Lesson Printables

Be a rockstar and only print what you need!

Lesson Information Sheet: 2

Sunlight Zone
Game: 3

Twilight Zone
Game: 4

Midnight Zone
Game: 5

Extras
Thinking Step Templates: 6-7

Let's multiply multiples of 10 and 100

Why learn this?

Learning how to multiply numbers by multiples of 10 and 100 prepares students for more advanced math. Learning how to break problems into simpler or 'easier' pieces to solve teaches students to apply number flexibility and will help them to solve more complex multiplication problems in future lessons.

Using number flexibility to multiply 1-digit numbers by multiples of 10

Multiplying by multiples of 10
- Numbers are flexible and can be broken into simpler parts to work with.
- Let's look at 4 x 60.
  - ➔ 60 can be broken into 6 x 10.
  - ➔ The new number sentence could be written as 4 x 6 x 10.
  - ➔ 4 x 6 = 24 and 24 x 10 = 240.

Multiplying by multiples of 100
- This strategy can be applied for multiplying even bigger numbers.
- Let's look at 3 x 200.
  - ➔ 200 can be broken into 2 x 100 (or 2 x 10 x 10).
  - ➔ The new number sentence could be written as 3 x 2 x 100 (or 3 x 2 x 10 x 10).
  - ➔ 3 x 2 = 6 and 6 x 100 = 600.

Let's warm up!

Starter Activity - Tricky Tic Tac Toe
Students are shown 5 number cards and a 3 x 3 grid of boxes with different amounts in each box. Can students use the cards and any operation to try and make 3 numbers in a row?

To support, students could:
- Be asked guided questions to help them get started:
  - ➔ Can you see two cards that can be multiplied together to get close to 36?
  - ➔ Could you add or subtract a card number to get you even closer to 36?
    - ◆ For example, 5 x 7 + 1 (Ace)

To challenge, students could:
- Make ALL of the numbers. See the solution slide.

Let's do this!

Main Activity - Students will play a game called Trophy Target. Each learning zone has a 'trophy' number that students are trying to get as close as possible to without going over. They have exactly 4 turns to do this. Students should roll a dice and then choose what multiple of 10 or 100 they want to multiply by. (This varies depending on the learning zone.) After each turn, students should record the points that they score. They should add the points from each round together to keep track of their total. Students will need to think strategically, so they get as close to the trophy number as possible without going over. To make this a multiplayer game, players still need to take exactly 4 turns each. The goal is to be the closest player to the trophy number without going over. We encourage students to play at least 2 games, so they can see if they can improve their tactics the more they play the game.

To support, students could:
- Use the strategy thinking steps provided in the printables.
- Multiply numbers by up to 50. See Sunlight Zone.

To challenge, students could:
- Play several rounds of the game. Can students improve their scores? Can they explain their tactics? Do they think multiplying by a big amount first is a good tactic? Why or why not?
- Introduce a second dice into the game. Students could choose either dice, add them together or subtract one from the other before choosing the amount they want to multiply by.

Sunlight Zone

1. Roll 1 dice.
2. Multiply your number by one of the amounts in the colored boxes.
   - ➔ You choose the best option for each round.
3. The product is the amount of points you score in that round.
4. You must complete 4 rounds of the game.
   - ➔ After each round, add your points together to keep track of your point total.
   - ➔ The goal is to get as close to the trophy number as possible without going over.
5. Play again. Can you get closer to the trophy number next time?

X 20 or X 200	X 30 or X 300	X 40 or X 400	X 50 or X 500

Game 1		
Round	Number Sentence	Points
1		
2		
3		
4		

Game 2		
Round	Number Sentence	Points
1		
2		
3		
4		

Twilight Zone

1. Roll 1 dice.
2. Multiply your number by one of the amounts in the colored boxes.
   - ➔ You choose the best option for each round.
3. The product is the amount of points you score in that round.
4. You must complete 4 rounds of the game.
   - ➔ After each round, add your points together to keep track of your point total.
   - ➔ The goal is to get as close to the trophy number as possible without going over.
5. Play again. Can you get closer to the trophy number next time?

