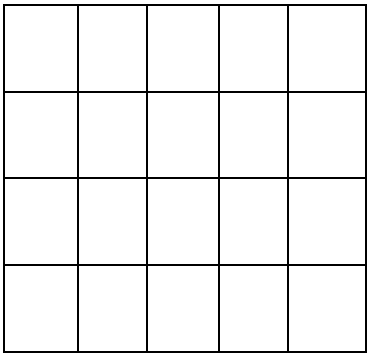
Developing Fraction Sense

Materials: Slit Plates, Fraction Circles/Fraction bars, Fraction Strips, Pattern Blocks
Activities: Fraction Riddles
Close to…
Fraction War
Equivalent fractions—multiplication chart

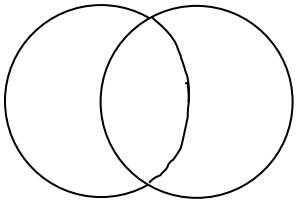
GCF & LCM: GCF used for _____ , LCM used for _____

Tiles



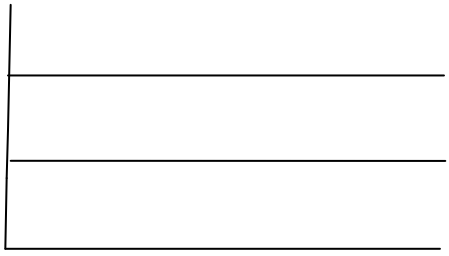
_____ _____

Venn



Recipe/Grocery Store Method:
Recipe A ( )—
Recipe B ( )—
Needed ingredients for A "or" B, but not both
Exact ingredients and amounts in both

L



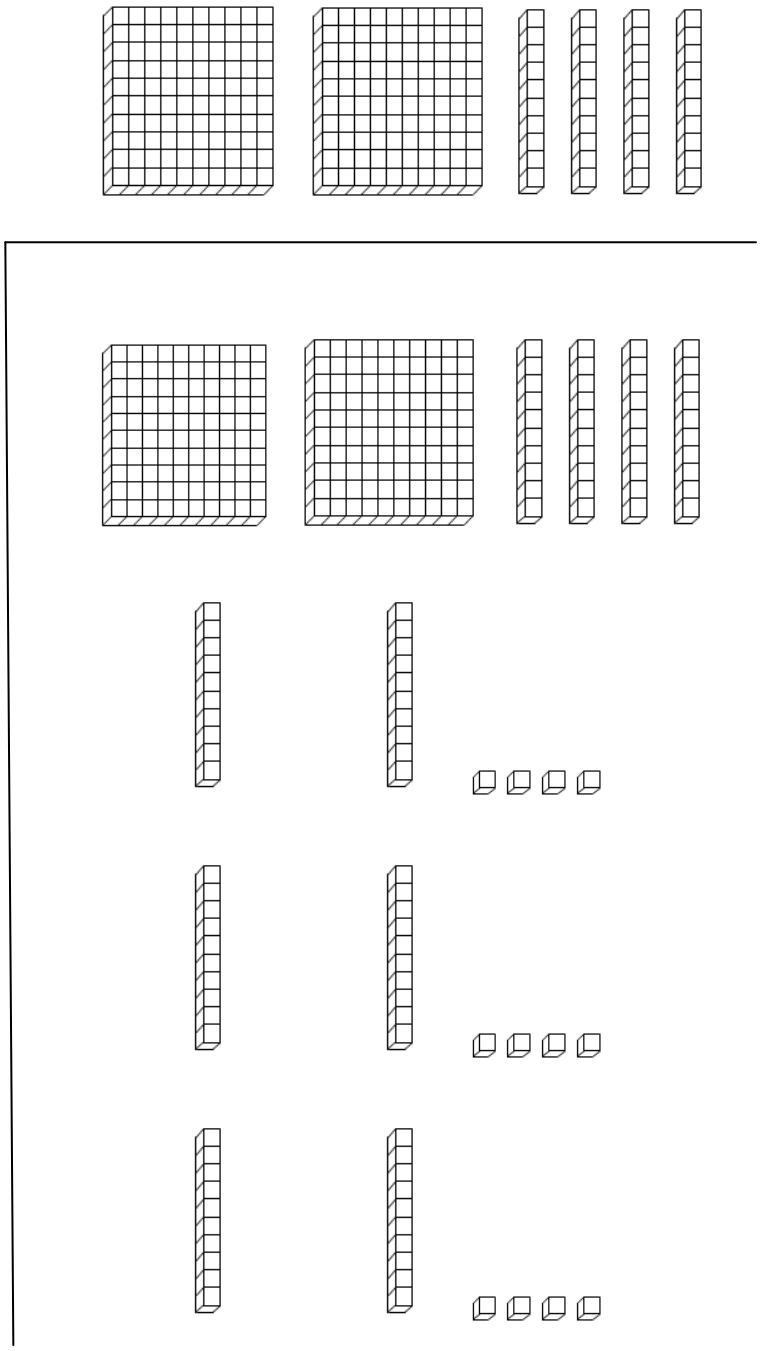
Blackline Master Website for wide variety of math manipulative:

