

# Lesson Printables

Be a rockstar and only print what you need!



**Planners: 2-3**

## **Activity**

Sunlight: 4  
Twilight: 5  
Midnight: 6

## **Extras**

Bump Strategy Thinking Steps: 7  
Answers: 8

*\*Printing in the US? Scale to 'fit to printable area' in order to get the best print.*

## LESSON 1: Addition/Subtraction - Using bump strategy to add mentally

Starter	Main Activity and Input: Using bump strategy to mentally add numbers.	Plenary
<p><b>Nutty Payments:</b> Is it possible to organise the nuts into baskets so that you can make every number from 1 to 13 without emptying or rearranging the baskets?</p> <p><b>To support:</b></p> <p>1. Ask students what numbers they know they have to have. (1 and 2.) From 1 and 2 what other numbers can students make? What does this tell them?</p> <p><b>To challenge:</b></p> <p>1. What if there were 5 baskets and the squirrel had 20 nuts? Could it make all the numbers up to 20? Why or why not?</p>	<p><b>Input:</b></p> <p>1. Slide 6 asks students to solve one of the number sentences provided using mental addition. Have students share their thinking with the class. Do students break up numbers and add them together? How many different strategies can the class come up with? This could be used as a quick pre-assessment to see how confident students feel about adding numbers mentally. Slide 7 explains that throughout the year, we will be adding tools to our mathematical toolkit. Bump strategy is an addition tool that can be used to add numbers mentally or in written form.</p> <p>2. Slides 8 to 10 model bump strategy thinking steps. The idea is that students are always thinking about ways they can break apart or manipulate a number sentence so that the numbers are easier to work with.</p> <ul style="list-style-type: none"> <li>- Pick one of the numbers to ‘bump’ up or down to make it a multiple of 10. Students can choose whichever number makes the problems easier for them to solve.</li> <li>- Use an arrow to indicate which number you have bumped and what it has been bumped by.</li> <li>- Adjust your number sentence and then add.</li> </ul> <p>3. Slide 10 asks how rounding could help prove if an answer is reasonable. Give students time to discuss possible ideas. Slide 11 rounds both numbers to the nearest 10 in order to get a ‘target zone’ number. If their answer is near the target zone, it is reasonable. In this case, should the real answer be bigger or smaller than the target zone? Elicit from students that because 36 and 45 were both rounded up, the real answer should be smaller than the target zone number.</p> <p>4. Slides 12 to 14 model the main activity: ordering expensive food from a food truck. If the bird has ordered two items, how can students use bump strategy to work out the total? Have students share their thinking on the board. Slide 13 is animated to show thinking steps.</p> <p>5. Slide 14 explains that the bird wants to order two items for its sister. If the budget is \$60, what two items could be purchased? At this point, you might wish to review the meaning of the term ‘budget’. Students can explore two food items that have a total that is less than the budget. Slide 15 models one possible solution.</p> <p><b>Activity: Make food truck orders for 4 customers. Can students stay within each customer’s budget?</b></p> <p>1. Print the activity page for each learning zone. Students could work in pairs or individually, focusing on making an order for each animal based on the information provided. Note, some answers will vary based on students’ choices. Encourage students to explore using bump strategy to calculate each order total.</p> <p><b>To support:</b></p> <p>1. Sunlight Zone uses 2-digit numbers that are less than 40.</p> <p>2. Provide students with bump strategy thinking steps found in the printables.</p> <p><b>To challenge:</b></p> <p>1. Encourage students to use rounding to check their answers or problem-solve.</p> <p>2. Students could make their own order and find the total.</p>	<p><b>Rebranding:</b></p> <p>What else could students call bump strategy?</p> <p><b>Check for understanding</b></p> <p>1. Can students explain what is really happening when we manipulate numbers in a number sentence? E.g. Sharing is caring strategy, switcheroo strategy, etc.</p>

## Things that might be useful for this lesson:

- Individual whiteboards:
  - Help students to record their thinking and share ideas with others.
- Hundreds charts/place value blocks:
  - Help students to visually manipulate the amounts.
- Coloured markers/pencils:
  - Help students to organise their thinking.



## Peek at the Printables:

### Sunlight Zone

### Twilight Zone

### Midnight Zone

Sunlight Food Truck

Drinks	Food	Dessert
Slime Smoothie.....\$7	Warm Burger.....\$32	Mildew Pie.....\$24
Mushroom Juice.....\$6	Slug Sandwich.....\$37	Sludge-ick.....\$17
Maggot Tea.....\$8	Ant Leg Salad.....\$25	Snot Milkshake.....\$19
Sneaky Spritz.....\$9	Fly Wings.....\$34	Mud Brownie.....\$36

I've got \$45 to spend. I want to order a drink and some food.

