

Lesson Printables

Be a rockstar and only print what you need!



Lesson Information Sheet: 2

Sunlight Zone

Activity: 3

Strategy Thinking Steps: 4-5

Answers: 6

Twilight Zone

Activity: 7

Strategy Thinking Steps: 8-9

Answers: 10

Midnight Zone

Activity: 11

Strategy Thinking Steps: 12-13

Answers: 14

Let's add numbers mentally

Why learn this?

Learning mental strategies to add whole numbers helps children build number sense, confidence, and flexibility in their thinking. These skills lay the foundation for more complex problem-solving. With strong mental strategies, children can approach math with greater independence, whether they're solving problems, estimating in real life or checking their work.

How do you add mentally? How do you use rounding to check if an answer is reasonable?

Throughout this lesson, we focus on two mental addition strategies; jump strategy and split strategy. While there are many ways to add numbers mentally, we have chosen these strategies as a starting point. Your student does not need to be limited to them. Other strategies will be explored in future lessons.

Using jump strategy to add

- Expand the smaller number in the number sentence.
 - Write the bigger number at the start of a number line or 'put it in your head'.
 - Add the expanded parts of the smaller number to the bigger number. The final number you land on is your total.
 - For $34 + 72$, 34 would be expanded into 30 and 4.
 - $72 + 30$ is 102 and $102 + 4$ is 106.
- ◆ Note, if a student finds it too difficult to add 30, they could break it into three lots of 10.

Using split strategy to add

- Expand **both numbers** in the number sentence.
- Add the same place value parts together.
 - Tens + tens
 - Ones + ones
- Add your answers together to get your total.
 - For $34 + 72$, 34 would be expanded into 30 and 4 and 72 would be expanded into 70 and 2.
 - $30 + 70 = 100$ and $4 + 2 = 6$.
 - $100 + 6 = 106$.

Rounding for reasonableness

- By rounding numbers (in this case to the nearest 10), students can get a 'target zone'. This is a number that their answer should be 'near'. If a student's answer is far away from the target zone, this indicates that they do not have a reasonable answer and should revisit their work.
- Students should apply their number sense in order to fully understand using this strategy to check their answers.
 - 34 and 72 both round down to the nearest 10, so the real answer to the sum will be more than 100.
 - If you round both numbers up, the real answer should be less than the target zone number.
 - If you round one number down and the other number up, your answer should be quite close to the target zone number.

Let's warm up!

Starter Activity - Cuckoo for Coconuts

Students are asked to find out how many coconuts the animals have gathered using different number clues. Students will need to use their number-sense knowledge as well as their addition, skip counting and/or multiplication skills to solve this challenge.

To support, students could:

- Be guided to make lists.
 - Make a list of multiples of 2 up to 20. Now add 1 to each number on your list.
 - Make a list of multiples of 5 up to 20. Now add 3 to each number on your list.
 - Do you have the same number on both lists?
- Physically create the scenario using up to 20 objects that could represent coconuts.

To challenge, students could:

- Explore possibilities if the coconut quantity was more than 20 but less than 50 coconuts.

Let's do this!

Main Activity - Students are shown different expensive ice cream scoops and monsters who want to order a double scoop. Can students use the prompts to work out which ice cream flavours each monster ordered and their total? Encourage students to explore adding numbers mentally. They can write their thinking steps down or use the strategy templates found in the printable below. *Note, if you are in a country that uses a currency other than dollars, you could replace the \$ sign with your own currency symbol or simply tell students to ignore the \$ sign for each ice cream price.*

To support, students could:

- Work with numbers less than 50. See Sunlight Zone.
- Use a step-by-step guide to follow strategy steps found in the printables below.

To challenge, students could:

- Use rounding to the next 10 to help them check their answers or problem-solve.
- Order all of the possible two scoop flavour combinations excluding any doubles (for example, mint/mint).

Sunlight Ice Cream

1. Use the monster's prompts to calculate their ice cream order and total.
→ No one has the same order.

					
Strawberry \$44	Mint \$28	Mango \$15	Vanilla \$32	Chocolate \$23	Lavender \$41

I bought the most expensive two scoop combo.



I bought the cheapest two scoop combo.



