

Lesson Printables

Be a rockstar and only print what you need!



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Let's identify number bonds to 10

Why learn this?

Creating and identifying numbers that make 10 is a key component of addition as our place value system is based on making groups of ten. By learning how to identify number bonds to 10, students will be able to solve more complex problems that involve addition and subtraction.

What strategies can my students use to make 10? What if my student already knows this?

Using ten frames

- A ten frame is a visual model of ten boxes made up of two rows and five columns.
- Ten frames can be used to reinforce understanding of number bonds to ten.
 - Draw dots, or use circles to represent a number on a ten frame.
 - For example, the number 2 could be shown by drawing two dots or putting 2 objects in 2 of the boxes.
 - How many boxes do not have a dot/object on them?
 - ◆ These two numbers are number bonds to 10. We have pretended to make these numbers 'buddies', meaning that they love 'hanging out' together because they make 10.
- Ten frames can be used in many ways. You could put objects on some of the boxes and ask your students how many boxes need to be filled to complete the frame.
 - These could be scattered as seen on slide 13 of the lesson slideshow.

Using part whole models

- Part whole models are more abstract than the ten frame as they use numbers. This type of model can be used to reinforce that any whole, in this case 10, can be made from 2 parts (or more).
- By placing a number in one of the bottom circles, you are saying that that number is part of the bigger whole. Students will need to identify what additional part can be added to make 10.
- Students do not need to use numbers in this model, they could draw dots, use tally marks, etc. to show making their number bonds to ten.

Applying number bonds to other problems

- If your student is already confident adding numbers to 10, explore how they can apply this knowledge to other number sentences.
 - If you know $3 + 7 = 10$, what other number sentences do you know? What is $30 + 70$ or $13 + 7$?
 - If you know $3 + 7 = 10$, how can you apply that understanding to work out what can be added to 43 to make 100?
 - ◆ $43 + 7 = 50$ and $50 + 50 = 100$, so $43 + 57 = 100$.

Let's warm up!

Starter Activity - Number Build

Students are shown a group of place value blocks. What is the real number shown? Can students apply their regrouping skills to solve the problem?

To support, students could:

- Review the value of each place value block and how they are connected.

To challenge, students could:

- Prove/explain how their answer is correct.
- Identify what 10 more or 10 less than the block total is, etc.

Let's do this!

Main Activity - Students can roll dice or flip over cards to get a number. Students can apply their understanding of number bonds to ten or use a ten frame to identify what can be added to the number to make 10. Students could show their learning through using a ten frame, a part whole model, drawing their own version of number buddies or writing number sentences. Encourage students to write two number sentences in order to reinforce the commutative property of addition. E.g. $2 + 8$ and $8 + 2$ both equal 10.

To support, students could:

- Use dice to make number bonds to 10. See Sunlight Zone.
- Print the ten frames found in the printables below and use objects like beans or counters to physically create the number rolled/flipped, and then what number can be added to make 10.

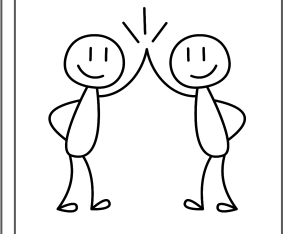
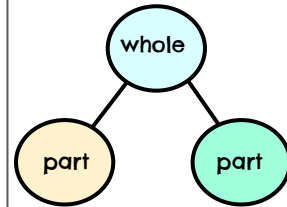
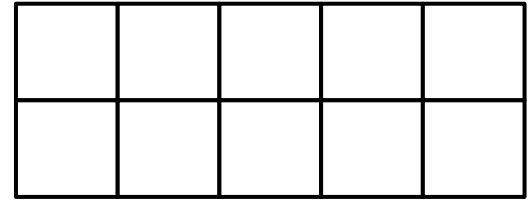
To challenge, students could:

- Identify other number bond connections.
 - If I know $2 + 8 = 10$, I also know...
- Make number bonds to 100. See Midnight Zone.
- Play Number Bond Snap. More details on the rules can be found below.

