

# Week 1

## Day 1: What, Why, and Doubles

Lesson Focus: Introduce efficiency and flexibility of strategies. Introduce doubles strategy for  $\times 2$  facts.

Video of Elicia teaching this lesson: [https://www.youtube.com/watch?v=3SPiZHL\\_sdI](https://www.youtube.com/watch?v=3SPiZHL_sdI)

1. Have a discussion about the WHY with students...
  - a. To get multiplication facts **correct**
  - b. For them to be **automatic**
  - c. For the students to be **flexible** in their use of **strategies**
  - d. For the students to choose/use a strategy that is **efficient**
2. Show students the subtraction fact on the Smartboard 9-7
  - a. Ask students to silently think about how they would solve that problem without paper and pencil
  - b. Before showing the students the video of 2 students tell them that you are going to show 2 different common **strategies** and that you are going to ask them which they think is most **efficient**.
  - c. Show the video of both students.
    - i. Ask students to share out or turn and talk about which strategy they think was most efficient and why
    - ii. Take all answers, but guide to the student that counted up from 7 to get to 9.
    - iii. Reinforce that our goal is to be able to choose the most efficient strategy
3. Show students the models of  $2 \times 7$  and  $7 \times 2$  but DO NOT tell them anything except that you want them to be able to tell what's the same and what's different about each model.
  - a. Ask students to turn and talk then share out and record all answers on the smartboard. Your main goal is to guide them to discovering that  $7 \times 2$  is much easier to figure out because all you have to do is "double" the 7. Hence:  $7 \times 2 = 7 + 7$  rather than 2,4,6,8,10,12,14 or  $2 + 2 + 2 + 2 + 2 + 2 + 2 = 14$
  - b. Make sure you are guiding them to learn that it's a strategy to "double" the other factor when multiplying by 2. Create an anchor chart of STRATEGIES to use throughout this unit.
4. Show students the next slide on the SMARTboard presentation and read the directions. DO NOT pass out the slip of paper until you are ready to have them do it. Model 0,1, and 2 then set them loose.
  - a. Ex:  $2 \times 0 = 0 + 0 = 0$ ,  $2 \times 1 = 1 + 1 = 2$ ,  $2 \times 2 = 2 + 2 = 4$
  - b. Remind them to tell what pattern they discover when they are done and also to challenge themselves at the bottom, maybe using larger numbers.
5. Debrief/Closure: Ask students to turn and talk about the why and what of the day's lesson.

## Day 2: Doubles - How Close to 100?

Lesson Focus: Students will practice doubles strategy using a game.

Video of Elicia teaching this lesson: <https://youtu.be/8HB1CNQbKBg>

1. Quickly review the goals and purpose (stated in Day 1)
2. Show students the Smartboard with 2 different models of two 2s facts
  - a. Ask students what are the facts that the models are expressing.
    - i. Ask students that already get the doubles strategy to explain to the class how they would solve the problem.
3. Explain and model the game How close to 100?
  - a. This game is designed to identify and model the 0s, 1s, and 2s.
    - i. Each partner team will receive one 0-2 die and a die with 0-10.
    - ii. One person rolls both dice and must draw an array that corresponds to the multiplication fact rolled. They must also shade in the array and then write the fact below on the bottom of the paper- there are lines for that.
    - iii. Once that person is done, the other partner will follow suit.
    - iv. The object is to be able to fit your array on the board. If a person can not fit their array, they lose.
      1. Be weary of when a student rolls a 0 fact. They cannot put anything on the board, but that is their “model” so, they will still have to write their fact at the bottom of the paper.

### Day 3: Introduce Fours

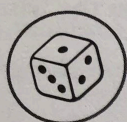
Lesson Focus: Twos group will practice with How Close to 100, while fours group learns the double double strategy.

1. Display and quickly refer to the the 4 goals:  
When solving multiplication facts, you will...
  - a. Answer correctly
  - b. Answer automatically
  - c. Use more than one strategy
  - d. Choose an efficient strategy
2. Ask the group who is ready to start 4's to move to the teacher table. While they are waiting for you, they should notice, wonder, and quietly talk about the cards that are scattered out on the table. The cards will be just the twos to fours cards from [this deck](#).
3. Ahead of time, group the remaining students in partners and pass out materials to play How Close to 100 again. Once they are settled and working, move to the teacher table.
4. Teacher Table:
  - a. Using a laptop or Chromebook at your table, [display this presentation](#).
    - i. With each slide ask:
    - ii. How many on image A? How do you know?
    - iii. How many NOW on image B? How do you know?
    - iv. After a while, ask Generalizing and Extending questions, like:
    - v. How does model A help you with model B?
    - vi. What is the same and different about A and B?
    - vii. What do you notice about all of these models?
  - b. If you finish early, they will start How Close to 100 with the 4, 4, 2, 2, 5, 1 die. Ask them to tell you when they roll a four. Listen for kids who might be using the double double strategy.