http://lrt.ednet.ns.ca/PD/BLM/table_of_contents.htm

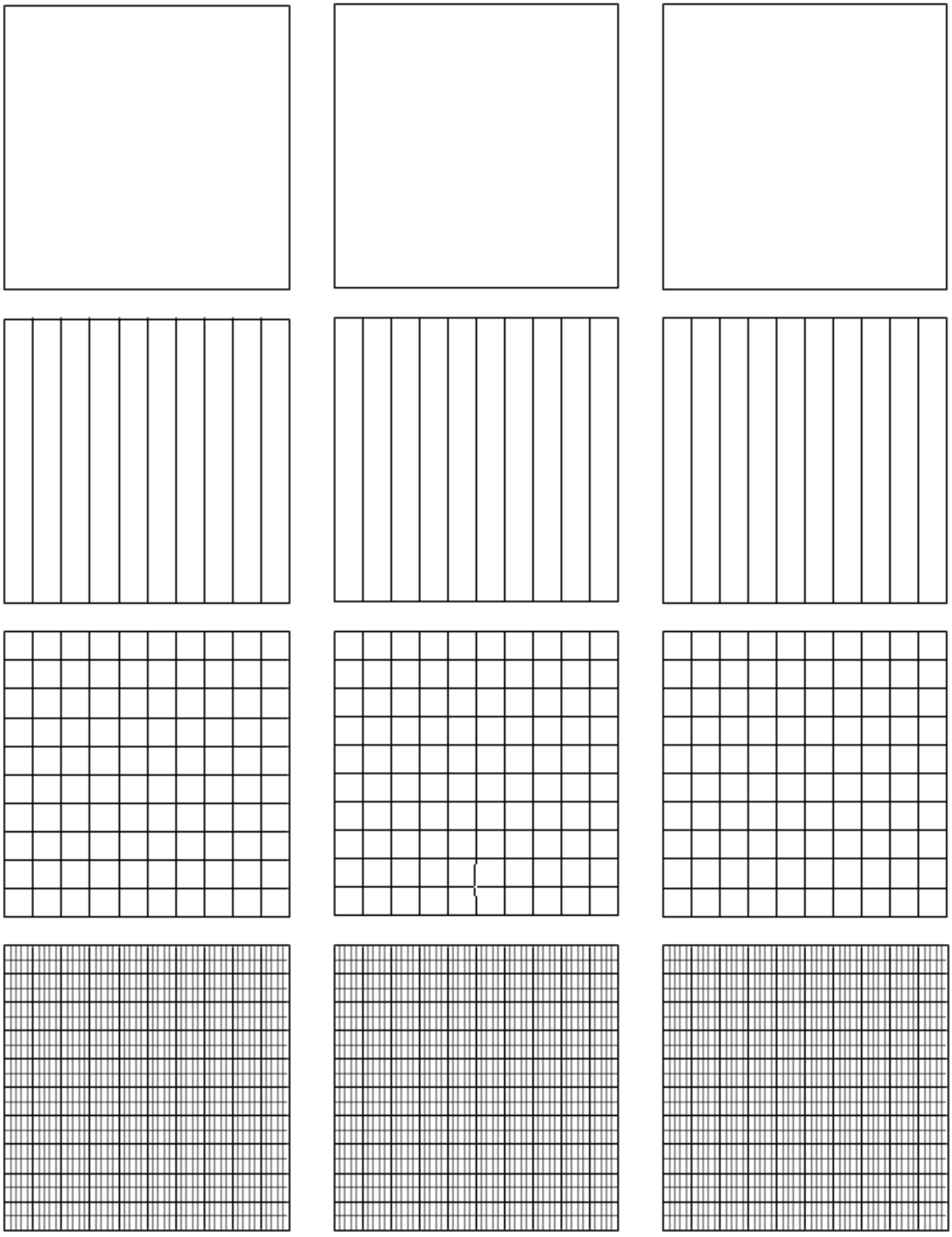
Developing Decimal Sense

Base Ten Blocks , Decimal ruler,Decimal squares (Decimal War)

1.3 x 2.4



Decimal Squares



INTEGER IDEAS

Sam the Mail Man

- Checks
- Bills
- Actions

Charge Jars

