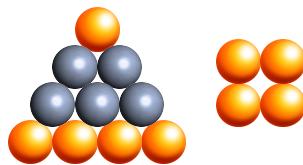
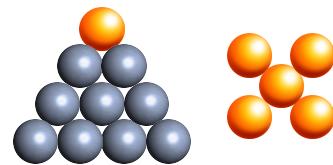


"The Single Digit Addition Game"

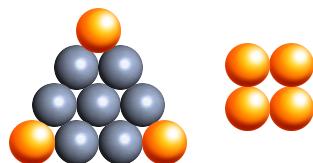
$$9 + 6 = 15$$



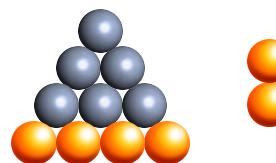
$$8 + 5$$



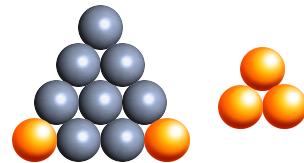
$$8 + 6$$



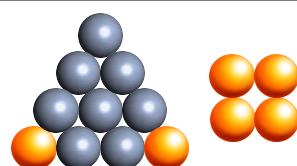
$$6 + 6$$



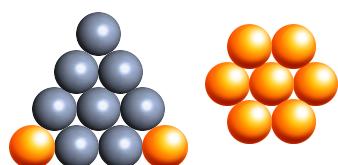
$$9 + 6$$



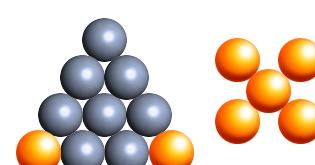
$$7 + 7$$



$$5 + 9$$



$$8 + 7$$



By Andrew Fenner

Select your game and press Start!

One
Minute
Drill

Three
Minute
Drill

Five
Minute
Drill

I just
want to
learn

Start!

Select your game and press Start!

One
Minute
Drill

Three
Minute
Drill

Five
Minute
Drill

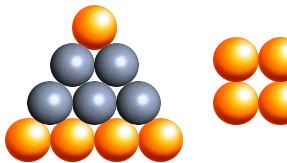
I just
want to
learn

Start!

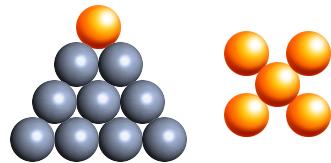
Menu

How many matches you can find?

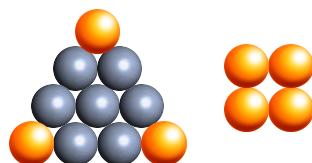
$$9 + 6 = 15$$



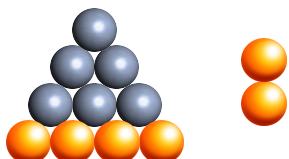
$$8 + 5$$



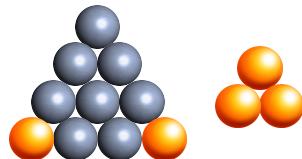
$$8 + 6$$



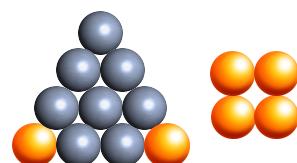
$$6 + 6$$



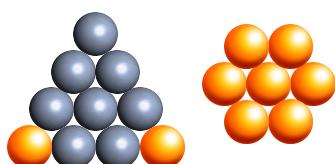
$$9 + 6$$



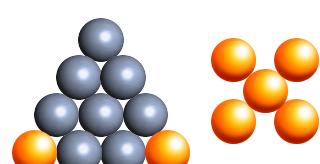
$$7 + 7$$



$$5 + 9$$

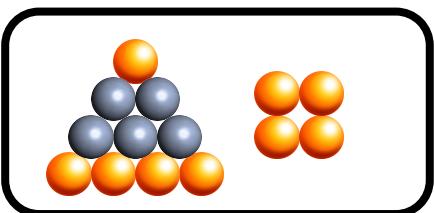


$$8 + 7$$

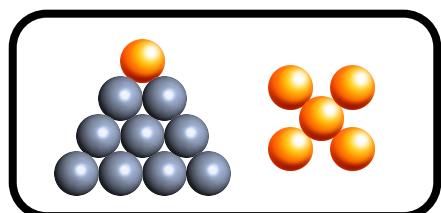


Ok Go!

