MAKE SENSE OF PROBLEMS AND PERSEVERE IN PROBLEM SOLVING THEM

What this means...

Students have a right to make sense of math problems.

What this sounds like...

I can choose efficient strategies for ME.

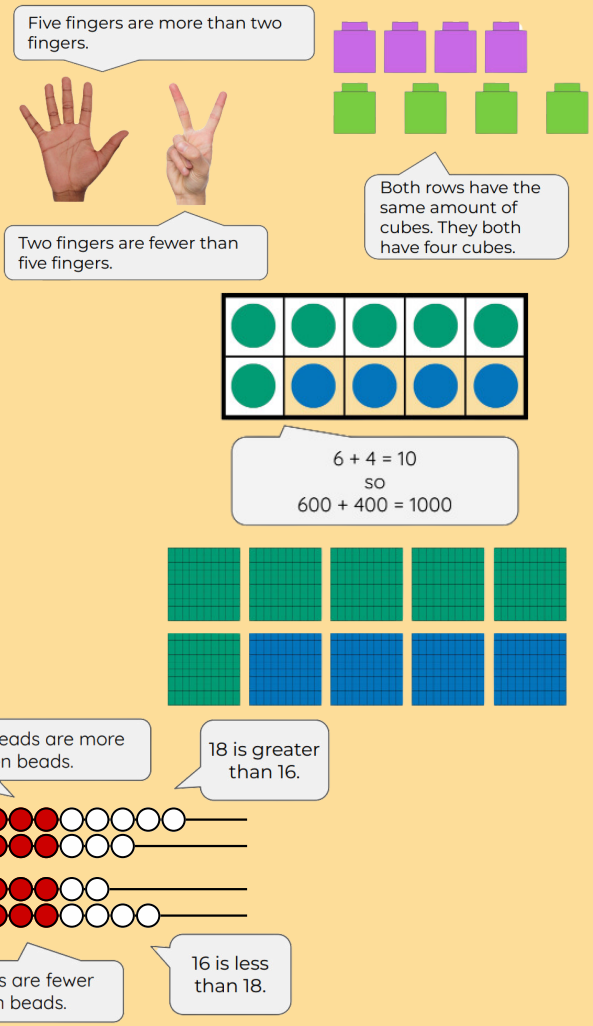
I can think about the numbers first.

I can productively struggle and check my work to grow my thinking.

I can represent my math thinking in flexible ways.

I can check my models and strategies to make sure they make sense.

What this looks like...



USE APPROPRIATE TOOLS STRATEGICALLY

What this means...

Students have a right to use math tools.

What this sounds like...

I can build with concrete tools to solve problems.

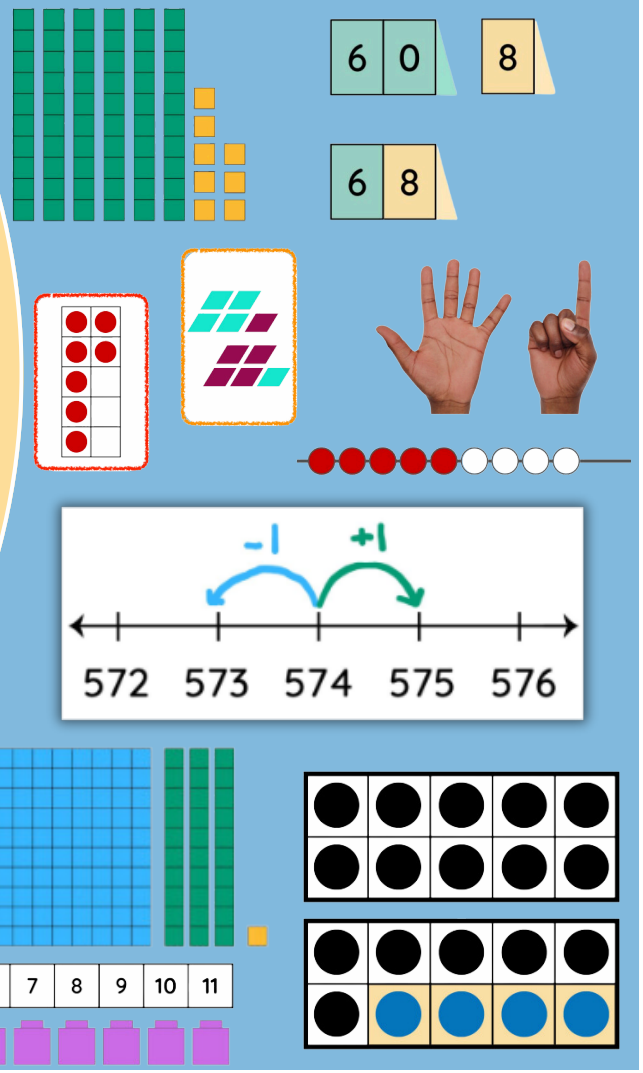
I can use drawings and math symbols to solve problems.