Sunlight Number Buddies

1. Roll a dice.
2. What number can be added to your number to make 10?
3. Show it! You could...
 - Use a ten frame.
 - Draw a part whole model.
 - Draw number buddies!
 - Write a number sentence.

Ten Frame



Number Rolled	Number Buddy	Number Sentence

Challenge: Make 10. Write a number sentence to match your thinking.

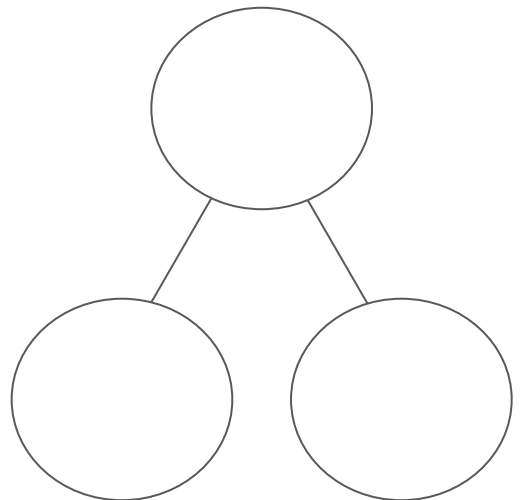
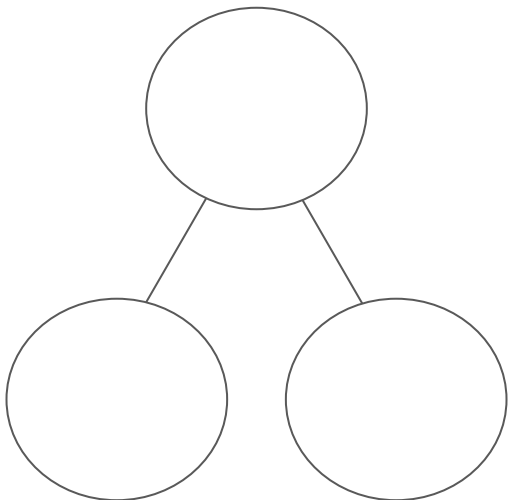
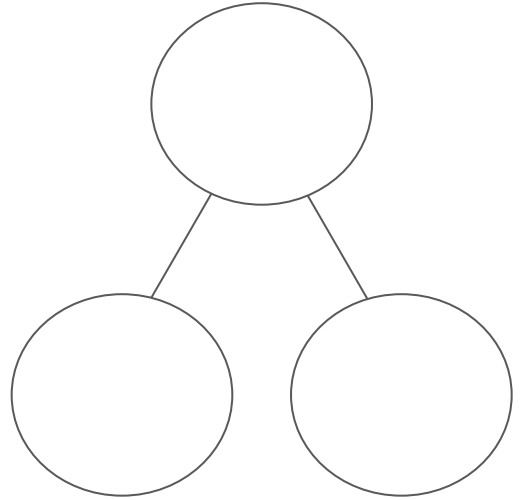
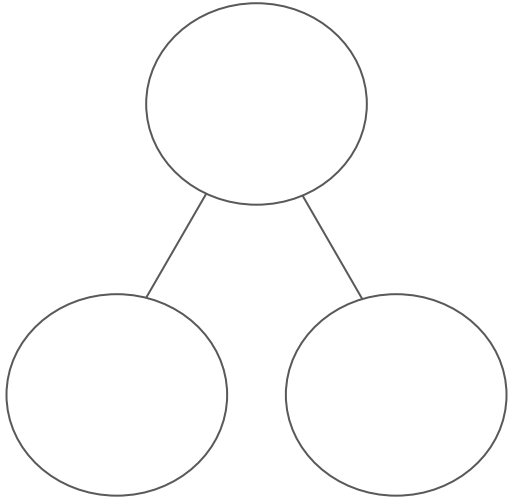
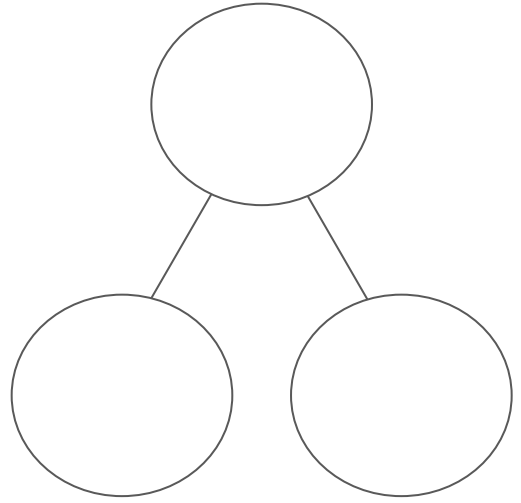
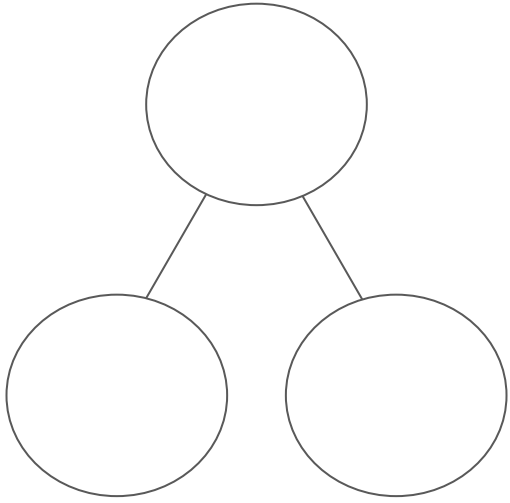
Excellence: Make an 'If I know this... I also know that...' statement.