I bought the most expensive two scoop combo that has two different flavors.



My order came to an odd total.



My total rounds up to the nearest 10, but down to the nearest 100.



What do you want to order? I want it too!



Challenge: Explore using mental strategies to find the cost of two-scoop combinations.

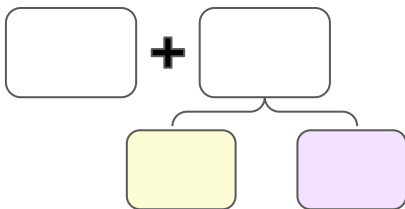
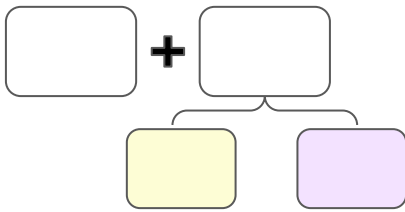
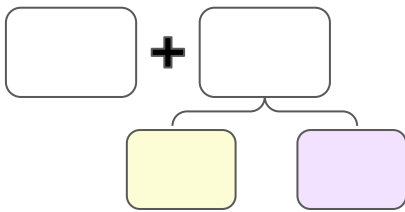
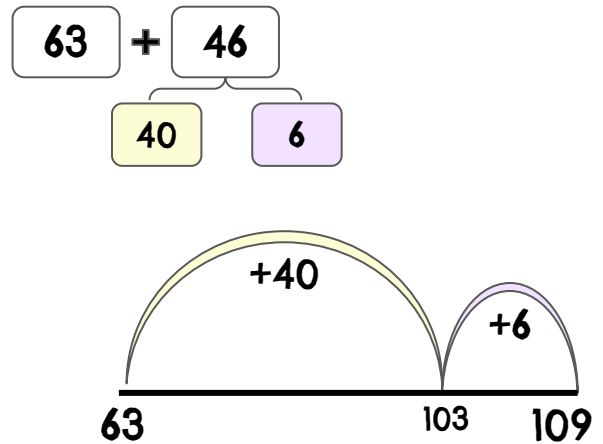
Excellence: Use rounding to prove if your answer is reasonable.

Legend: What are all of the possible 2 scoop orders? (Exclude doubles like mint, mint.) Put them in order from most expensive to least expensive.

Jump Strategy Thinking Steps

Jump Strategy Top Tips

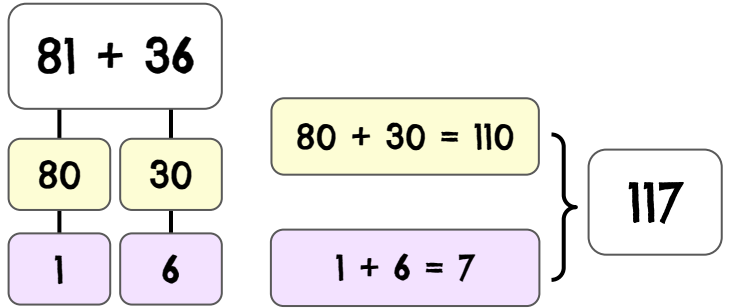
1. Expand the smaller number.
2. Put the bigger number at the beginning of the number line and start jumping.
3. What number do you land on?



Split Strategy Thinking Steps

Split Strategy Top Tips

1. Expand both numbers.
2. Add your place value parts together.
 - tens + tens
 - ones + ones
3. Add your answers together.



Blank template for the split strategy. It includes a box for the total, two boxes for splitting the first number, two boxes for splitting the second number, a yellow box for tens addition, a purple box for ones addition, and a final box for the total sum.

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Sunlight Answers

Strawberry
Strawberry
\$88



Mango
Mango \$30



Lavender
Strawberry \$85



Answers will vary.
The total should be an
odd number.



Mango/Van, Choc/Choc,
and Mango/Choc are
possible solutions.



Answers will vary.









