

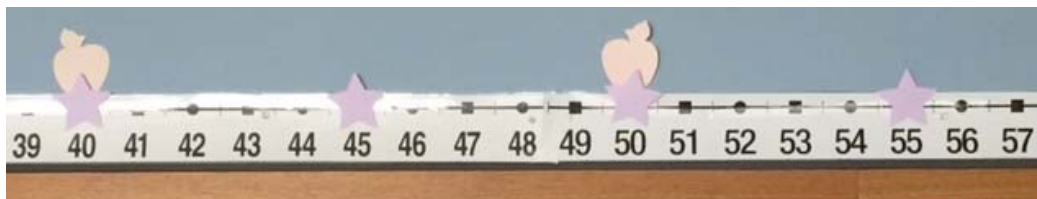
Real Possibilities: The Versatility of the Number Line

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Why?

“The simplest version of a measurement model is the number line. This is the most useful model in all of mathematics! In fact, the number line is the only model that continues to work as elementary mathematics progresses through whole numbers, fractions, and on to negative, rational, and irrational numbers.”

CCSS

2.MD.6

Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.

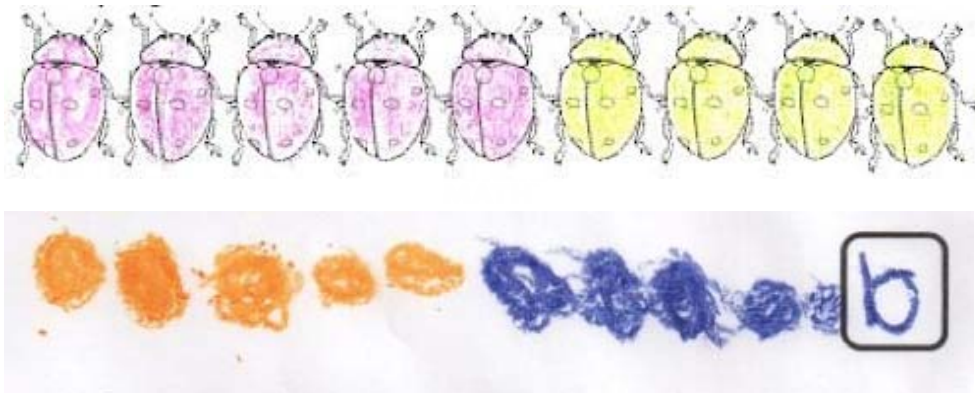
3.NF.2

Understand a fraction as a number on the number line; represent fractions on a number line diagram.

4.MD.2

Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

Number Line Foundations



GK-M1-L23 and L26

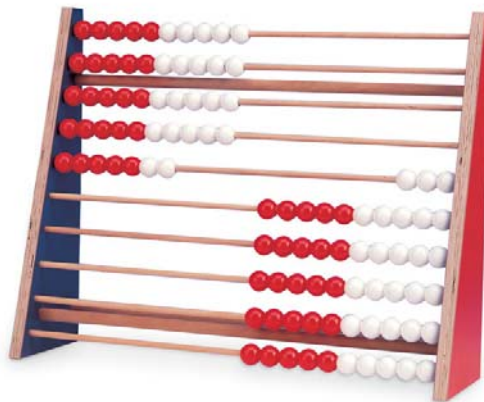
Number Line Foundations



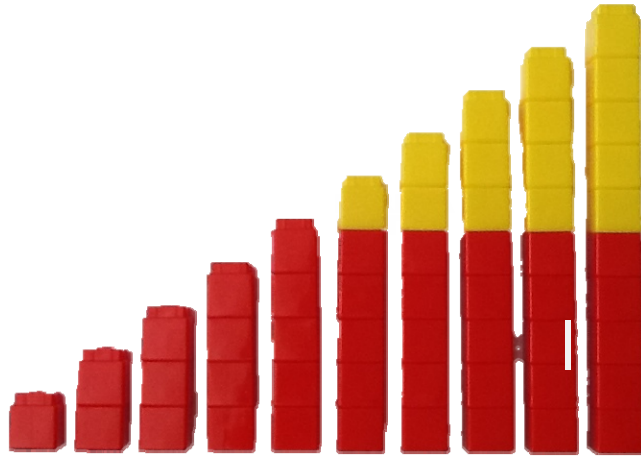
VS.