I can use math tools to take numbers apart and put them together to solve problems.

I can use different tools to help me solve and explain my thinking.

I can choose a tool that would be best for the problem.

What this looks like...



MODEL WITH MATHEMATICS

What this means...

Students have a right to create models that make sense to them.

What this sounds like...

I can use tables, charts and graphs to show patterns in my thinking

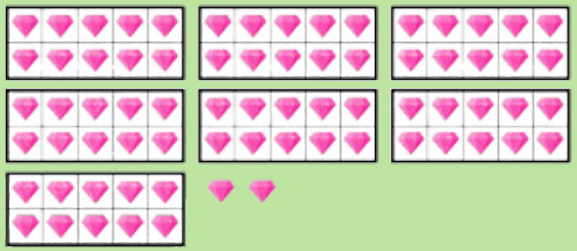
I can build with math tools to show my thinking.

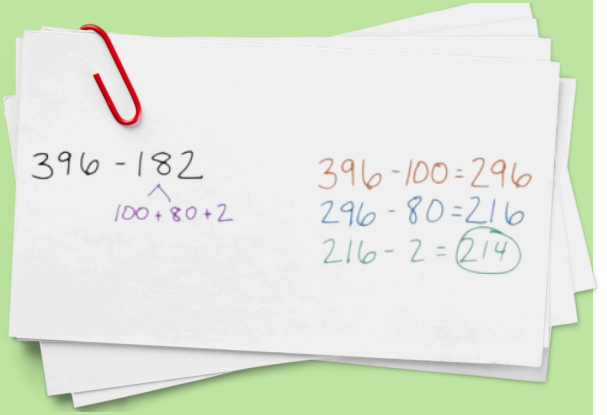
I can use math models to show and solve problems in my life.

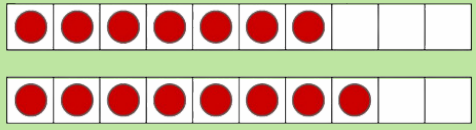
I can use numbers and symbols to show my thinking.

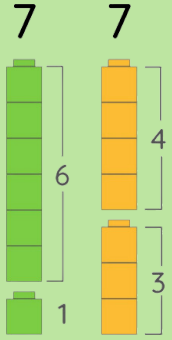
I can draw pictures to show my thinking.

What this looks like...









CONSTRUCT VIABLE ARGUMENTS AND CRITIQUE THE REASONING OF OTHERS

What this means...

Students have a right to talk about their math ideas and hear about other people's ideas.

What this sounds like...

I can ask questions about others' models and strategies.

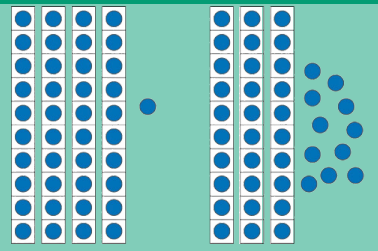
I can use tools and models to justify my ideas and the ideas of others.

I can make connections between my ideas and models and other peoples.