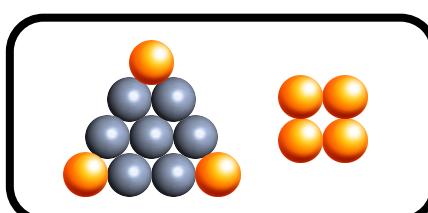
Time



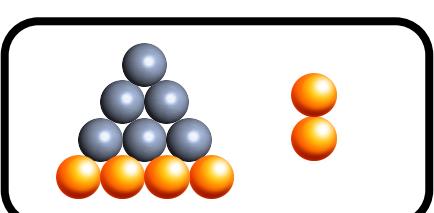
$8 + 5$



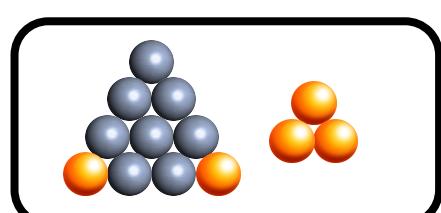
$8 + 6$



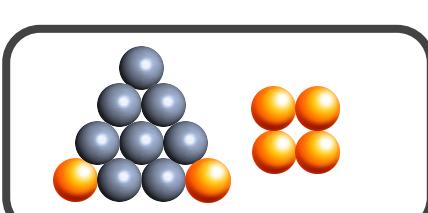
$6 + 6$



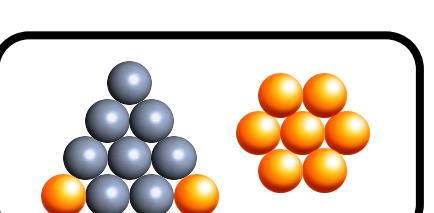
$9 + 6$



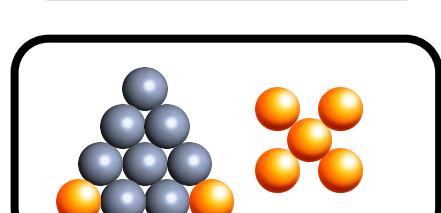
$7 + 7$



$5 + 9$



$8 + 7$



Stop

0:05

Select your game and press Start!

One
Minute
Drill

Three
Minute
Drill

Five
Minute
Drill

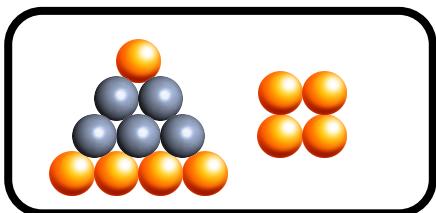
I just
want to
learn

Start!

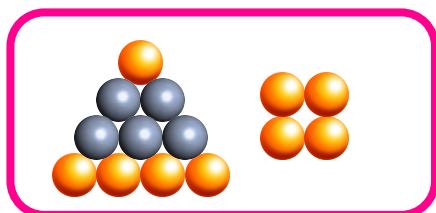
*touching "stop"
returns the user to
this screen

Components

"Shape Tile"

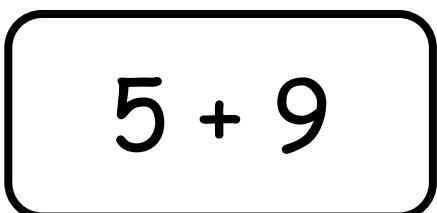


"Selected Shape Tile"



*Touch
↔

"Number Tile"

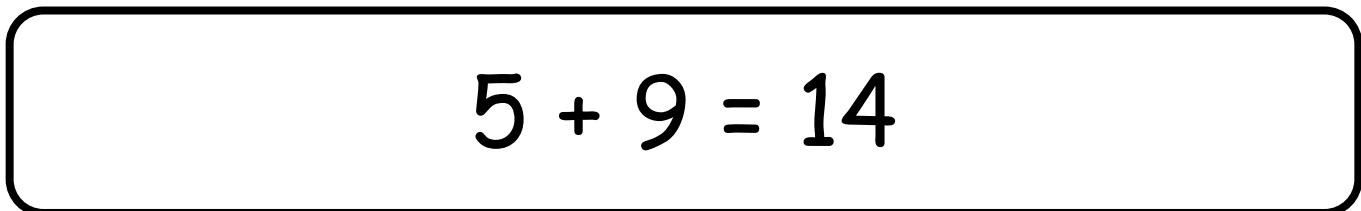


"Selected Number Tile"