X 40 or X 400	X 50 or X 500	X 60 or X 600	X 70 or X 700

Game 1		
Round	Number Sentence	Points
1		
2		
3		
4		

Game 2		
Round	Number Sentence	Points
1		
2		
3		
4		

Midnight Zone

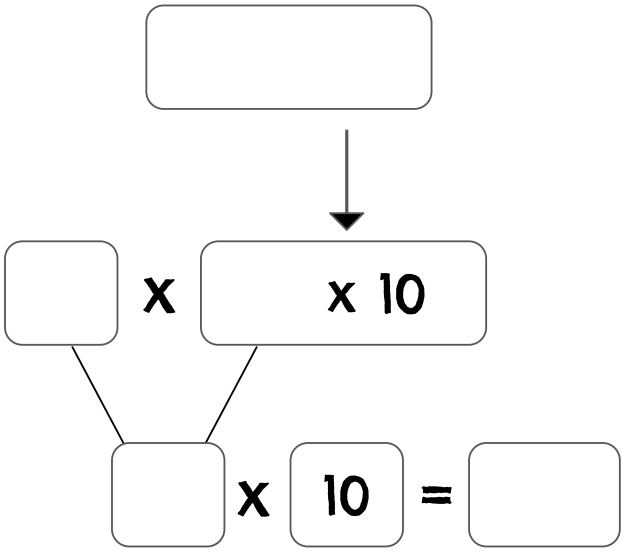
1. Roll 1 dice.
2. Multiply your number by one of the amounts in the colored boxes.
   - ➔ You choose the best option for each round.
3. The product is the amount of points you score in that round.
4. You must complete 4 rounds of the game.
   - ➔ After each round, add your points together to keep track of your point total.
   - ➔ The goal is to get as close to the trophy number as possible without going over.
5. Play again. Can you get closer to the trophy number next time?

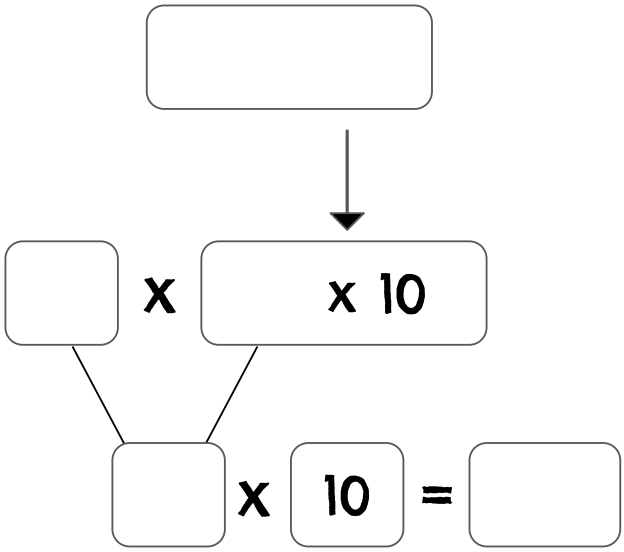
X 50 or X 500	X 60 or X 600	X 70 or X 700	X 80 or X 600	X 90 or X 900

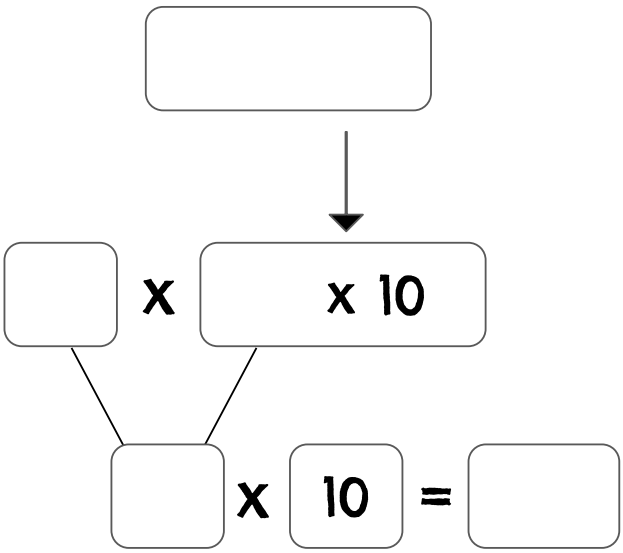
Game 1		
Round	Number Sentence	Points
1		
2		
3		
4		