Number Line Foundations



Number Line Foundations



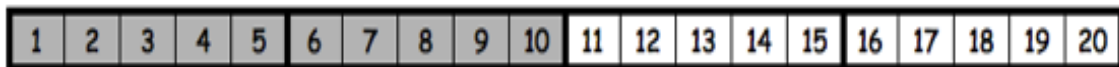
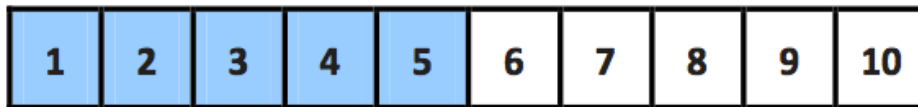
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Number Line Foundations



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Number Line Foundations

$9 - 8 = \underline{\quad}$

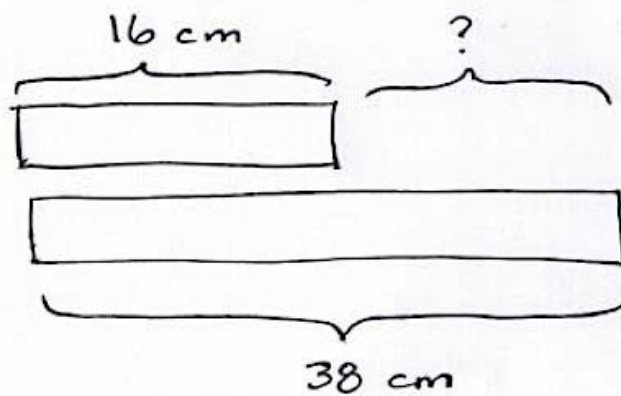


$8 + \underline{\quad} = 9$



G1-M1-L26 and L27

Number Line Foundations



G1-M4-L19

G2-M2-L9

Number Line Foundations



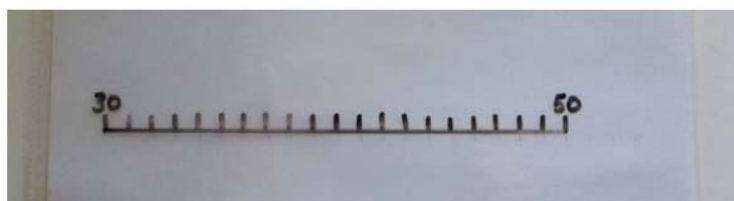
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Whole Numbers on the Number Line



G2-M7-L21

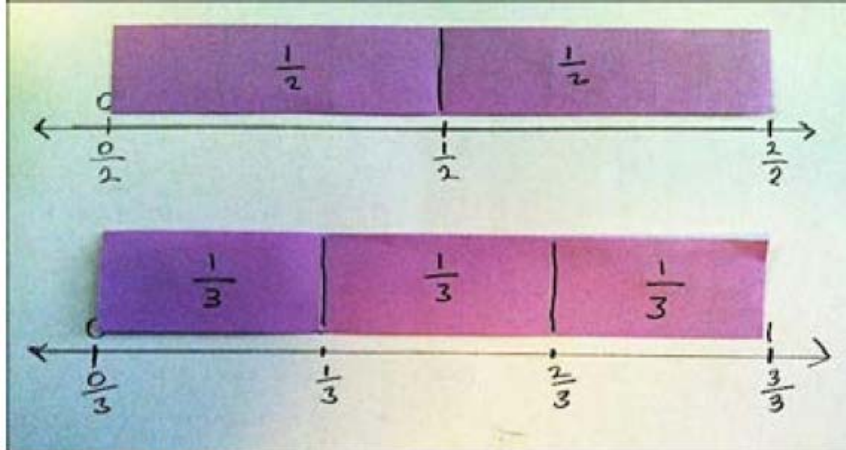
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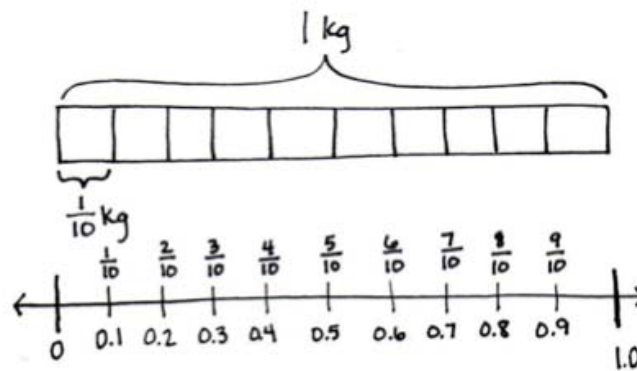
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Fractions on the Number Line