*Touch
↔

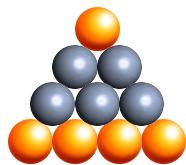
$$5 + 9$$

"Header Tile"

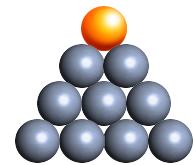


When a Number Tile is selected (touched), it's contents will be displayed in the Header Tile

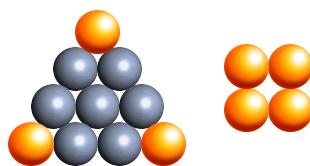
$9 + 6$



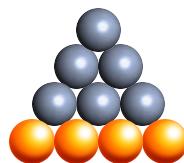
$8 + 5$



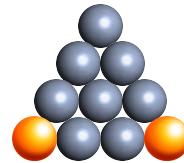
$8 + 6$



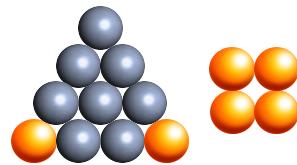
$6 + 6$



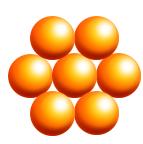
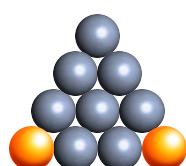
$9 + 6$



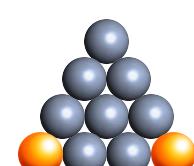
$7 + 7$



$5 + 9$

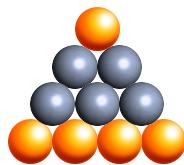


$8 + 7$

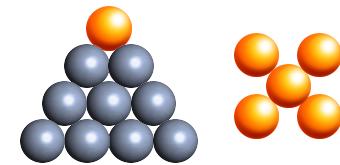


When a Shape Tile is selected it's value will be displayed in the Header Tile

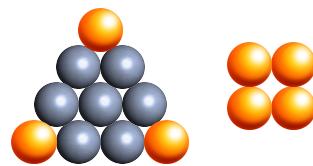
15



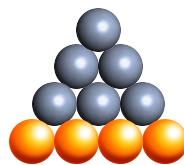
$$8 + 5$$



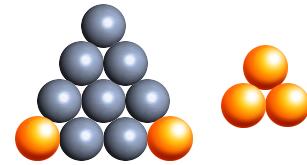
$$8 + 6$$



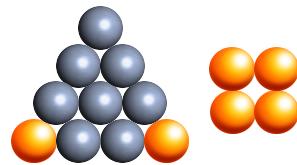
$$6 + 6$$



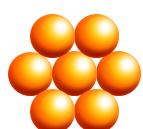
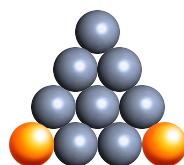
$$9 + 6$$



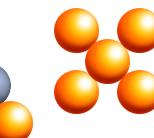
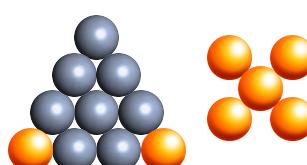
$$7 + 7$$



$$5 + 9$$

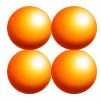
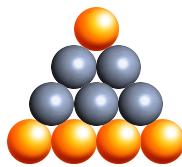


$$8 + 7$$

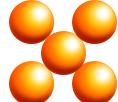
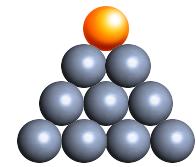


When two matching tiles are selected, the header tile will display the equation and appear "Selected" to indicate a correct match.

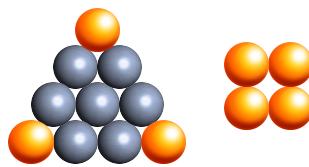
$$9 + 6 = 15$$



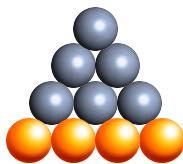
$$8 + 5$$



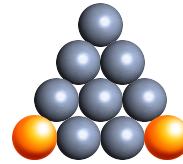
$$8 + 6$$



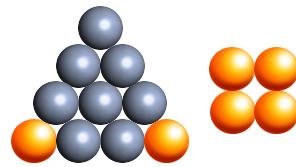
$$6 + 6$$



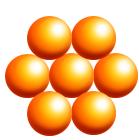
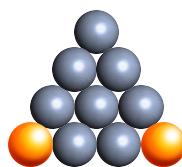
$$9 + 6$$