My budget is \$75. I ordered 1 food item and 2 desserts.

I've got \$70 to spend. I want to 3 pieces of food, a drink, and a dessert!

I spent exactly \$77 on a drink, food and dessert. What did I purchase?

Twilight Food Truck

Drinks	Food	Sides	Dessert
Slime Smoothie.....\$7	Warm Burger.....\$32	Bark Chips.....\$25	Mildew Pie.....\$18
Mushroom Juice.....\$6	Slug Sandwich.....\$47	Mac and Cheese.....\$37	Sludge-ick.....\$17
Maggot Tea.....\$8	Ant Leg Salad.....\$39	Goo Sticks.....\$16	Snot Milkshake.....\$19

I've got \$65. I ordered a drink, a food and a side.

I've got \$75 to spend. I want to 4 pieces of food, a drink, a side and a dessert!

I spent exactly \$80 on a food and two sides.

I spent exactly \$90 on a drink, a food item, a side and a dessert! What did I order?

Midnight Food Truck

Drinks	Food	Sides	Dessert
Slime Smoothie.....\$17	Warm Burger.....\$62	Bark Chips.....\$69	Mildew Pie.....\$49
Mushroom Juice.....\$12	Slug Sandwich.....\$97	Mac and Cheese.....\$47	Sludge-ick.....\$27
Maggot Tea.....\$18	Ant Leg Salad.....\$113	Goo Sticks.....\$56	Snot Milkshake.....\$29

I spent exactly \$150 on a drink and two sides.

My budget is \$300. I want to order an item from each menu.

I spent exactly \$189 on a food, one side and one dessert!

I spent exactly \$276 on a drink, food, a side and a dessert! What did I purchase?



## Greener Alternatives:

- Students could roll dice or flip over cards and practise adding the numbers together mentally.
- Create your own class food truck! Students could design food/drink items and their prices and then role play making orders and calculating their totals.



# Sunlight Food Truck

## Drinks

Slime Smoothie.....\$7  
Mushroom Juice.....\$6  
Maggot Tea.....\$8  
Sweaty Spritz.....\$9

## Food

Worm Burger.....\$32  
Slug Sandwich.....\$37  
Ant Leg Salad.....\$25  
Fly Wings.....\$34

## Dessert

Mildew Pie.....\$24  
Sludge-sicle.....\$17  
Snot Milkshake.....\$19  
Mud Brownie.....\$36

I've got \$45 to spend. I want to order a drink and some food.



My budget is \$75. I ordered 1 food item and 2 desserts.



I've got \$70 to spend. I want a 3 piece combo; a drink, food and dessert!



I spent exactly \$77 on a drink, food and dessert. What did I purchase?



# Twilight Food Truck

## Drinks

Slime Smoothie.....\$7  
Mushroom Juice...\$9  
Maggot Tea.....\$8

## Food

Worm Burger.....\$32  
Slug Sandwich.....\$47  
Ant Leg Salad.....\$39

## Sides

Bark Chips.....\$25  
Mac and Fleas.....\$17  
Goo Sticks.....\$16

## Dessert

Mildew Pie.....\$18  
Sludge-sicle.....\$17  
Snot Milkshake...\$19

I've got \$65. I ordered a drink, a food and a side.



I've got \$75 to spend. I want a 4 piece combo; a drink, food, a side and dessert!



I spent exactly \$80 on a food and two sides.



I spent exactly \$90 on a drink, a food item, a side and a dessert. What did I order?



# Midnight Food Truck

## Drinks

Slime Smoothie...\$17  
Mushroom Juice...\$19  
Maggot Tea.....\$18

## Food

Worm Burger.....\$82  
Slug Sandwich.....\$97  
Ant Leg Salad...\$113

## Sides

Bark Chips.....\$65  
Mac and Fleas.....\$47  
Goo Sticks.....\$56

## Dessert

Mildew Pie.....\$28  
Sludge-sicle.....\$27  
Snot Milkshake...\$29

I spent exactly \$130 on a drink and two side items.



My budget is \$200. I want to order an item from each menu.



I spent exactly \$189 on a food, one side and one dessert.



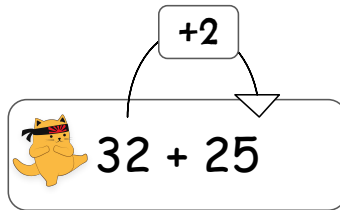
I spent exactly \$216 on a drink, food, a side and a dessert. What did I purchase?