If I know $3 + 7 = 10$, I also know that $30 + 70 = 100$.

Legend: Play Number Bond Snap!

Ten Frames

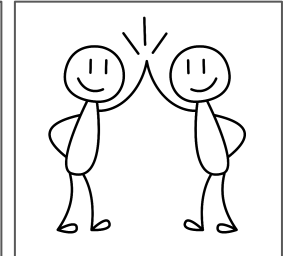
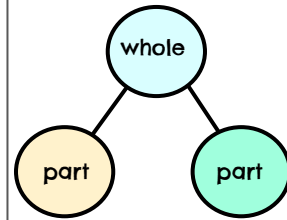
Part Whole Models



Twilight Number Buddies

- Grab a deck of playing cards.
 - Remove the Jacks, Queens and Kings.
 - Aces = 1.
- Flip over a card.
 - What number can be added to your number to make 10?
- Show it! You could:
 - Draw dots on a ten frame.
 - Make a part whole model.
 - Draw your own number buddies.
 - Write a number sentence.

Ten Frame



Number Flipped	Number Buddy	Number Sentence

Challenge: Make 10. Write a number sentence to match your thinking.

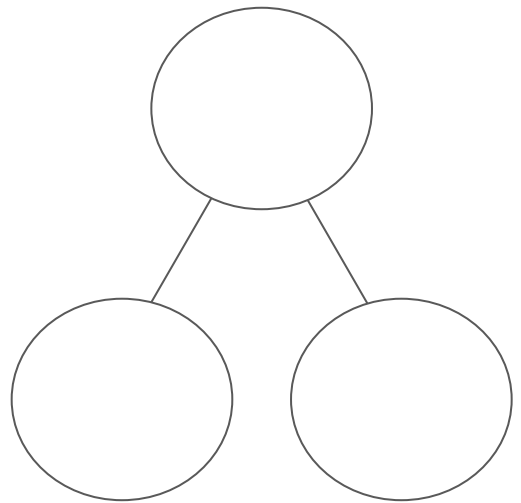
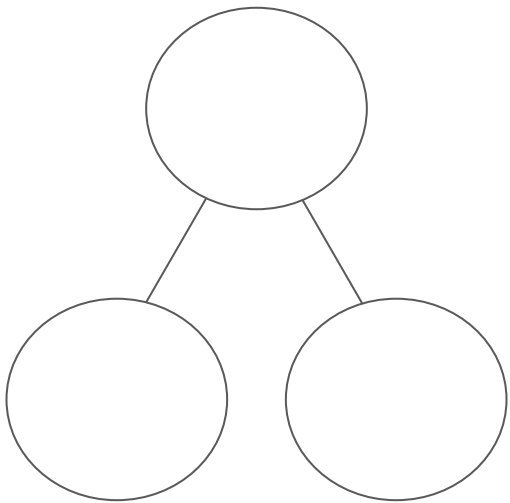
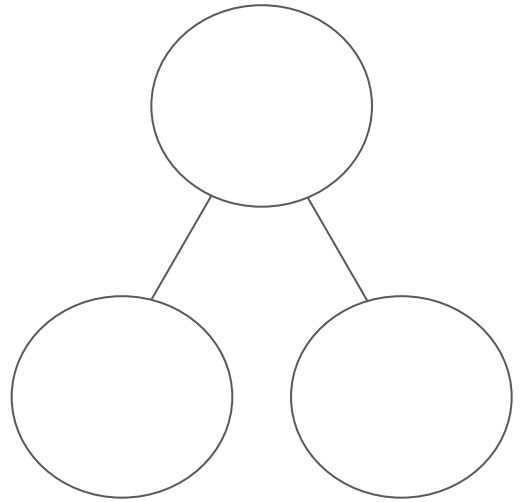
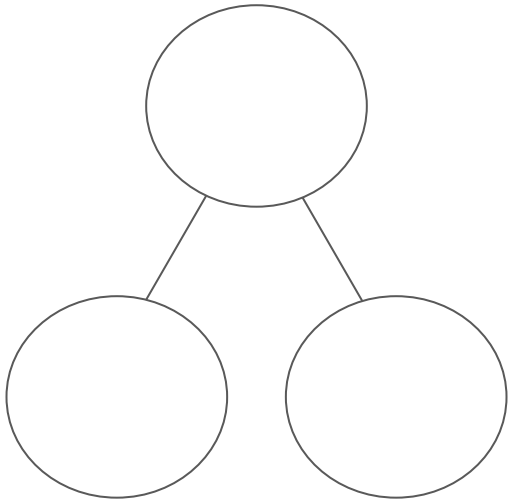
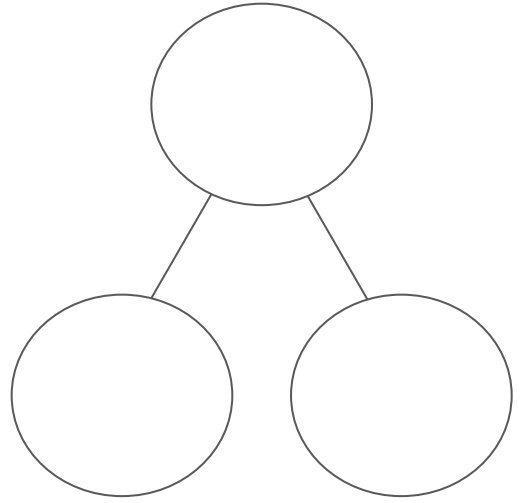
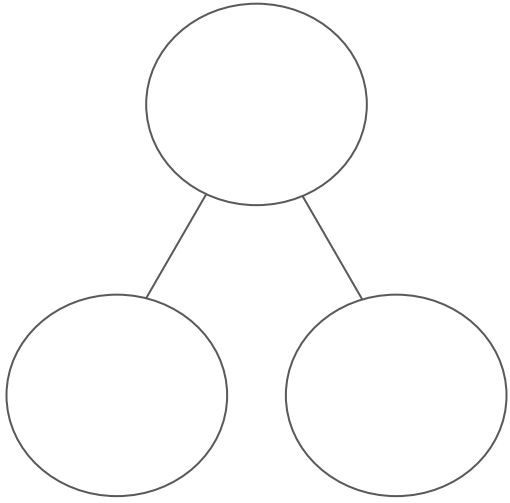
Excellence: Make an 'If I know this... I also know that...' statement.

If I know $3 + 7 = 10$, I also know that $30 + 70 = 100$.