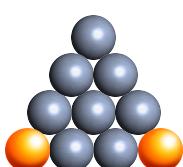
$$7 + 7$$



$$5 + 9$$

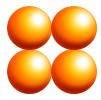
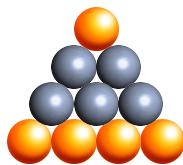


$$8 + 7$$

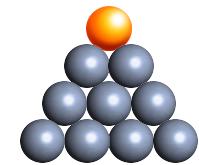


When two non-matching tiles are selected, the header tile will display the equation and but remain colorless.

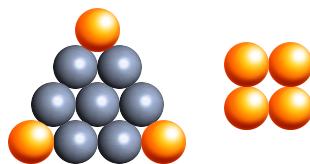
$$8 + 6 = 15$$



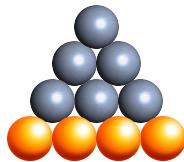
$$8 + 5$$



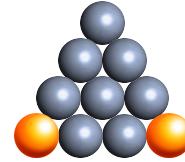
$$8 + 6$$



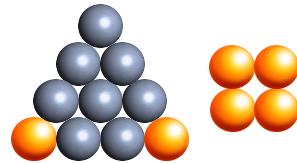
$$6 + 6$$



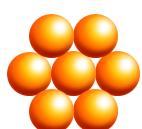
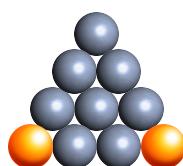
$$9 + 6$$



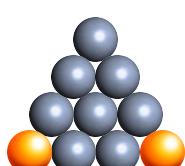
$$7 + 7$$



$$5 + 9$$



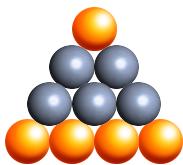
$$8 + 7$$



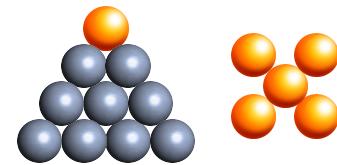
Once a correct match is found, touch anywhere on the Header Bar to "Pick-Up" the match and refresh the game

*Touch

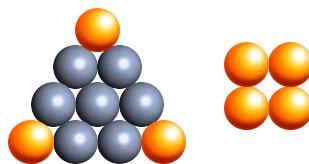
$9 + 6 = 15$



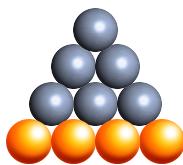
$8 + 5$



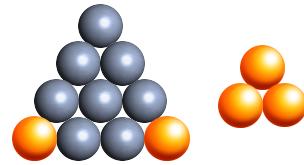
$8 + 6$



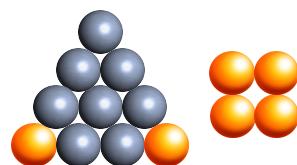
$6 + 6$



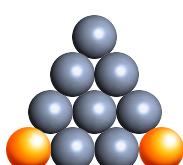
$9 + 6$



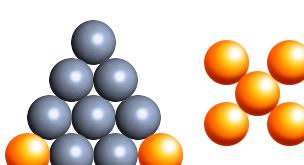
$7 + 7$



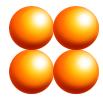
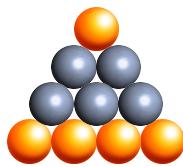
$5 + 9$



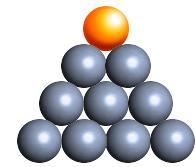
$8 + 7$



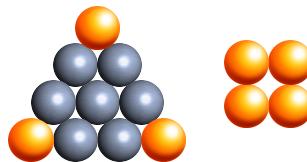
The game board will always have 15 cards and 14 of them will be matching pairs. The 15th card will always be a "Shape Card" and contain no matches on the board.



