = 43

¤ 45 + 15 = 60

¤ 79 + 16 = 95

On the go? No problem. Play without number cards or equation symbol cards.

- Draw boxes on a sheet of paper to show the unknown numbers, and + or – and = symbols to make the equation.

- The host writes the numbers in the boxes as they are correctly guessed.

- The contestant keeps track of the numbers they've guessed by writing the numbers 0–9 on a separate sheet of paper and crossing them out as each is guessed.

Equation Symbol Cards

+	−	=
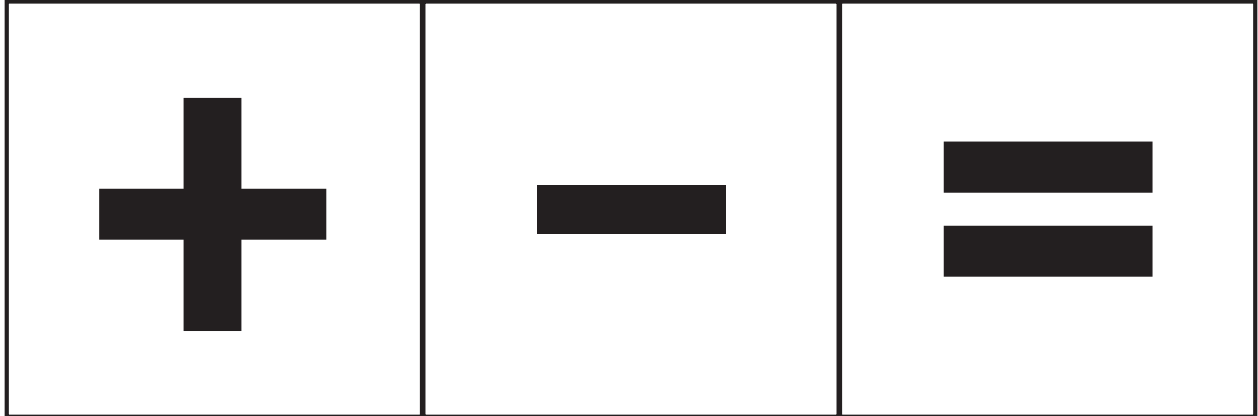
0	**1**	**2**
0	**1**	**2**
0	**1**	**2**
0	**1**	**2**

3	**4**	**5**
3	**4**	**5**
3	**4**	**5**
3	**4**	**5**

6	**7**	**8**
6	**7**	**8**
6	**7**	**8**
6	**7**	**8**

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