

Subtraction Strategies and Model Matching Activity for 52 - 38

Activity Goal: All the examples in this activity are various ways to solve **52 - 38**. Match the description of the subtraction strategy and model to the matching visual of the strategy using the stated model. There is a 1-1 matchup.

Materials: Cut apart the descriptions and visuals and shuffle them. Then, match them up! The answer key is on the last page.

Mathematics behind the activity:

- There is a difference between **strategies (how we are working with the numbers)** and **models (the way we make our thinking visible which can be concrete manipulatives, picture, or abstract numbers.)**

- The ways we can represent the US traditional algorithm concretely, pictorially, and abstractly are not included in this set. The algorithm is always a choice, but I'm hoping to build your subtraction fluency math mind beyond the algorithm.

- **Dr. Rachel Lambert** in her book [Rethinking Disability and Mathematics](#) mentions the importance of **noticing and naming strategies** with students to make them accessible for **ALL** learners as well as **always allowing multimodalities** to explore them.

- We want to name strategies based on the mathematical relationships rather than after the students who choose to use them. We can say, "Marty chose to use the constant difference strategy." Other curricula name these strategies differently which is totally fine. as long as you and your colleagues are consistent with what you call the strategies as the students move through the grade levels. If you haven't read [The Math Pact: Elementary](#) to help with vertical alignment, I highly recommend it!

- I have used the strategy names in this set using the ones **Pam Harris** of www.mathisfigureoutable.com names them in her powerful packet of strategies for all operations at bit.ly/majorstrats. I highly recommend you download it.

- I prefer **Cuisenaire® Rods** and [KP® Ten-Frame Tiles](#) to Base 10 Blocks because too often when you track the thinking of the students using the Base 10 blocks, the students are counting them one by one rather than thinking additively. I do offer 2 on-demand workshops on how we can use Cuisenaire® Rods to explore fluency, problems solving structures, and all the grade level number and operations standards [K-2](#) and [3-5](#).

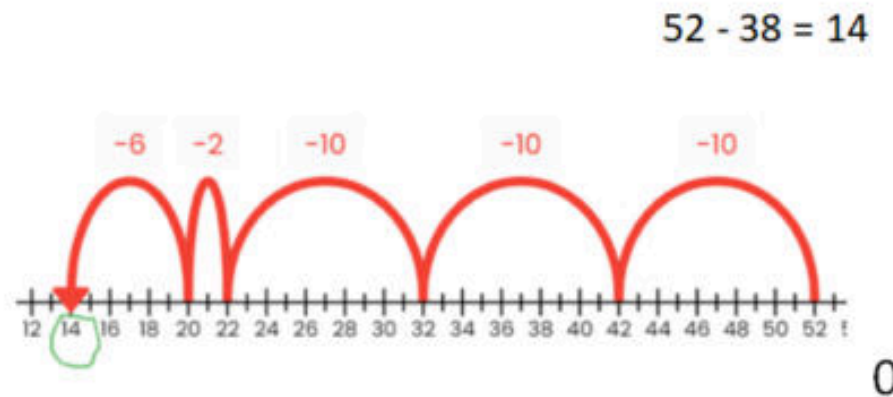
- All images are from my favorite virtual manipulative site, and the only one with the official Cuisenaire® rods app, [Brainingcamp](#). You can redeem code **BECURIOUS** for **3 months access** for you and your students. www.anneliserecord.com

Strategy: Subtracting Friendly Numbers

Starts with the minuend and removes the subtrahend in friendly groups

Model: Number Line

B

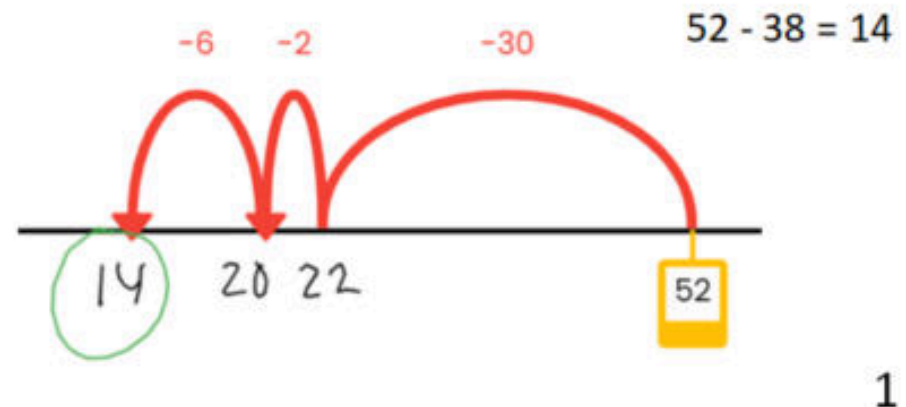


Strategy: Subtracting Friendly Numbers

Starts with the minuend and removes the subtrahend in friendly groups

Model: Open Number Line

E



Strategy: Partial Differences

Removes tens from tens and ones from ones; in this example, $2 - 8$ can be done by $2 - 2 = 0$ and there are still 6 more to be removed which can be taken from the tens place