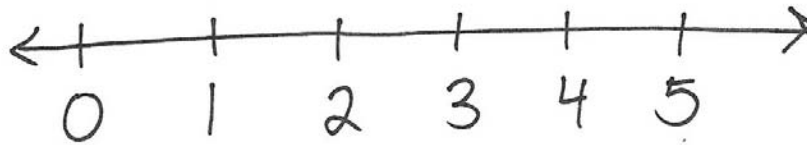
G3-M5-L14

Decimals on the Number Line



G4-M6-L1

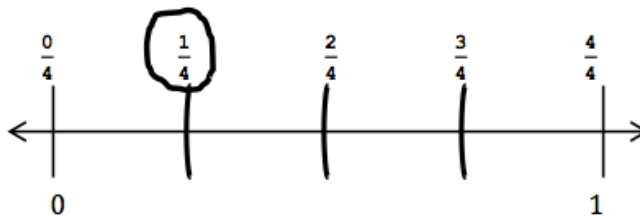
Comparing Numbers



$$\begin{array}{cc} 2 < 5 & 4 > 1 \\ 5 > 3 & 3 < 4 \end{array}$$

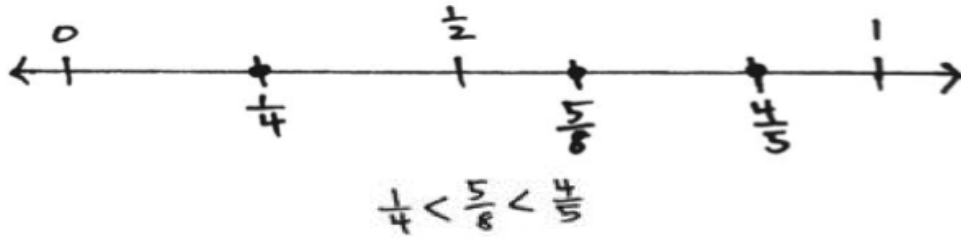
Comparing Numbers

$$\frac{1}{4} < \frac{3}{4}$$



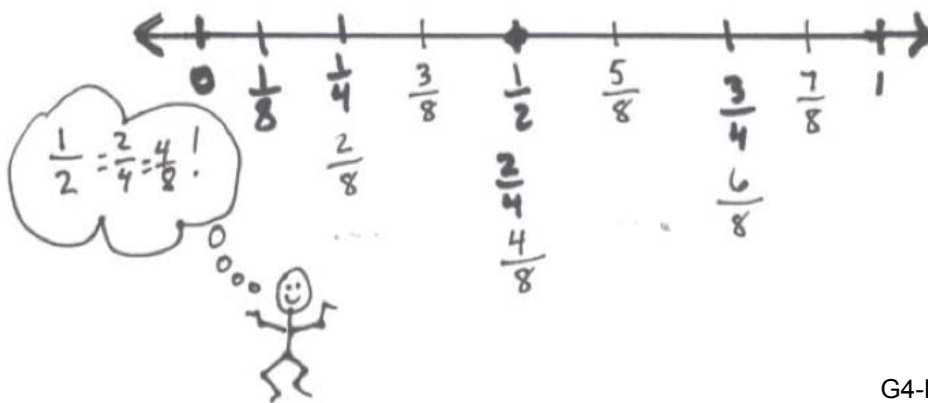
G3-M5-L18

Comparing Numbers



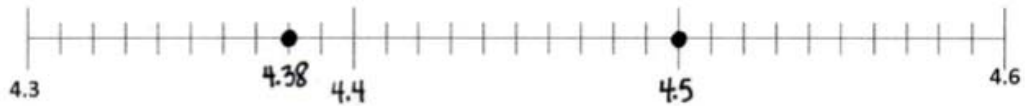
G4-M5-L12

Comparing Numbers



G4-M5-L11

Comparing Numbers

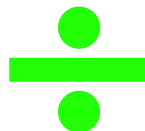


$$4.5 > 4.38$$

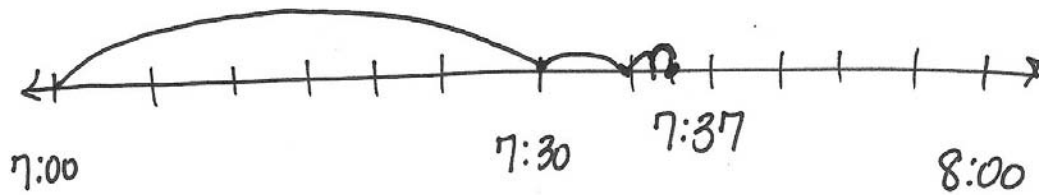
$$\underline{4.38 < 4.5}$$