Legend: Play Number Bond Snap!

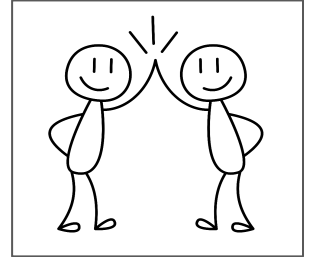
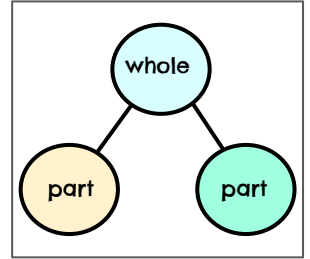
Ten Frames

Part Whole Models



Midnight Number Buddies

1. Grab a deck of playing cards.
 - Remove the Jacks, Queens and Kings.
 - Aces = 1.
2. Flip over two cards to make a 2-digit number.
3. What number can be added to make **100**?
 - Use numbers bonds to 10 to help you out.
4. Show it!
 - You could:
 - ◆ Make a part whole model.
 - ◆ Draw your own number buddies.
 - ◆ Write a number sentence.



Number Flipped	To make 100 I need...	Number Sentence

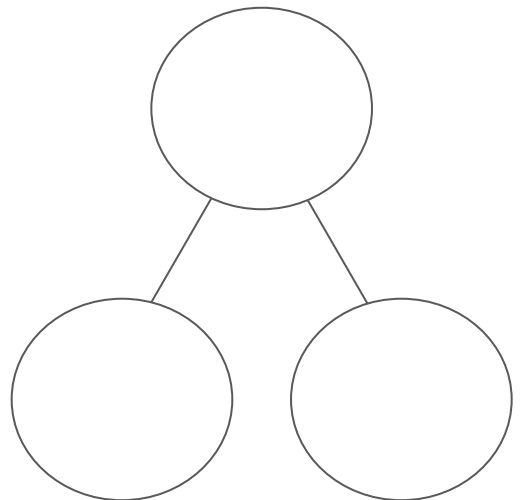
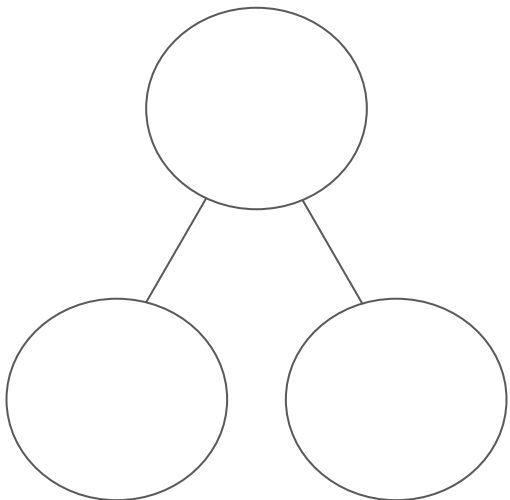
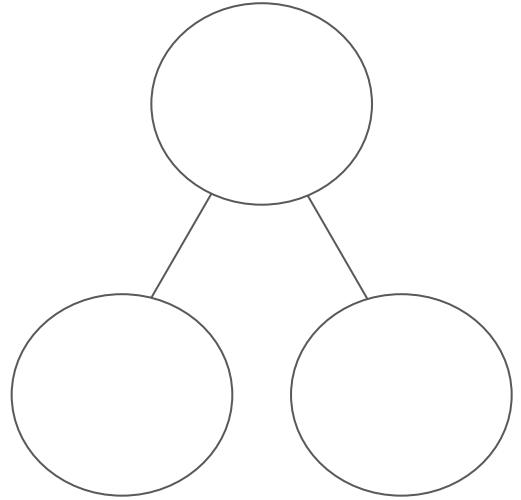
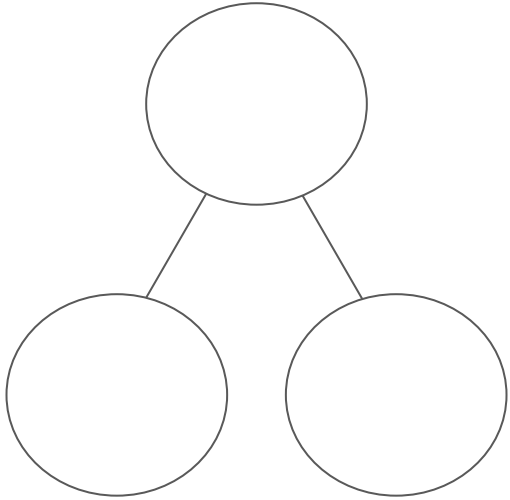
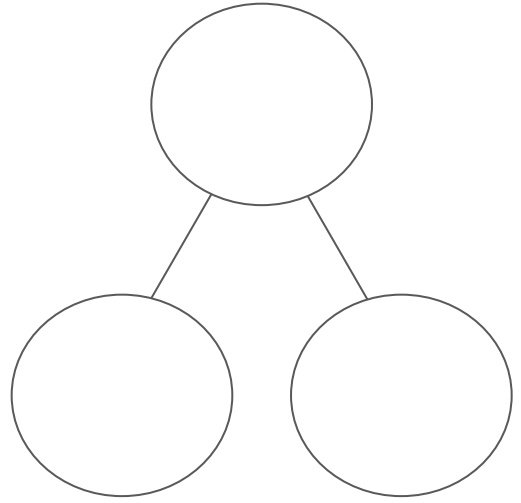
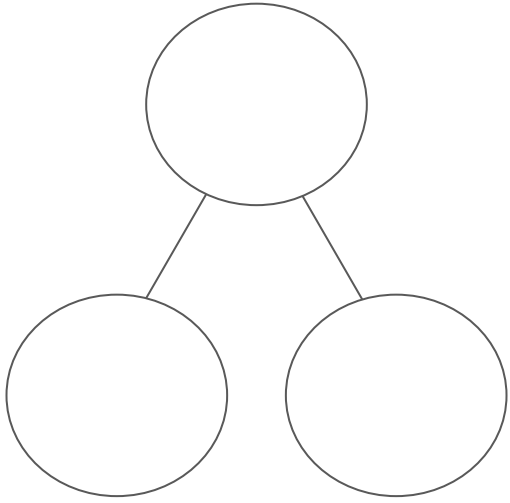
Challenge: Make 100. Write a number sentence to match your thinking.