Legend Answers

Lavender Strawberry	\$85
Vanilla Strawberry	\$76
Vanilla Lavender	\$73
Mint Strawberry	\$72
Mint Lavender	\$69
Chocolate Strawberry	\$67
Chocolate Lavender	\$64
Mint Vanilla	\$60

Mango Strawberry	\$59
Mango Lavender	\$56
Chocolate Vanilla	\$55
Chocolate Mint	\$51
Mango Vanilla	\$47
Mango Mint	\$43
Mango Chocolate	\$38

Twilight Ice Cream

1. Use the monster's prompts to calculate their ice cream order and total.
→ No one has the same order.

					
Strawberry \$94	Mint \$68	Mango \$46	Vanilla \$72	Chocolate \$53	Lavender \$81

I bought the most expensive two scoop combo.



I bought the cheapest two scoop combo.



I bought the most expensive two scoop combo that has two different flavors.



My order came to an odd total.



My total rounds up to the nearest 10, but down to the nearest 100.



What do you want to order? I want it too!



Challenge: Explore using mental strategies to find the cost of two-scoop combinations.

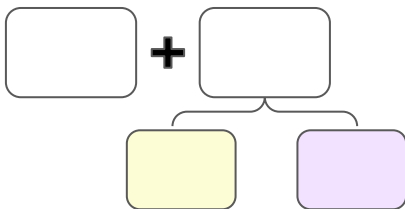
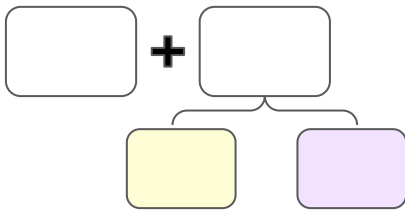
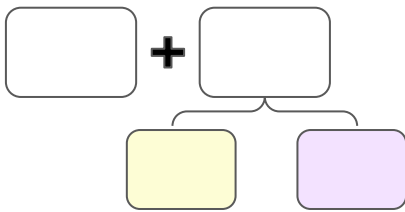
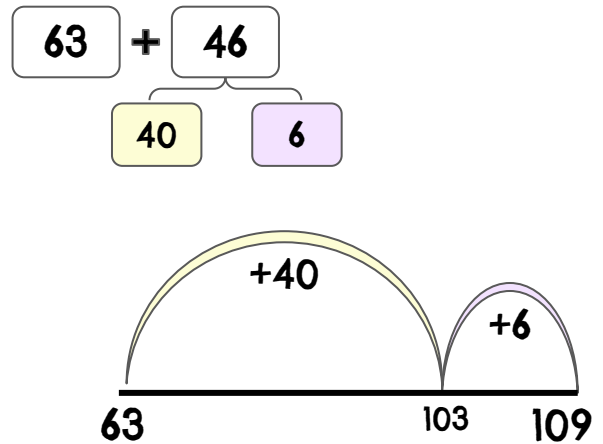
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Jump Strategy Thinking Steps

Jump Strategy Top Tips

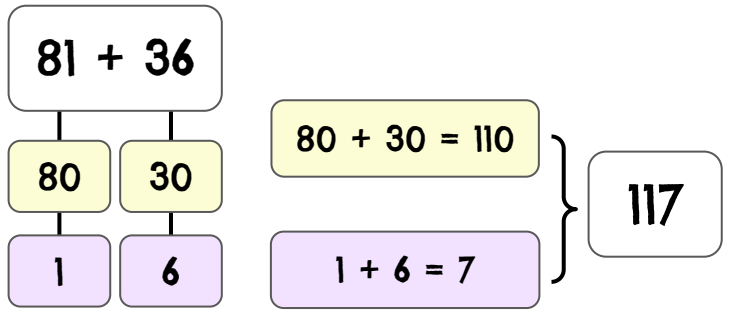
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Twilight Answers

Strawberry Strawberry
\$188



Mango
Mango \$92



Lavender
Strawberry \$175



Answers will vary.
The total should be an
odd number.



Mint/Lav, Choc/Straw,
Choc/Van and Mango/Van
are possible solutions.



Answers will vary.