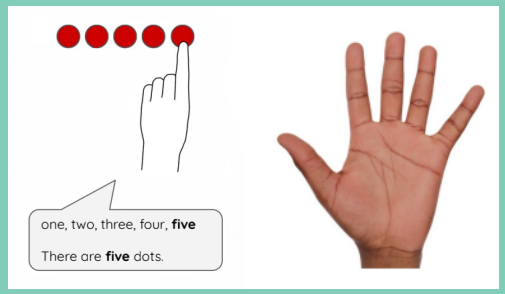
I can compare and contrast different models and strategies.

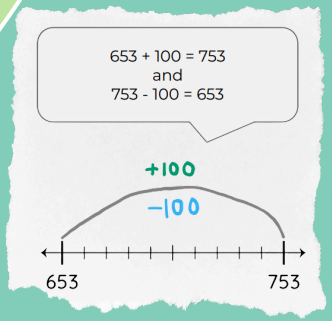
I can share my math ideas with others.

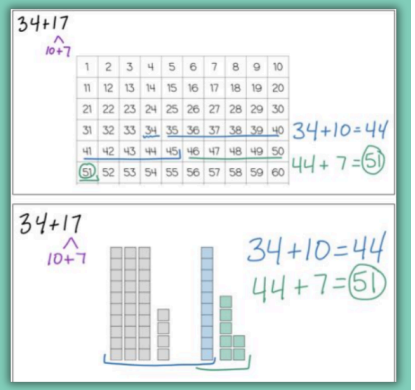
What this looks like...



41 is...
4 tens and 1 one
AND
3 tens and 11 ones.







ATTEND TO PRECISION

What this means...

Students have a right to their own words and ideas to explain their math thinking.

What this sounds like...

I can use my math words and ideas to justify my thinking.

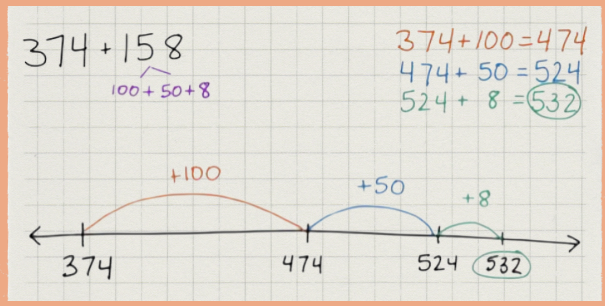
I can use my math strategies to solve a problem accurately.

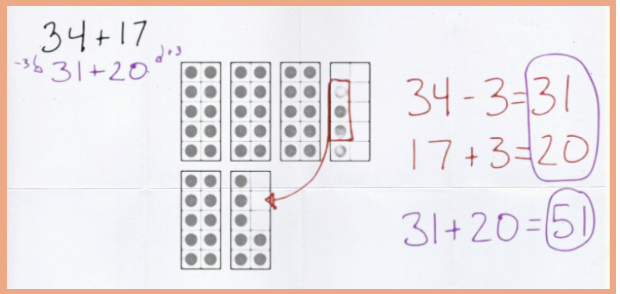
I can show and connect my thinking with math symbols.

I can label each part so everyone can understand my thinking.

I can organize models and strategies so other people can understand.

What this looks like...





REASON ABSTRACTLY AND QUANTITATIVELY

What this means...

Students have a right to make sense of the numbers in equations and story problems.

What this sounds like...

I can choose to use addition or subtraction and multiplication or division when it makes sense to me.

I can create a story or picture for numbers and equations.

I can connect the correct numbers and labels to the story parts when I am problem solving.

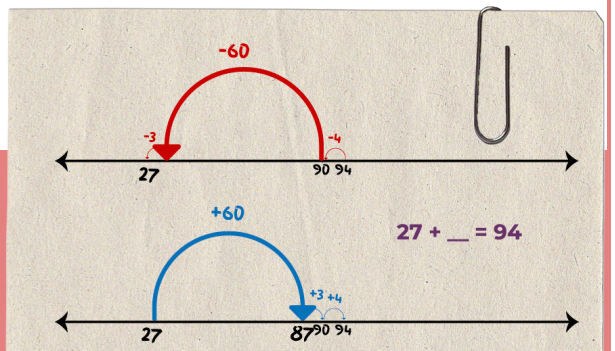
I can make sense of the numbers and story together in a problem.