G4-M6-L10

Operations



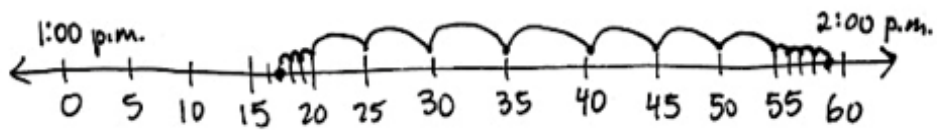
Time



G3-M2-L4

Time

8. The third grade chorus performs a musical for the school. The musical lasts 42 minutes. It ends at 1:59 p.m. What time did the musical start?



The musical starts at 1:17 p.m.

G3-M2-L4

Rounding



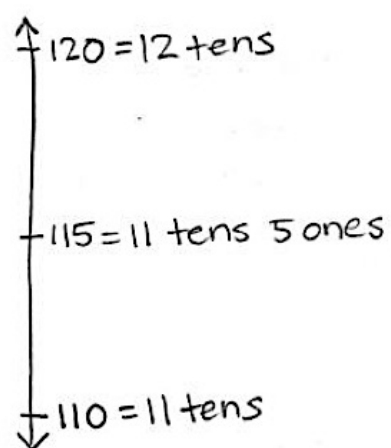
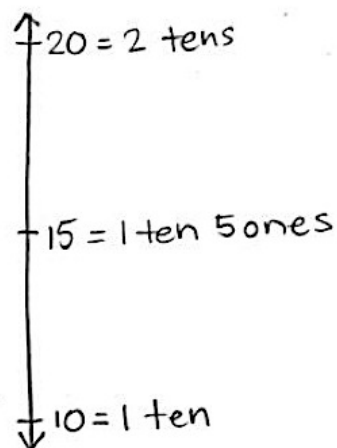
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Rounding



G3-M2-L13

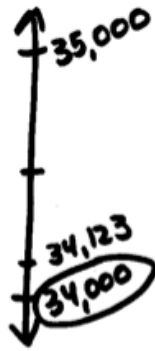
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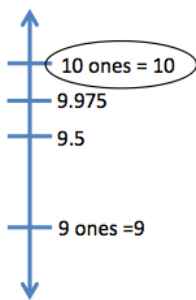
Rounding