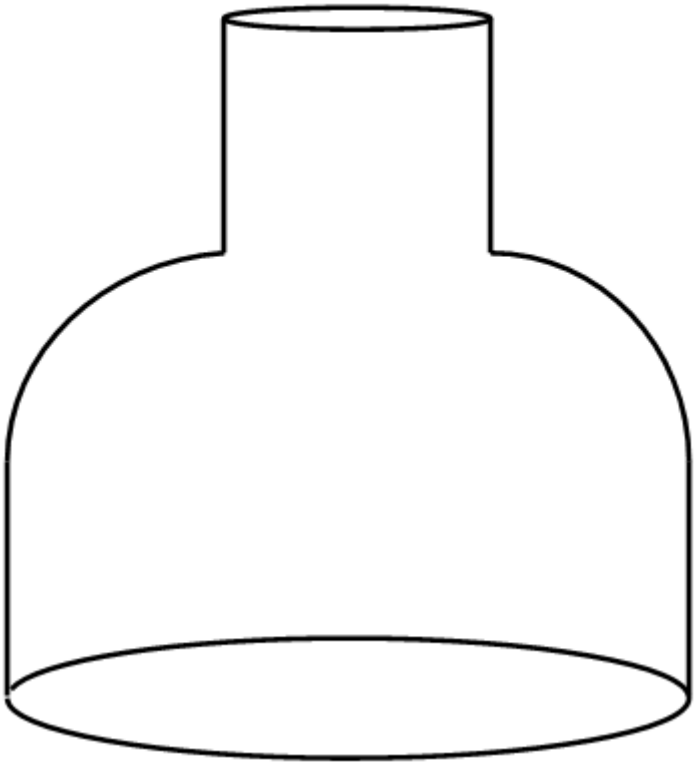
- Charges
- Addition/Subtraction
- Multiplication/Division

+ - + - + - + - + - + - +

+ - + - + - + - + - + - +

+ - + - + - + - + - + - +

+ - + - + - + - + - + - +



Hot Air Balloon—use vertical number line with a round marker as the balloon.