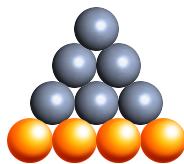
$$8 + 5$$



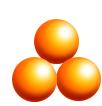
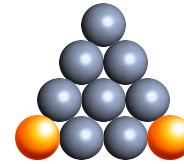
$$8 + 6$$



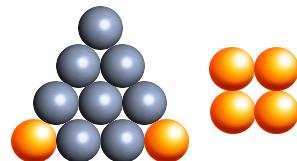
$$6 + 6$$



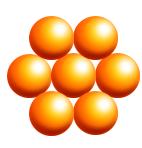
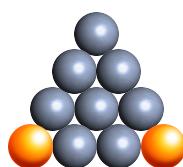
$$9 + 6$$



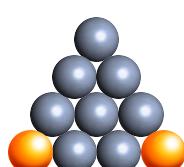
$$7 + 7$$



$$5 + 9$$



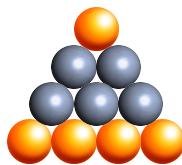
$$8 + 7$$



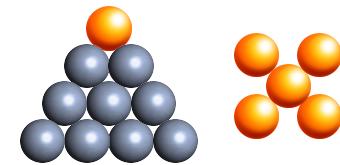
Shape card
with no match

Refreshing the Game

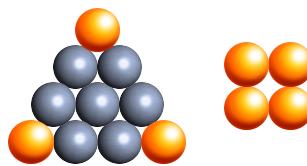
$$9 + 6 = 15$$



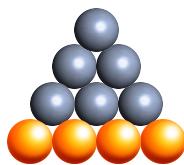
$$8 + 5$$



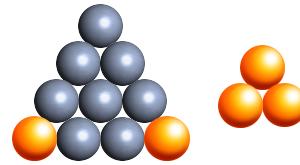
$$8 + 6$$



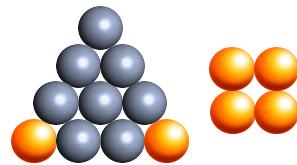
$$6 + 6$$



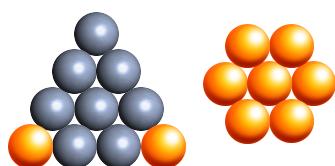
$$9 + 6$$



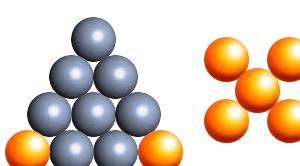
$$7 + 7$$



$$5 + 9$$



$$8 + 7$$



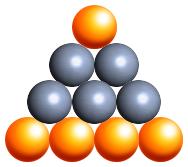
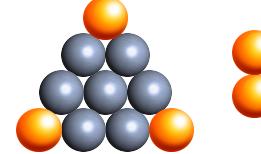
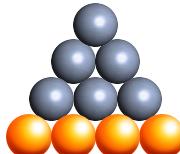
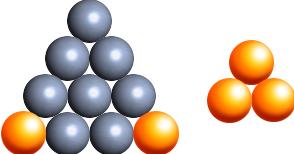
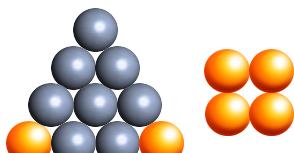
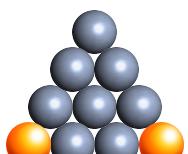
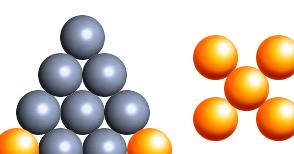
No current
match



This is the game board before the match has been picked up and refreshed.

After Refreshment

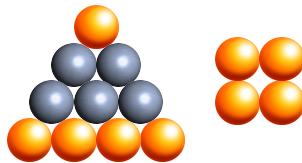
New Shape Tile with no Match

		$8 + 5$
$8 + 6$		$6 + 6$
	$8 + 9$	
$7 + 7$		$5 + 9$
	$8 + 7$	

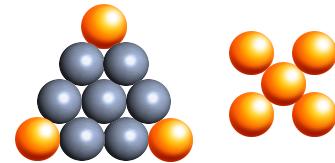
We see that a Number Tile (blue) has been dealt to match the previously unmatched shape card (Pink). A new unmatched shape card has been dealt in the place of the old "matched" shape card.

