Math Fluency Games

Options for games to purchase for home use:

1) Election Night

Options for Dice Games to play at home:

1) **The game of Pig**:

   How to Play Pig is a game for 2 to 6 players. Players take turns rolling a die as many times as they like. If a roll is a 2, 3, 4, 5, or 6, the player adds that many points to their score for the turn. A player may choose to end their turn at any time and "bank" their points. If a player rolls a 1, they lose all their unbanked points and their turn is over.
   Beginner Game: The first player to score 50 or more points wins.
   Advanced Game: The first player to score 100 or more points wins.
   Demonstrate enough turns so that students can see how rolling a 1 will lose them unbanked points, and that points in their bank will be safe even when a 1 is rolled.

2) The game **Save Twenty**:

   Rules Play is best with 2 or 3 players. The goal of the game is to roll as close to (or equal) to 20, without going over. You'll have four rounds per turn. For the first round, roll all five dice. You may save as many as you like, from zero to all. Any dice that are not saved are then re-rolled. For your second and third round, roll the dice you haven't saved. You may save as many of these as you like and then re-roll the rest on your next round. For the fourth and final round, roll any remaining unsaved dice. Now score your points. If your five dice form a sum greater than 20, you score 0. If the dice sum to 20 or less, that number is your score for the turn. Play for 9 turns. The winner is whoever has the greatest score at the end of the game.

3) **Bowl - a Fact**: (link to board game to print)

   Directions:

- Draw 10 circles in the same placement as bowling pins and write the numbers 1–10 in the circles as shown on the handout that you can print.
- Roll a die three times and record the digits. Work with your partner to write number sentences (using only those three digits) that equal as many of the numbers 1 through 10 as possible.
- Record each number sentence and cross out the corresponding answer (that is, the bowling pin).

- Can you eliminate each of the ten numbers for a strike? If not, roll the die three more times and use those new digits to produce number sentences. Can you get a spare?

4) **Shut The Box**
    - Write the numbers 1 through 9 in a horizontal row on the paper.
    - Player 1 rolls the dice and calculates the sum of the two numbers. Player 1 then chooses to cross out numbers that have the same sum as what was calculated from the dice roll.
    - If the numbers 7, 8 and 9 are all covered, player 1 may choose to roll one or two dice. If any of these numbers are still uncovered, the player must use both dice.
    - Player 1 continues rolling dice, calculating the sum and crossing out numbers until they can no longer continue.
    - If all numbers are crossed out, the player say's "shut the box". If not all numbers are crossed out, player 1 determines the sum of the numbers that are not crossed out and that is their score.
    - If "shut the box" is achieved, player 1 records a score of "0".
    - Player two writes the numbers 1 through 9 and follows the same rules as player 1.
    - The player with the lowest score wins.

Options for Card Games to play at home:

1) **Sums Memory Game**: How to Play

5-Sum-Memory

- Create a deck from 4 ones or aces, 4 twos, 4 three, and 4 fours.
- Deal out the cards face down.
- Players take turns turning two cards face up.
  If a player turns a pair upward and that pair sums to 5, the player puts that pair of cards in their stash and plays again.
- If the upward pair does not sum to 5, the player turns the cards back face down, and the next player moves.
- The game ends when the cards are all claimed. Whoever has the most cards wins.

10-Sum-Memory

- Like 5-Sum-Memory, but the deck consists of 2 ones or aces, 2 twos, 2 threes, 2 fours, 2 fives, 2 sixes, 2 sevens, 2 eights, and 2 nines, and the target sum is 10 instead of 5.

5-10-15-Sum-Memory

- In this tricky variation, the deck consists of four of each card from 1 to 9.
- If a player turns up a pair that adds up to 5, 10 OR 15, they keep the pair and go again.

2) Name that Number

Materials: 4 cards each of numbers cards (face cards can be used as higher numbers or left out)

A player shuffles the deck and places five cards face-up on the playing surface. This player leaves the rest of the deck facedown and then turns over and lays down the top card from the deck. The number on this card is the number to be named.

In turn, players try to (re)name the number on the set-apart top card by adding or subtracting the numbers on two of the five face-up cards.

A successful player takes both the two face-up cards and the number-named top card. A successful player also replaces those three cards by drawing from the top of the facedown deck. Unsuccessful players lose their turns. But they turn over and lay down the top card from the facedown deck, and the number on this card becomes the new number to be named.

Play continues until all facedown cards have been turned over. The player who has taken the most cards at the end wins.

3) Math War -

*Using a standard deck of cards, take out all face cards. Divide the deck between two players by dealing the cards face down. Play as you would typically play war: each player playing one card at a time. Rather than the higher card “winning” that pair, the person who adds the two numbers (and in higher grades, multiplies) first “wins” the pair. Play continues until one player has all the cards, or one player has more if time is up.

Other Math games:

1) **Tic-Tac-Toe Sums** (link to the game board pdf)

Player X and Player O each select one of the numbers, 0 – 12 at the bottom of the page and places one of the markers on that addend.

Player X may move only one of the two addend markers to a different addend. Player X then places a marker on the grid covering the sum of the two addends.

Player O may move only one addend marker at the bottom of the page, 0 – 12. Player O makes a new sum and covers it on the grid. The markers can be placed on the same numbers, 0 – 12. For example, two markers on 12 would be 12 + 12 = 24 and the player would cover 24 on the grid.

Players alternate moving one addend marker at a time and continue placing their markers until a player has marked four sums in a row. After the game players should discuss their strategies.