First to Fifty!!

Game: Play in pairs with player A & B:
  1. Player A enters a 1, 2, or 3.
  2. Player B adds 1, 2, or 3 to the previous number.
  3. Continue taking turns until one player reaches 50 (winner).
  4. Let player B go first on the second round.

Questioning strategies: What are some questions you could ask the class to spark conversation about this game?

Challenge: Instead of using the numbers 1, 2, or 3, each player must pick a different form of the number for each turn. For example, rather than adding 1, you could enter $+2^0$.

Extensions:

How could you make this game more challenging?

Make up your own game.

Random Fractions: I want at least ½!!! Please?

Let's set up your calculator to produce random fractions.
- Press [SETUP].

- Select [1](MathO).

- Press [Ran#] [=].

To change to decimal:
- Press [F↔D].

```
1:MathO 2:LineO
3:Fix   4:Norm
5:ab/c  6:d/c
7:Simp  8:◄CONT►
```

```
Ran#            Math ▲

            869
           ────
           1000
```

```
Ran#            Math ▲

            0.869
```

With your partner, sort your fractions into the table:

NO!!!!	YES!!!!
Less than ½	At Least ½

CASIO.

Elementary

Example from the Casio Workbook: SL-450S Book for the Early Grades Reference Page 7
Modified by Jennifer North Morris, Casio ACE Member

Knowing Your Place

Enter: three hundred sixty-nine

Copy Display:

> Math

1. In one operation, remove the "6" from the number without changing any of the other digits.

Copy Display:

> Math

What did you enter?

Explain why:

2. In one operation, change the "3" to a "5" without changing any of the other digits.

Copy Display:

> Math

What did you enter?

Explain why:

3. Continue the same process with the following numbers. Fill in the whole chart.

ENTER	CHANGE TO	What did you do?
1. Twenty-seven	7	
2. Sixty-three	60	
3. Three hundred eighty five	85	
4. Four hundred sixty-four	404	
5. Nine hundred seventy-nine	970	
6. Three hundred eighteen	358	
7. Six hundred sixty-four	964	
8. One hundred five	125	
9. Two hundred twelve	323	

Challenges:
a. If you add one to the digit in the ones place of 119, what happens? Why?

b. If you subtract 5 from the digit in the units place of 123, what happens? Why?
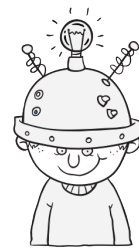
CASIO®

Name_____   Date_____
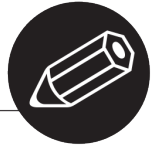
I'm aMAZEd by Fractions!

Subtracting Mixed Numbers and Whole Numbers

Find your way through this maze of mixed numbers and whole numbers by subtracting either $1\frac{2}{3}$ or $2\frac{3}{4}$ to get from one number to the next. You can move up, down, right, left, or diagonally. You cannot use a path more than once. Good luck and have fun!

START

$24\frac{1}{2}$	24	$22\frac{1}{3}$	$18\frac{11}{12}$	$3\frac{5}{12}$	$11\frac{3}{4}$
$21\frac{3}{4}$	$20\frac{3}{4}$	$20\frac{7}{12}$	$16\frac{1}{6}$	$7\frac{2}{3}$	$10\frac{2}{3}$
18	$20\frac{1}{12}$	$18\frac{7}{12}$	$14\frac{1}{2}$	6	9
$17\frac{1}{3}$	$14\frac{7}{12}$	$18\frac{5}{12}$	$11\frac{3}{4}$	$4\frac{1}{3}$	$7\frac{1}{3}$
16	$11\frac{5}{6}$	$15\frac{2}{3}$	14	$11\frac{1}{4}$	8
$13\frac{1}{4}$	$10\frac{1}{2}$	$7\frac{3}{4}$	5	$9\frac{7}{12}$	$3\frac{1}{2}$
$10\frac{1}{2}$	$7\frac{3}{4}$	$8\frac{1}{2}$	$7\frac{11}{12}$	$5\frac{1}{6}$	$\frac{3}{4}$

FINISH

Thinking Cap

Do you think there is more than one way to find your way through this maze? Explain your answer.

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I'm aMAZEd by Fractions!
Subtracting Mixed Numbers and Whole Numbers

Instructional Strategies

Hands On:
Use fraction circles to explore subtracting fractions. Give groups 3 circles and ask students to build the answer if we subtract $1\frac{1}{3}$. You can start with simpler examples using 1 circle if needed. Continue to challenge groups to build solutions with different subtraction problems.

Getting Started:
Once students are familiar with using the calculator for fractions, set up the activity and challenge them to find the quickest path.

Calculator Notes:
Students use the calculator in this activity to subtract whole numbers and mixed numbers with like and unlike denominators.

- The calculator is setup to require manual simplification of fractions. Before starting this activity, be sure all calculators are changed to Auto Simplification. To do so, press [SETUP] [7] (Simp) [1] (Auto).

- The [STO M] key can be used to enter the necessary sums into the memory of the calculator.

- The [RCL M] key can be used to recall the number stored in memory.

- The [▪▫] key can be used to enter mixed numbers.

Example:

1. Start with $24\frac{1}{2}$. Since you will need to subtract two different mixed numbers from $24\frac{1}{2}$, you can enter it into the memory of the calculator and simply recall it to subtract the second time.

2. To enter $24\frac{1}{2}$ into memory and subtract $1\frac{2}{3}$, press
[▪▫][2][4][▶][1][▶][2][STO M][−][▪▫][1][▶][2][▶][3][=] $\frac{137}{6}$. Press [a b/c, d/c] to change the answer to a mixed number, $22\frac{5}{6}$.

3. Then, to subtract $2\frac{3}{4}$, press [RCL M][−][2][▶][3][▶][4][=] $\frac{87}{4}$. Press [a b/c, d/c] to change the answer to a mixed number, $21\frac{3}{4}$.

4. Since $21\frac{3}{4}$ is the only difference that can be connected to $24\frac{1}{2}$, draw a line from $24\frac{1}{2}$ to $21\frac{3}{4}$.

Assessment:
Encourage students to estimate each difference before they actually use the calculator to find it.

Objective:
Use the calculator to subtract mixed numbers and whole numbers with like and unlike denominators.

Common Core State Standards:
4.NF.3c. – Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

Standards for Mathematical Practice:
1. Make sense of problems and persevere in solving them.
5. Use appropriate tools strategically.