Gas/Air Bags (makes balloon go up)

Sand Bags (Makes balloon go down)

Balloon Language:

Addition

Problem	Translation	Final Position/Sum
$^{-}7 + {}^{-}3$	Start at -7, put on 3 sand bags	-10
$^{+}5 + {}^{-}4$		
$^{-}6 + {}^{+}2$		
-4 + -5		

Subtraction

Problem	Translation	Final Position/Difference
$^{-}2 - {}^{-}4$	Start at -2, throw off 4 sand bags	+2
$^{+}3 - {}^{-}7$		
$^{-}4 - {}^{+}6$		
$^{-}5 - {}^{-}4$		

Multiplication

Problem	Translation	Final Position/Product
-2 x -5	Starting at 0, throw off 2 groups of 5 sand bags	+10
+4 x -3		
- 3 x -6		
-4 x -5		

General Rule Development for Multiplication:

Put on groups of gas bags the balloon goes up

Positive number X Positive number = Positive number

Using the example above make a general rule for the following:

Put on groups of sand bags the balloon goes down

_____

Throw off groups of gas bags the balloon goes _____

_____

Throw off groups of sand bags the balloon goes _____

_____

Division

Problem	Translation	Put on or throw off? # of times? (Quotient)
-20 ÷ -5	How do we get to -20 from 0 using groups of 5 sand bags?	
+12 ÷ -6		
-15 ÷ +5		
+9 ÷ +3		

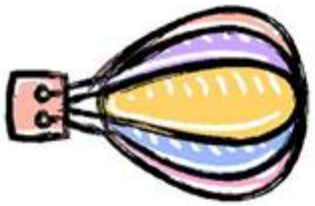
Critical Thinking Integer Games—Play with a partner. our goal is to get the larger total. You can use a calculator to check your computation only after you have placed the integer and operation. On a sheet of paper each of you will set up a series of formulas (start with five lines) as shown below. Each of you will draw two integers from the bag and determine their order in the equation and what operation (addition or subtraction) you want. Remember you are trying to get the largest possible total! After five turns each, you will compare totals. Winner is the one with the largest total. **Variations:** Goal--the smallest total! Goal—set a target number, the winner is the closest—Not Price is Right Style! You can be over or under, but who is the closest? Example, you try to get as close to 23 in 5 turns as possible. Change the range of integers you use.

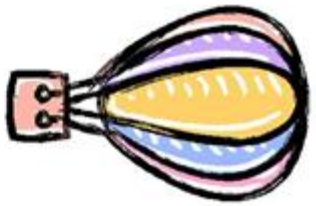
1. _____ ☐ _____ = _____

2. _____ ☐ _____ = _____

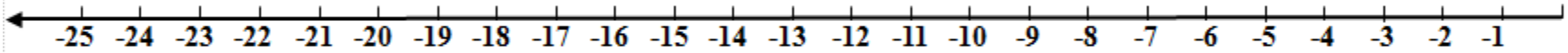
....

TOTAL _____

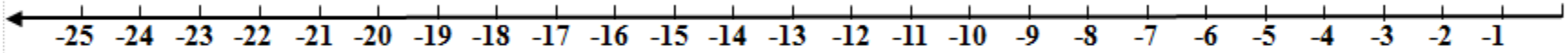


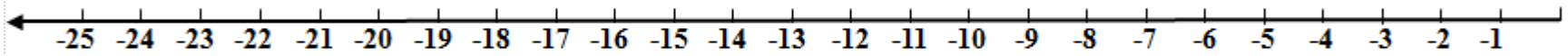


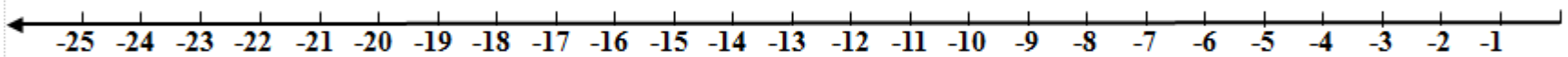
Initial Position



Final Position




-25 -24 -23 -22 -21 -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1


-25 -24 -23 -22 -21 -20 -19 -18 -17 -16 -15 -14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1