## Day 4: Practice Twos and Fours - Doubles Bingo

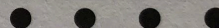
Lesson Focus: After using the quick images routine, students will learn the Doubles Bingo game to practice twos and fours facts.

1. Doubles quick look images with everyone:
  - a. Flash the first image. How many is it?
  - b. Flash the second image. How many do you see now?
  - c. Continue through 4 other pairs. They are all doubling.
  - d. If it doesn't already come up, ask, "How do these models connect to the strategy we've been working on this week?"
2. Teach everyone this game. The six from yesterday will have a card with multiples of 4. Everyone else will have doubles.



### GAME 6

## DOUBLES BINGO



**For the whole class, you need:** one blank  $4 \times 4$  bingo card per student, 16 bingo chips per student, one deck of cards with kings and jacks removed (ace = 1, queen = 0)

**How to play:** Provide a list of the doubles sums: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, and 20. Each student fills in a blank  $4 \times 4$  bingo card, writing a number from this list in each space. Some sums will need to be repeated, and not all sums must be used. To begin play, draw a card from the deck. Students must use that card to make an addition doubles fact. For example, if a 4 is drawn, students find the answer to  $4 + 4$  and cover the doubles sum (8) on their cards. Only one space can be covered on each turn, and students cannot move a bingo chip after it has been placed. Four chips in a row (horizontally, diagonally, or vertically) results in a bingo.

**Possible variations:** Use a  $5 \times 5$  bingo card. Adapt the game to any fact set by simply giving the students the list of possible sums. For example, students can play Two Less Bingo to practice the  $-2$  facts, using a card deck with only 2–10 and a bingo card with the numbers 0–8.

## Day 5: Practice Twos and Fours

Lesson Focus: After using the Which One Doesn't Belong routine, students will repeat the Doubles Bingo game with twos or fours facts.

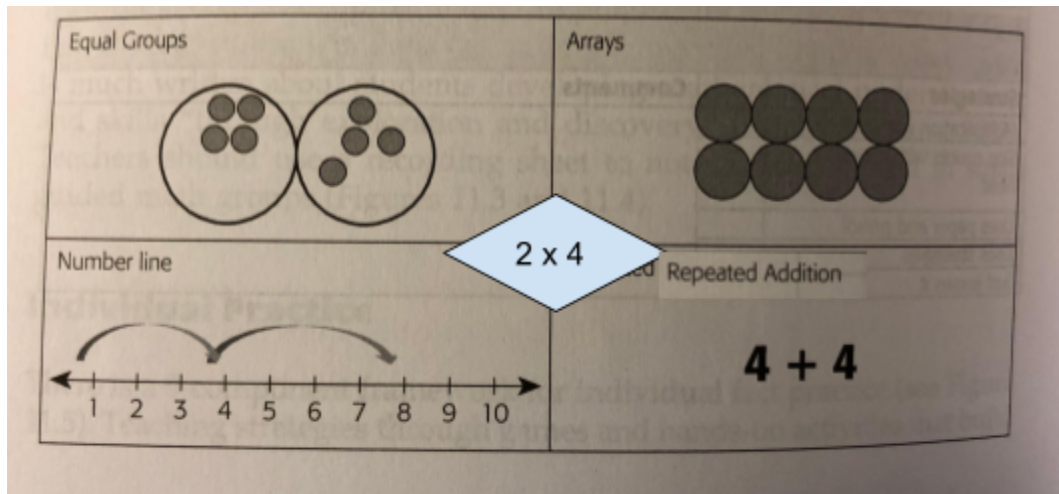
1. Number Sense Routine - Which One Doesn't Belong
  - a. Show this image: <https://wodb.ca/images/number38.JPG>
  - b. Ask students to think about which one they think doesn't belong and why.
  - c. Provide quiet think time
  - d. Allow time for sharing
2. The 2s group will play Doubles Bingo again. The 4s group will play Double Doubles Bingo again.
3. Observe individual students. Consider keeping a checklist to record who is and isn't using the doubling strategies.

# Week 2

## Day 6: Frayer Model & Self-Assessment

Lesson focus: Students will complete a Frayer model for a fact that is tricky for them, then complete a self-assessment on the facts they have learned so far.

1. Teach students how to do a 4-Square Model It task. Post a copy of  $2 \times 4$  (you can use this one or make your own) and have them help you make  $2 \times 6$  as a model.



- a. Fold the paper hotdog style, then hamburger, to make fourths.
  - b. Fold the inside corner down slightly.
  - c. Open it up. Example here:  
<https://artclassbailiwick.com/2017/11/01/how-to-fold-the-thinker-model-aka-frayer-model/>
  - d. Place the doubles (or fours) fact that is hardest for you to "just know" in the center.
  - e. In the 4 quadrants, show equal groups, an array, a number line, and repeated addition.
2. Before turning them loose to do their own with 2s or 4s, show them how to use the Math Flips to practice when they are done. You can review instructions on the first page of [this document](#).
  3. Give students time to create their 4-Square Model It. [These number lines](#) can be printed and cut out and glued on to make the number line step quicker.
  4. When they finish, they will get the appropriate set of Math Flips and practice individually or with a partner who's on the same cards.
  5. Finish with the Just Knew It self-assessments.



