



# Planning 23

**Marian Small**

**August, 2018**

# We don't have a lot of time, so..

- I thought I'd begin by taking you through the process I use to create a lesson.
- Then we'll do a little bit of work together.
- And you'll set up questions for me I can deal with tomorrow.

# First steps

- I need to look at the expectations I am asked to cover but I have to decide what **ideas** I need to make sure I bring out.

# For example

- By the end of Grade 2, students will:
- compare and order whole numbers to 100 using a variety of tools;
- determine the ten that is nearest to a given two-digit number and justify the answer

# For example

- By the end of Grade 3, students will:
- compare and order whole numbers to 1000 using a variety of tools;
- round to the nearest ten

# But what are the ideas?

- A number is greater if it comes later in the counting sequence.
- Sometimes you can decide which is greater by estimating, but not always.
- Sometimes you can decide which is greater by comparing both to a common third number.

# But what are the ideas?

- It is easier to compare when both numbers are represented using the same model.
- Sometimes you compare two numbers by saying how much more one is than another and sometimes by telling how many times as big one number is than another.

# But what are the ideas?

- The greater digit matters more when comparing numbers, but the smaller digit matters more when rounding.

# What you can see

- is that we can apply what we saw this morning to create open questions.
- And we will do that.
- Then I will also show you the notion of creating a whole lesson using backward design.

# A number is greater if it comes later...

- How do you know that 4[] is more than 2[] no matter what numbers are missing?

# Comparing by Estimating

- A number is close to 20.
- Another number is close to 30.
- Which number is more? Why?

# Comparing to a Benchmark

- How do you know that any 2-digit number is less than any 3-digit number?

It is easier to compare with the same model.

- A number near the middle of a 100 chart is greater than another number on the chart.
- Where could the other number be on the chart?

# It is easier to compare with the same model.

- You compare two numbers using base ten blocks. The one that uses 8 blocks is less than the number that uses 3 blocks.
- How could that happen?

# Additive vs Multiplicative Comparison

- Jane thinks that 12 is so much more than 3 than 80 is than 60.
- Does that make any sense to you?

# Which Digit Matters?

- You have to decide whether  $[\ ][\ ]3$  or  $4[\ ]7$  is greater.
- You are only allowed to ask about the value of one of the missing digits.
- Which would you choose? Why?

# Which Digit Matters?

- You have to decide which ten number the number  $\square 4 \square$  is closer to? Which digit will you ask about? Why?

And here is a lesson

# Or I could build an activity

- Play with two other students.
- Stack number cards face down in one pile.
- Each of you take two cards from the top of the pile. Do not show your cards.
- Form a two-digit number with your cards.

# Or I could build an activity

- Each of you predicts if you will be lowest, in the middle, or highest.
- Everyone shows their numbers. If you predicted correctly, you get 1 point.
- The first player with 10 points wins.

# Now you plan

- Plan a number lesson that focuses on ideas and is differentiated by being open.

# For tomorrow

- What do you want me to be ready to work on with you?