Order: Case 1

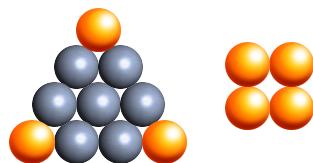
$$8 + 7 = 15$$



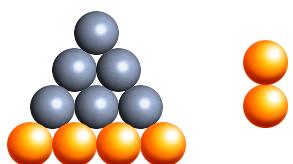
$$8 + 5$$



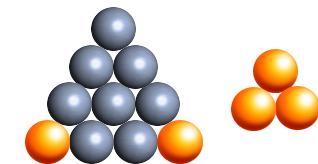
$$8 + 6$$



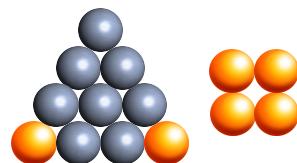
$$6 + 6$$



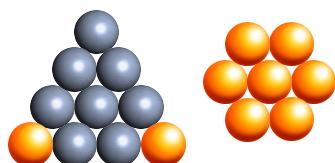
$$8 + 9$$



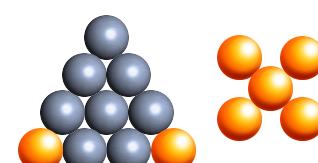
$$7 + 7$$



$$5 + 9$$



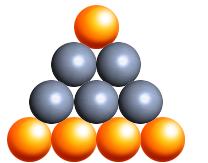
$$8 + 7$$



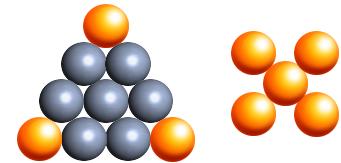
The user can select cards that are "Out of Order." In the example, "8 + 7" has been matched with "7 + 8". When this happens, the "real match" will appear in green.

Order: Case 1

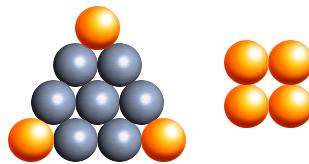
$$8 + 7 = 15$$



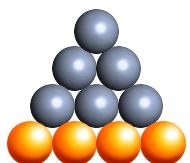
$$8 + 5$$



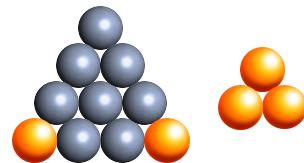
$$8 + 6$$



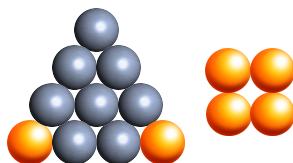
$$6 + 6$$



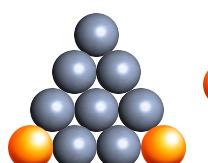
$$8 + 9$$



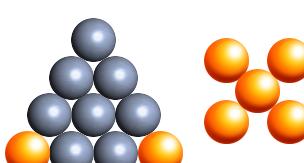
$$7 + 7$$



$$5 + 9$$

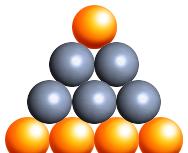
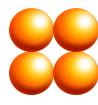
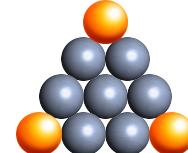
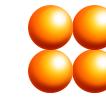
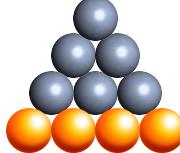
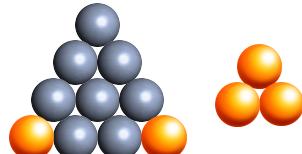
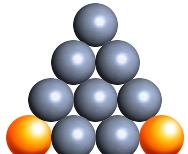
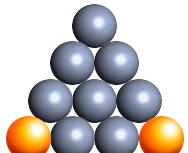
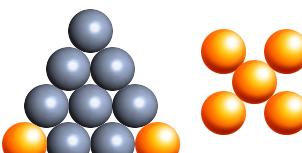


$$8 + 7$$



If this happens to the Shape Tile with no match, the Number Tile will remain on the board (since it still has a match) and the Shape Tile will be replaced with a new "non-matching" Shape Tile.

Order: Case 1

		$8 + 5$
$8 + 6$		
	$8 + 9$	
$7 + 7$		$5 + 9$
	$8 + 7$	

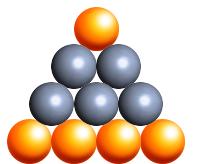
We see now that $8 + 7$ remains on the board and still has a matching Shape Tile. The "out of order" match has been replaced with a new Shape Tile that has no matches in the current game board.