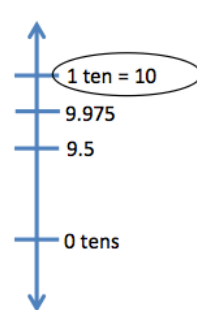
G4-M1-L9

Rounding

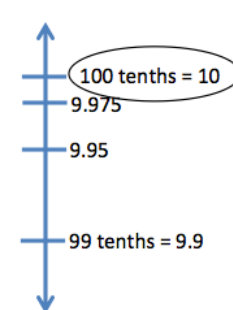
ones



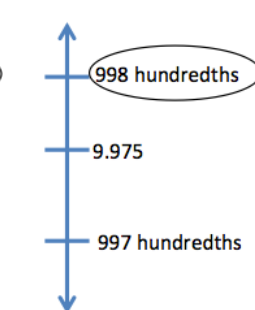
tens



tenths

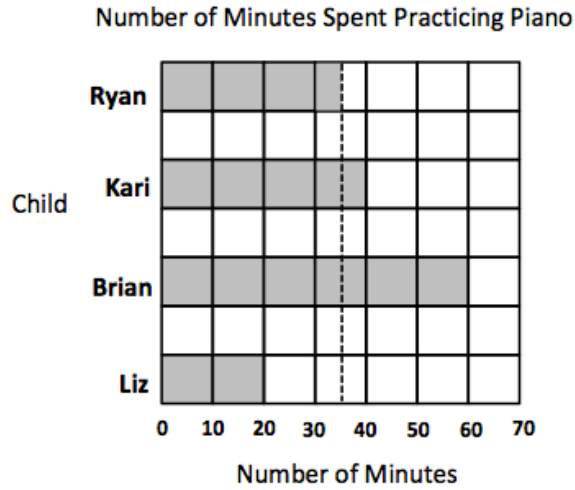


hundredths



G5-M1-L7

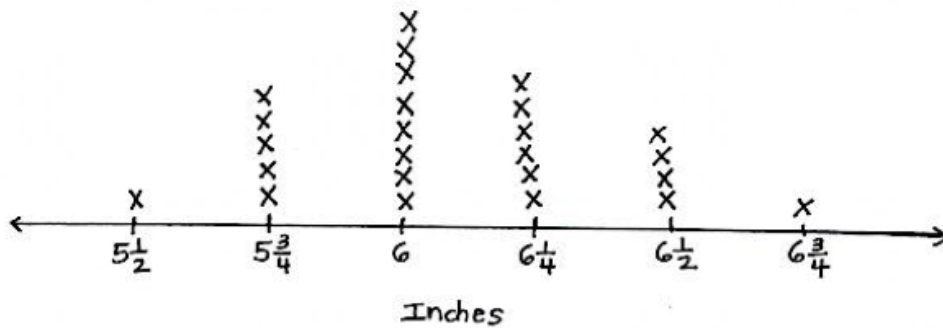
Data



G3-M6-L4

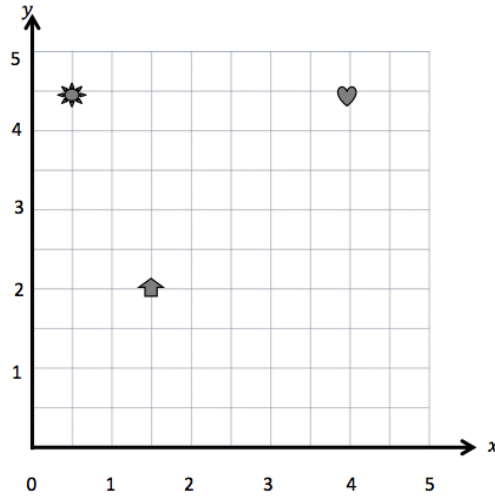
Data

Widths of Leaves



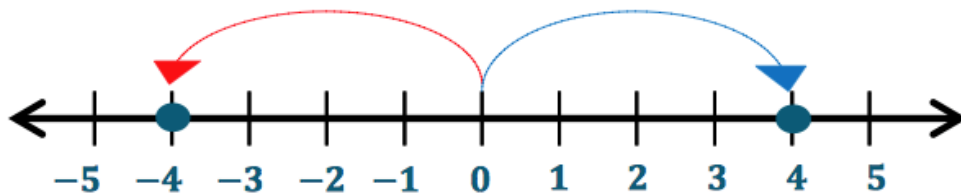
G3-M6-L8

Coordinate Plane



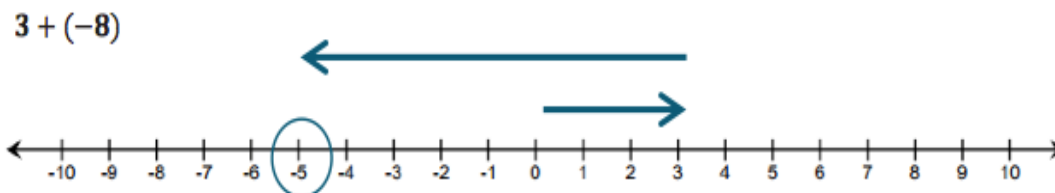
G5-M6-L2

What's next?



G6-M3-L1

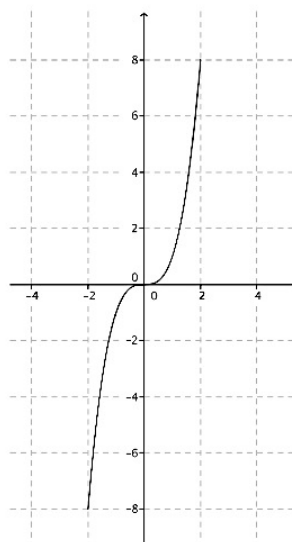
What's next?



G7-M2-L2

What's next?

```
Declare  $x$  real
Let  $f(x) = x^3$ 
Initialize  $G$  as {}
For all  $x$  such that  $-2 \leq x \leq 2$ 
    Append  $(x, f(x))$  to  $G$ 
Next  $x$ 
Plot  $G$ 
```



G9-M3-L11

Thank you!

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