I can show the math inside a story problem with numbers, pictures and words.

What this looks like...

Choose 1: 27 + __ = 94 327 + 184 = 94 + 9 =

Write a story about the problem you chose and then solve.
Draw a model to show your thinking.

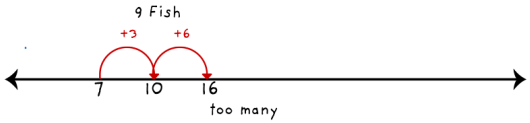


Gia was going to the pet store to buy new fish. She already has 7 fish. Her fish tank can hold 15 fish. Gia thinks she can buy 9 more goldfish. Can she?

Draw a model to show your thinking.

7 fish + 9 fish = 16 fish

Gia can't! She could buy 8 fish.



LOOK FOR AND MAKE USE OF STRUCTURE

What this means...

Students have a right to look for and make use of patterns in numbers and problems.

What this sounds like...

I can find patterns between addition and subtraction or multiplication and division facts.

I can organize and show patterns in flexible ways.

I can make connections between related facts.

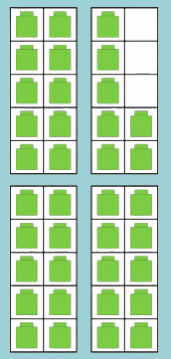
I can take numbers apart and put them together in lots of different ways.

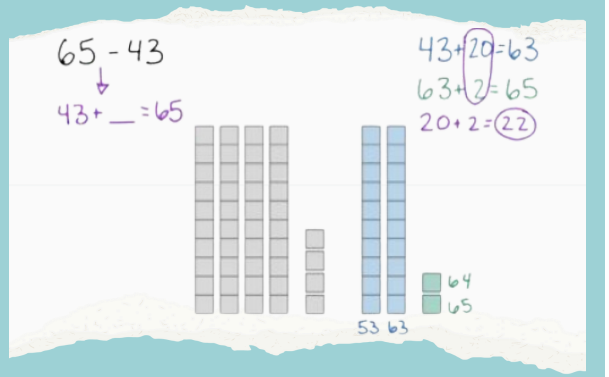
I can find patterns in numbers.

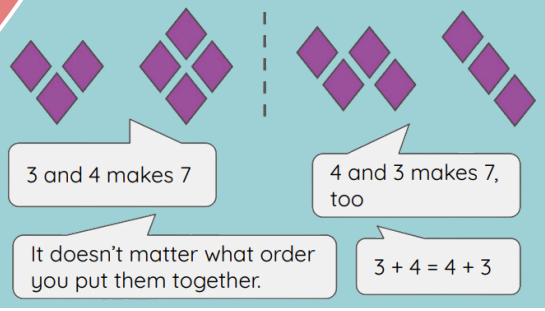
What this looks like...

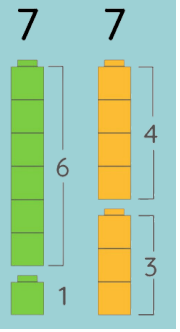
ten, twenty, thirty,
thirty-one, thirty-two,
thirty-three, thirty-four,
thirty-five, thirty-six,
thirty- seven

There are **thirty-seven** cubes.









LOOK FOR AND EXPRESS REGULARITY IN REPEATED REASONING

What this means...

Students have a right to look for, explore and explain patterns that will always work with numbers and operations.

What this sounds like...

I can use patterns to make rules that can be used to solve the same kind of problem.

I can use estimation to make sure my thinking is reasonable.

I can find and name patterns.

I can use the same strategies for different types of problems.

I can make conjectures (will that always work?)

What this looks like...