Excellence: Make an 'If I know this... I also know that...' statement.

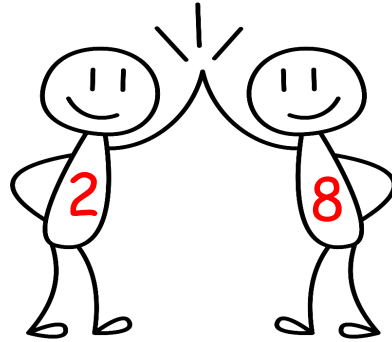
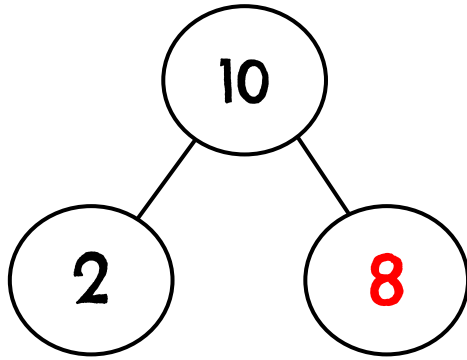
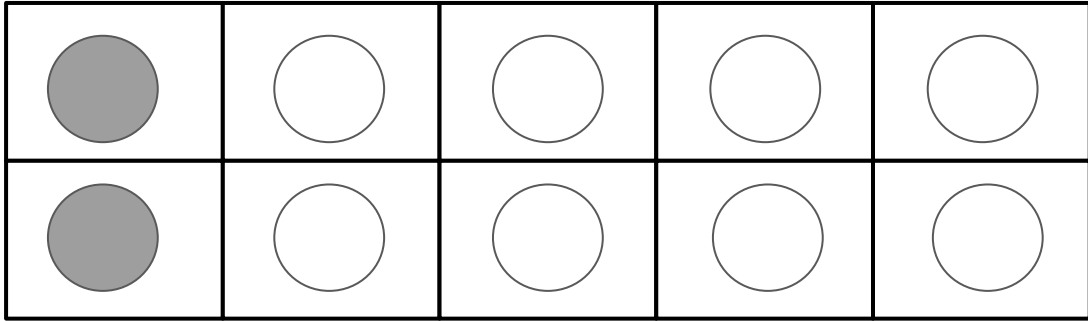
If I know $3 + 7 = 10$, I also know that $30 + 70 = 100$.