Model: Equations

C

$52 - 38 = 14$

$$\begin{array}{r} 50 \quad 2 \\ - 30 \quad 8 \\ \hline 20 - 6 = 14 \end{array}$$

2

Strategy: Finding the Distance

Using addition or subtraction, find the distance between the two numbers

Model: 100 Beaded Number Line

U

$$52 - 38 = 14$$



3

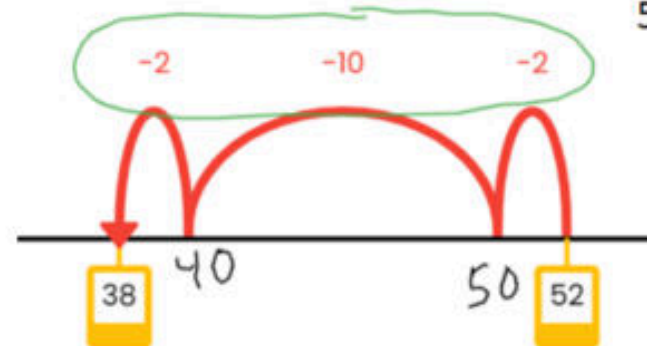
Strategy: Finding the Distance

Using addition or subtraction, find the distance between the two numbers

Model: Open Number Line

R

$$52 - 38 = 14$$



5

Strategy: Over or Round and Adjust

Pretends the subtrahend is a friendly number and subtracts, then adjusts to get actual answer

Model: Equations

I

$$52 - 38 = 14$$

$$52 - 40 = 12$$

$$12 + 2 = 14$$

8

Strategy: Finding the Distance

Using addition or subtraction, find the distance between the two numbers

Model: Cuisenaire Rods

O

$$52 - 38 = 14$$



13

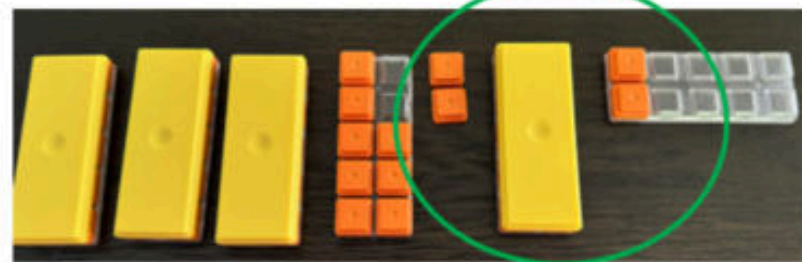
Strategy: Finding the Distance

Using addition or subtraction, find the distance between the two numbers

Model: KP® Ten-Frame Tiles

U2

$$52 - 38 = 14$$



21

Strategy: Constant Difference

Adding or subtracting the same amount to both numbers to keep the distance the same, but make friendlier numbers to calculate with

Model: Equations

S

$$52 - 38 = 14$$

$$\begin{array}{r} 52 + 2 \\ - 38 + 2 \\ \hline \end{array} \qquad \begin{array}{r} 54 \\ - 40 \\ \hline 14 \end{array}$$

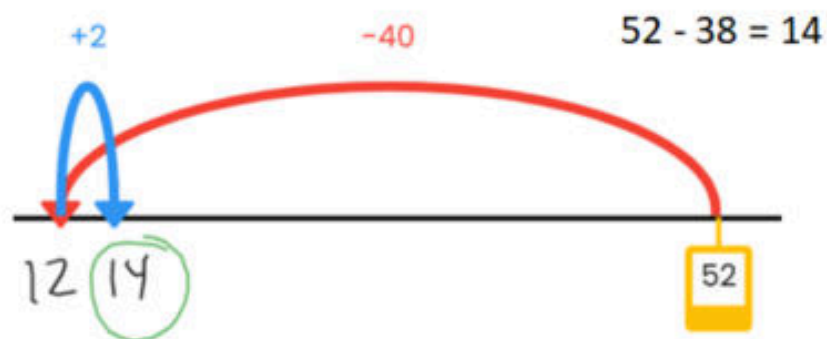
34

Strategy: Over or Round and Adjust

Pretends the subtrahend is a friendly number and subtracts, then adjusts to get actual answer

Model: Open Number Line

T



55

Strategy: Constant Difference

Adding or subtracting the same amount to both numbers to keep the distance the same, but make friendlier numbers to calculate with

Model: Number Line

E2



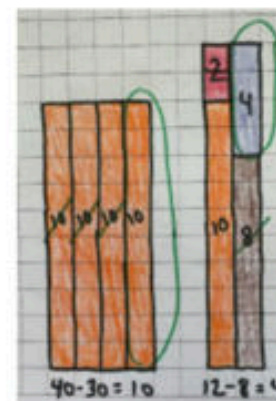
89

Strategy: Partial Differences

Removes tens from tens and ones from ones; sometimes some shifting a ten is needed

Model: Cuisenaire Rods

D



$$52 - 38 = 14$$

144

Subtraction Strategies and Model Matching Activity

Answer Key

B -	0
E -	1
C -	2
U -	3
R -	5
I -	8
O -	13
U 2 -	21
S -	34
T -	55
E 2 -	89
D -	144