




## Packet 3: Integer Addition and Subtraction

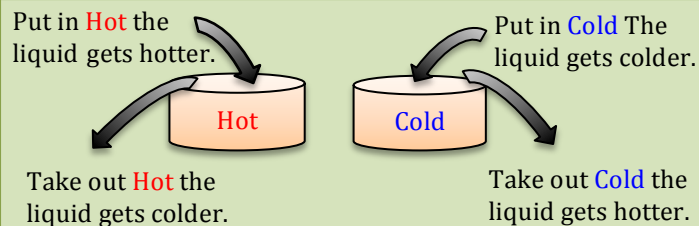
Dear Parents/Guardians,

Packet 3 introduces the temperature change and counter models for working with integers. The models are most powerful when used together. Temperature change is meaningful and intuitive. Counters are helpful for visual and tactile learners. Students will represent quantities and add and subtract with the models. Then they will use the models to develop rules for addition and subtraction of integers.

### Counter Model

-  A positive (+) counter is represented by a red counter.
-  A negative (-) counter is represented by a blue counter.
-  A "zero pair" is represented by one red and one blue counter.

### Temperature Change Model



**By the end of the packet, your student should know...**

How to represent integers using a temperature change model and a counter model  
Lesson 3.1

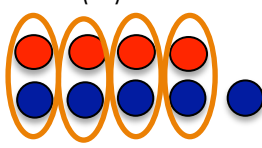
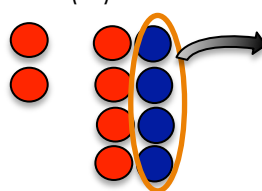
How to add and subtract integers using a temperature change model and a counter model  
Lessons 3.2 and 3.3

Relate the temperature change model and counter model to the 'rules' for adding and subtracting integers  
Lessons 3.2 and 3.3

### Additional Resources

Resource Guide (RG)  
Part 1, pages 31-39

### Addition and Subtraction

$4 + (-5) = -1$ 	$2 - (-4) = 6$ 
Counter Model	
Start with a value equal to zero. Create a value of 4. Add 5 negatives. Notice 4 zero pairs. 1 negative is left.	Start with a value equal to zero. Create a value of 2. Since there are not -4 to remove, create 4 zero pairs. Remove -4. 6 positives are left.
Temperature Model	
Start with a temperature of zero. Create a temperature of 4. Add five cold nuggets. 1 cold nugget is left.	Start with a temperature of zero. Create a temperature of 2. To remove 4 cold nuggets means the temperature is 4 degrees hotter. The temperature is 6.