Legend: Play Number Bond Snap!

Part Whole Models



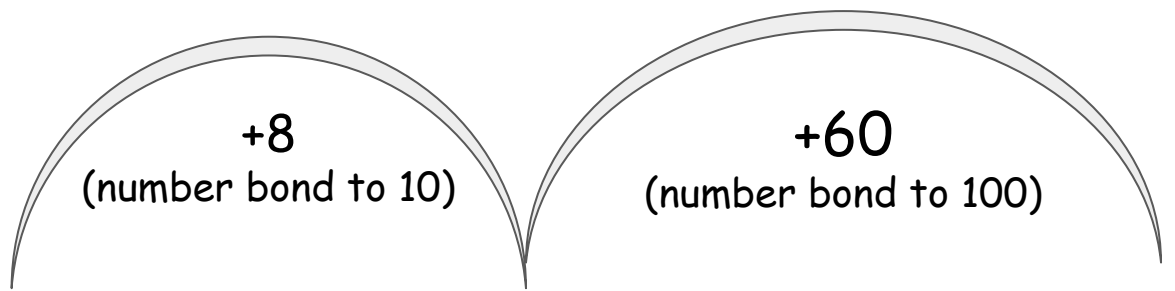
Answers Examples



2	8	$2 + 8 = 10$ $8 + 2 = 10$ Excellence: $20 + 80 = 100$
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Midnight Zone

Students should make 100 using whatever strategy suits them best.
Below are possible thinking steps.



32

40

100

$$32 + 68 = 100$$
$$68 + 32 = 100$$

Excellence: $320 + 680 = 1,000$

One Player Number Bond Snap



1. Grab a deck of cards.
 - Get rid of 10s, Jacks, Queens and Kings.
 - Aces = 1.
2. Flip over a card.
3. Flip over another card and place it on top of the first card.
4. Do the cards make a number bond to 10?
 - Yes!
 - ◆ Slap the pile. This means you have earned the pile.
 - Put it to one side.
 - No.
 - ◆ Flip over another card.
5. Repeat until you reach the end of the deck.
6. How many piles can you earn before it runs out?

Level 2: Include number bond 'sandwiches'.

- E.g. The cards 7, 5 and 3.
 - ◆ If 7 and 3 sandwich 5.
 - 7 and 3 are number bonds to 10, so you can slap the pile.

Level 3: Include number bonds to 20.

- Make Jacks = 11, Queens = 12 and Kings = 13. (10s = 10)
- Now you can slap on cards that make 10 or 20.

Multi Player Number Bond Snap



1. Deal out a deck of cards between players.
 - Get rid of 10s, Jacks, Queens and Kings.
 - Aces = 1.
2. Players take turns flipping over a card and placing it in the middle.
3. If any player spots number bonds to 10, they can slap the pile.
 - This means they earn the whole pile of cards.
4. The game is over when a player runs out of cards.

Level 2: Include number bond 'sandwiches'.

→ E.g. The cards 7, 5 and 3.

◆ If 7 and 3 sandwich 5.

- 7 and 3 are number bonds to 10, so you can slap the pile.

Level 3: Include number bonds to 20.

→ Make Jacks = 11, Queens = 12 and Kings = 13. (10s = 10)

→ Now you can slap on cards that make 10 or 20.