Legend Answers

Lavender Strawberry	\$175	Chocolate Lavender	\$134
Vanilla Strawberry	\$166	Mango Lavender	\$127
Mint Strawberry	\$162	Chocolate Vanilla	\$125
Vanilla Lavender	\$153	Chocolate Mint	\$121
Mint Lavender	\$149	Mango Vanilla	\$118
Chocolate Strawberry	\$147	Mango Mint	\$114
Mint Vanilla/Mango Strawberry	\$140	Mango Chocolate	\$99

Midnight Ice Cream

1. Use the monster's prompts to calculate their ice cream order and total.
→ No one has the same order.

					
Strawberry \$297	Mint \$95	Mango \$86	Vanilla \$142	Chocolate \$73	Lavender \$263

I bought the most expensive two scoop combo.



I bought the cheapest two scoop combo.



I bought the most expensive two scoop combo that has two different flavors.



My order came to an odd total.



My total rounds up to the nearest 10, but down to the nearest 100.



What do you want to order? I want it too!



Challenge: Explore using mental strategies to find the cost of two-scoop combinations.

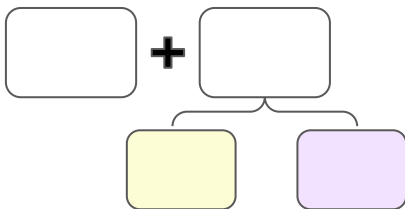
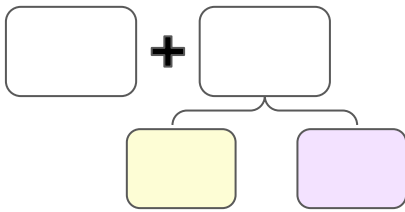
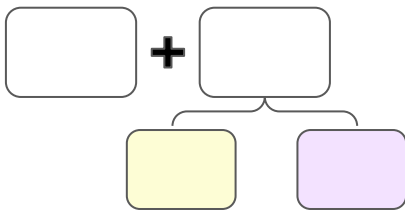
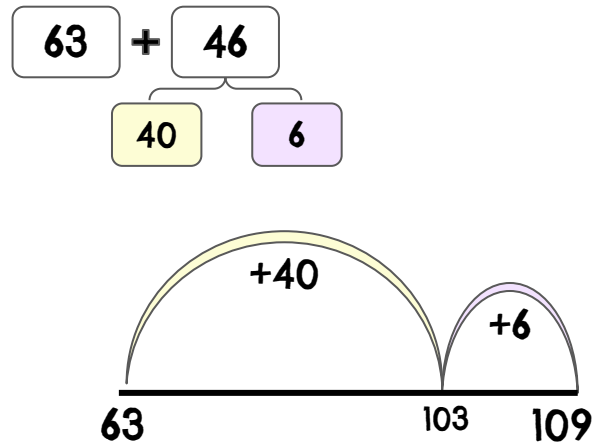
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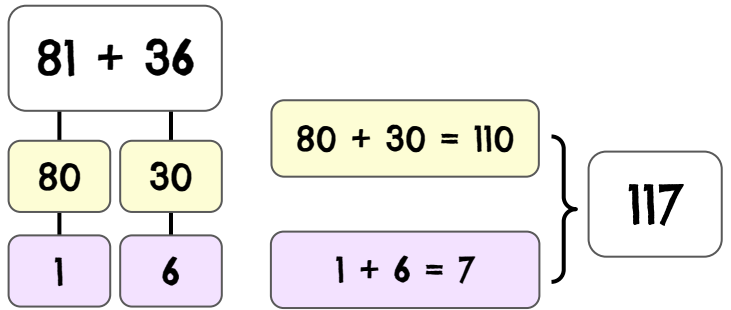
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Midnight Answers

Strawberry Strawberry
\$594



Chocolate Chocolate
\$146



Lavender
Strawberry \$560



Answers will vary.
The total should be an
odd number.



Straw/Van, Van/Lav,
Man/Lav, Choc/Lav,
Man/Van, Cho/Van are
possible solutions.



Answers will vary.



Legend Answers

Strawberry Lavender	\$560
Strawberry Vanilla	\$439
Vanilla Lavender	\$405
Strawberry Mint	\$392
Mango Strawberry	\$383
Chocolate Strawberry	\$370
Mint Lavender	\$358

Mango Lavender	\$349
Chocolate Lavender	\$336
Mango Vanilla	\$228
Chocolate Vanilla	\$215
Mango Mint	\$181
Chocolate Mint	\$168
Mango Chocolate	\$159