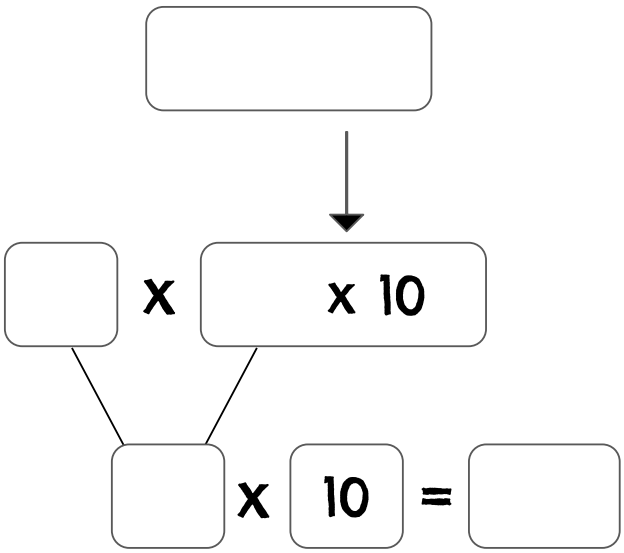
Game 2		
Round	Number Sentence	Points
1		
2		
3		
4		

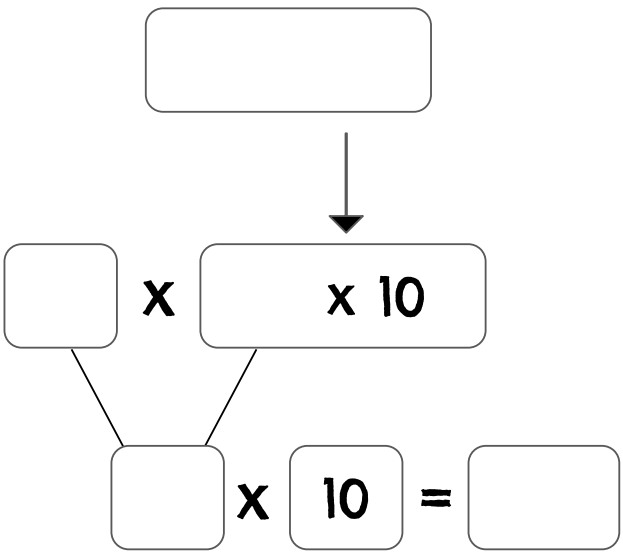
Multiples of 10 Templates

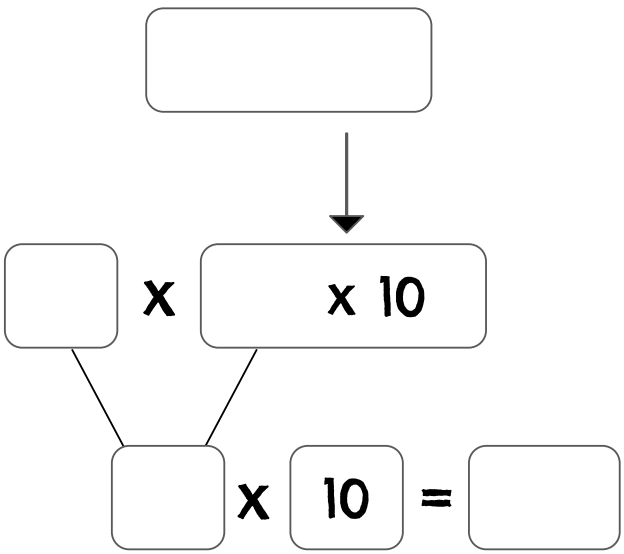












Multiples of 100 Templates