Order: Case 2

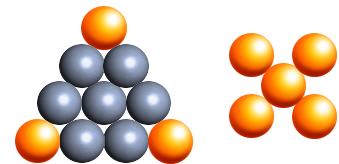
*Touch



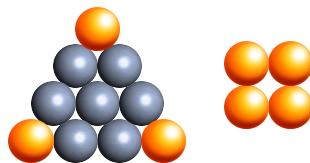
$$8 + 7 = 15$$



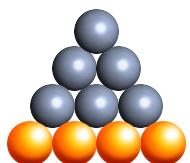
$$8 + 5$$



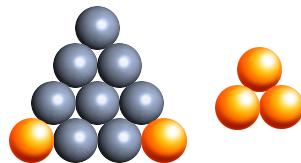
$$8 + 6$$



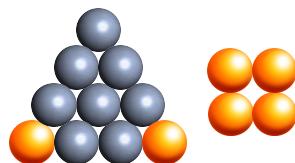
$$6 + 6$$



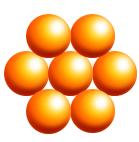
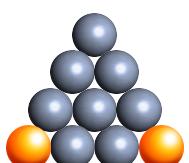
$$8 + 9$$



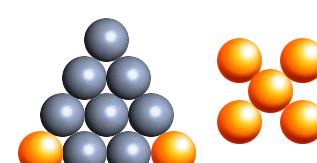
$$7 + 8$$



$$5 + 9$$



$$8 + 7$$

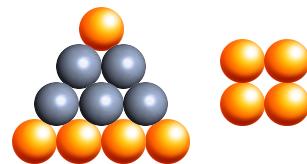


In this case, the user matches "8 + 7" with "7 + 8". However, "7 + 8" also has a matching Number Tile. When this happens, the opposing "out of order" match (green) will appear selected. The user can then touch the Header Tile to refresh all four tiles.

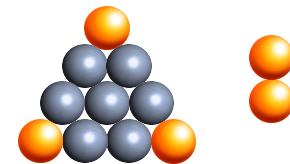
Refreshing four tiles at once

- 1) At this point there will be five pairs of matching tiles and one Shape Tile with no match on the board.
- 2) The game will deal four more tiles:
 - a) A Number Tile that matches the previously unmatched Shape Tile.
 - b) A Shape Tile and a Number Tile that already match.
 - c) A new Shape Tile with no matches on the board.

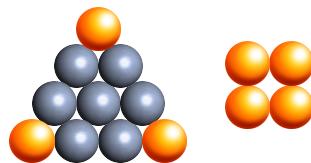
Refreshing four Tiles



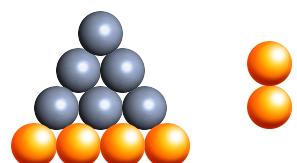
$$8 + 5$$



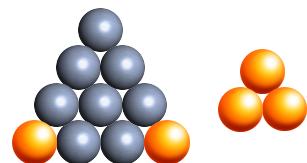
$$8 + 6$$



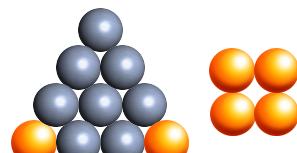
$$6 + 6$$



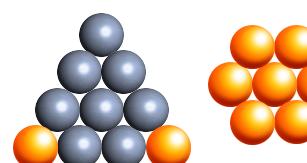
$$8 + 9$$



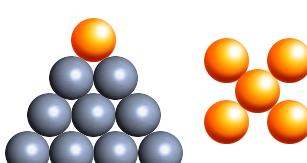
$$7 + 7$$



$$5 + 9$$



$$7 + 5$$



This is the game board after all four tiles have been refreshed. The new match appears in pink. The new unmatched Shape Tile in Blue. The match for the previously unmatched Shape Tile in Green

Tile Selection Logic

- 1) Touching a tile will select it, touching it again will deselect.



- 2) If a Number Tile is Selected, touching another Number Tile will transfer selection to that tile. Number Tiles cannot be selected simultaneously.

- 3) If a Shape Tile is Selected, touching another Shape Tile will transfer selection to that tile. Shape Tiles cannot be selected simultaneously.

- 4) The Header Tile will display the equation in the same format regardless of what order the Shape/Number Tile was selected. Hence you will always see " $6 + 8 = 14$ " and never " $14 = 6 + 8$ "

- 5) Once two tiles have been selected, the user cannot select any addition tiles (only two at once)

- 6) In the "out of order" case when more than two tiles are selected, touching any single tile will deselect the entire match associated with it.