## Day 7: Capture 5 First

Lesson Focus: Everyone will learn the Capture 5 First game. While the twos group plays with twos, fives, and tens, the fours group will learn the double double double strategy for eights.

1. Teach & model this game to everyone. Discuss strategies or patterns for 5s and 10s as you play it. The twos group will have the following index cards: 2, 2, 2, 5, 5, 5, 10, 10, 10

**GAME 28**

**CAPTURE 5 FIRST**

**For two players, you need:** deck of playing cards with face cards removed (ace = 1), 9 index cards per player

**How to play:** Players prepare for the game by writing 2 on three of their index cards, 5 on three cards, and 10 on the remaining three. Each player takes a card from the deck without showing it to the other student. They then pair this card with an index card in their hand, hoping to create the greater product. Both students reveal their cards, and the player with the greater product receives a point. The playing cards and index cards are both discarded, and play continues. The first player to score five points wins the game.

**Possible variation:** Change the index cards to other factors to practice different fact sets.

2. 2s group will get started with the game while the 4s group looks and Math flips at the teacher table that are showing 8s facts. You'll need to pull these out of the set you already have.
3. Teacher Table:
  - a. Using a laptop or Chromebook at your table, [display this presentation](#).  
With each slide ask:
    - How many on image A? How do you know?
    - How many NOW on image B? How do you know?
    - How many NOW on image C?  
After a while, ask Generalizing and Extending questions, like:
    - How does model A help you with model B? And C?
    - What is the same and different about A and B and C?
    - What do you notice about all of these models?

## Day 8: Teaching Fours

1. Get the 8s team started on yesterday's game, Capture 5 First, with the 2,4,8 notecards. Remind them that they can solve 8s by doing double-double-double.
2. Introduce 4s to the rest of the class:

- a. [Display this presentation](#).

With each slide ask:

- How many on image A? How do you know?
- How many NOW on image B? How do you know?

After a while, ask Generalizing and Extending questions, like:

- How does model A help you with model B?
- What is the same and different about A and B?
- What do you notice about all of these models?

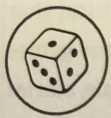
## Day 9: Bingo

1. Complete a Number Talk from [this document](#). Choose one that you think will be engaging and be an appropriate match for the majority of your students.
2. Fours group will play the 4s BINGO game that you already have.
3. Eights group will play the 8s [BINGO game](#).



## Day 10: Multiplication Pathways

1. Teach [Multiplication Pathways](#). There are two different game boards based on which facts students are working on. [A Smart Notebook file](#) is provided to model the game using the 4s game board. The game works the same for those working on 8s, they just have different factors & products.
2. Pairs will work together. Put the game boards in sheet protectors and encourage them to play several rounds, trying to get different paths each time.



GAME 31

### MULTIPLICATION PATHWAYS • • • •

**For two players, you need:** two paper clips or clear counters, pencil (or marker, if the game board is laminated),  $4 \times 6$  game board with foundational fact products in the squares:

S T A R T	0	40	20	3	2	5	F I N I S H
	8	10	5	30	0	10	
	5	20	8	50	6	20	
	10	4	0	10	30	12	
0 1 2 3 4 5 6 10							

**How to play:** Players work as a team to find a pathway across the game board from left to right. To begin, players place paper clips on two different numbers at the bottom of the board, trying to make a product shown in the first column on the left. They then shade in that box on the game board. Next, they must decide which of the two clips to move to form the product directly to the right of the shaded square, either horizontally or diagonally. They cannot move vertically or backwards! The object is to get all the way across the game board. If they cannot form a product on any given move, they must go back to Start and try again.

**Possible variations:** Factors at the bottom of the board and products in the squares can be changed. To practice multiplication square products, allow students to place both clips on the same number.

# Week 3

## Day 11: Repeat Pathways

If needed, complete a number talk from [this document](#).

Play the Pathways game again. (Day 10)

## Day 12: Frayer Model

Students will complete a Frayer Model for one fact they find the most tricky. (See Day 6)

Use playing cards to practice 4s or 8s. Ex. Lay down one four on the table. Flip a card down beside it, say the product. Continue going through the whole deck, trying to use the doubling strategies.

## Day 13: Bingo

Bingo

## Day 14: Self Assessment

Self-Assessments.

- One group will have [0, 1, 2, 4, 5, 10](#).
- The other will have [2, 4, 8](#).

## Day 15: Remediation/Extension

Number Talk

Students who missed a few - 2 Frayer Models of the two they missed

Students who knew them all - Watch 24 How to video and play

Put this link on Google Classroom: <https://www.youtube.com/watch?v=fWEEu9JxyYo&t=1s>

Students who missed most - At table, make an anchor chart about multiplying by 0, 1, 5, 10, 2