# Thinking Steps

## Bump Strategy Top Tips

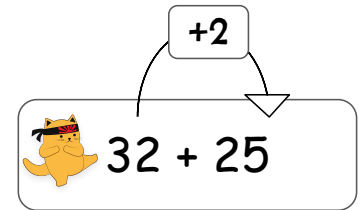
1. Which number can you 'bump' in order to make it easier to add?  
→ Use an arrow to show your bump.
2. Adjust your numbers and write your new number sentence.
3. Add.



$$30 + 27 = 57$$

## Bump Strategy Top Tips

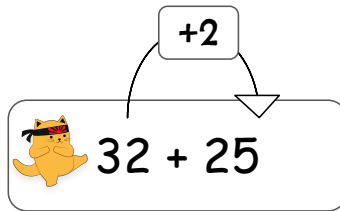
1. Which number can you 'bump' in order to make it easier to add?  
→ Use an arrow to show your bump.
2. Adjust your numbers and write your new number sentence.
3. Add.



$$30 + 27 = 57$$

## Bump Strategy Top Tips

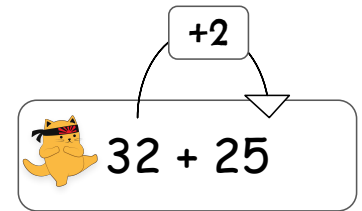
1. Which number can you 'bump' in order to make it easier to add?  
→ Use an arrow to show your bump.
2. Adjust your numbers and write your new number sentence.
3. Add.



$$30 + 27 = 57$$

## Bump Strategy Top Tips

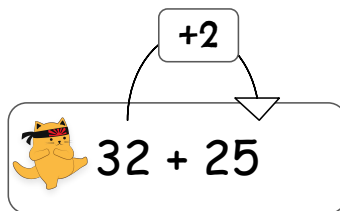
1. Which number can you 'bump' in order to make it easier to add?  
→ Use an arrow to show your bump.
2. Adjust your numbers and write your new number sentence.
3. Add.



$$30 + 27 = 57$$

## Bump Strategy Top Tips

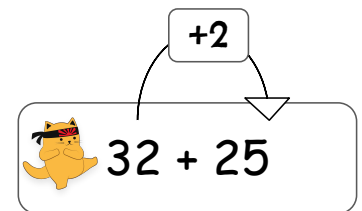
1. Which number can you 'bump' in order to make it easier to add?  
→ Use an arrow to show your bump.
2. Adjust your numbers and write your new number sentence.
3. Add.



$$30 + 27 = 57$$

## Bump Strategy Top Tips

1. Which number can you 'bump' in order to make it easier to add?  
→ Use an arrow to show your bump.
2. Adjust your numbers and write your new number sentence.
3. Add.



$$30 + 27 = 57$$

# Answers

Some answers have more than 1 possible solution.

Below are answers to questions where animals spent specific amounts of money.

## Sunlight Zone

Bat: Smoothie, wings and brownie (shown below) or spritz, burger, brownie

$$\begin{array}{c} +3 \\ \swarrow \quad \searrow \\ 7 + 34 \end{array}$$

$$10 + 31 = 41$$

$$\begin{array}{c} +1 \\ \swarrow \quad \searrow \\ 41 + 36 \end{array}$$

$$40 + 37 = 77$$

## Twilight Zone

Toucan: Salad, chips and sticks

$$\begin{array}{c} +1 \\ \swarrow \quad \searrow \\ 39 + 25 \end{array}$$

$$40 + 24 = 64$$

$$\begin{array}{c} +4 \\ \swarrow \quad \searrow \\ 64 + 16 \end{array}$$

$$60 + 20 = 80$$

Frog: Juice, sandwich, sticks, pie

$$\begin{array}{c} +1 \\ \swarrow \quad \searrow \\ 9 + 47 \end{array}$$

$$10 + 46 = 56$$

$$\begin{array}{c} +2 \\ \swarrow \quad \searrow \\ 16 + 18 \end{array}$$

$$14 + 20 = 34$$

$$\begin{array}{c} +6 \\ \swarrow \quad \searrow \\ 56 + 34 \end{array}$$

$$50 + 40 = 90$$

## Midnight Zone

Chicken: Smoothie, mac and fleas and goo sticks

Frog: Sandwich, chips and sludge-sicle

Bat: Tea, salad, sticks and milkshake