Think Before You Add

GOAL Decide whether a change keeps the total, and when a friendly number helps.

1 More or less?

299 + 356 Will the sum be more or less than 650? ☐ more ☐ less

How do you know?

2 Is Ella correct?

Ella says: 498 + 237 = 500 + 237, because 498 is close to 500.

Is Ella correct? ☐ yes ☐ no Explain why.

3 Which answer makes sense?

397 + 248 = ☐ 645 ☐ 648 ☐ 651

Tick the answer that makes sense. Why are the other two wrong?

4 Which hundreds?

596 + 299 Will the sum be in the 800s or the 900s? ☐ 800s ☐ 900s

How do you know?

5 Is Noah correct?

Noah says: 523 + 164 needs no friendly numbers. I just add by place.

Is Noah correct? ☐ yes ☐ no Explain why.

Friendly Numbers Keep the Total

GOAL Change three-digit numbers into friendly numbers and keep the total the same.

6 Notice

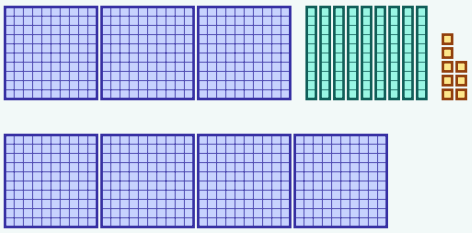
398 + 205 **400 + 203** Which is easier to add in your head?

☐ 398 + 205 ☐ 400 + 203

Do they have the same total? ☐ yes ☐ no How do you know?

7 Give some, take some

WORKED EXAMPLE



398 + 205

400 + 203

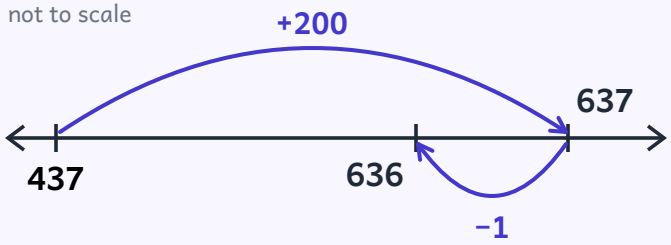
Move **2 ones** from 205 to 398. Now 398 is a full **400**, and 205 is **203**.

398 + 205 = 400 + 203 = 603. One number got 2 more and the other got 2 less, so the total did not change.

8 Add too much, then take it back

WORKED EXAMPLE

not to scale



437 + 199 = 437 + 200 − 1

437 + 200 = 637. We added 1 too many, so take 1 away: **636**.

Is the Total the Same?

GOAL Check whether a change keeps the total, and choose when friendly numbers help.

9 Your turn, with help

299 + 146 = 300 + ☐ = _____

254 + 398 = ☐ + 400 = _____

526 + 297 = 526 + 300 − ☐ = _____

198 + 356 = 200 + ☐ = _____

10 True or false?

Each student changed the numbers to make them friendly. Is the total still the same?

499 + 101 = 500 + 100

☐ true ☐ false

If false, fix the right side: _____

298 + 156 = 300 + 156

☐ true ☐ false

If false, fix the right side: _____

365 + 199 = 365 + 200 − 1

☐ true ☐ false

If false, fix the right side: _____

597 + 248 = 600 + 251

☐ true ☐ false

If false, fix the right side: _____

11 When does it help?

Tick the sums where a friendly number helps. Then find every sum.

199 + 384

☐ helps

= _____

432 + 215

☐ helps

= _____

347 + 298

☐ helps

= _____

513 + 264

☐ helps

= _____

Choose Your Way

GOAL Compare two ways to add, show a jump on a number line, and make your own.

12 Two ways

Lin adds in columns

	H	T	O
	3	9	8
+	2	5	6
	1	1	
	6	5	4

Raj uses a friendly number:

398 + 256 = 400 + ☐ = _____

Do they get the same total? ☐ yes ☐ no

For 398 + 256, which way would you choose? Why?

_____

_____

13 Show it on a number line

Show **345 + 198** by adding 200, then jumping back. Write the numbers you land on.



345 + 198 = _____

14 Make your own

Write a sum of two 3-digit numbers, with a total of 1,000 or less, where moving a few ones makes a friendly hundred. Show the friendly numbers and the total.

_____ + _____ = _____ + _____ = _____

15 Check yourself

599 + 236 = _____

Friendly: 600 + ☐

450 + 298 = _____

Friendly: 450 + 300 − ☐

421 + 356 = _____

Would a friendly number help? ____

Think Before You Add

GOAL Decide whether a change keeps the total, and when a friendly number helps.

1 More or less?

299 + 356 Will the sum be more or less than 650? ☐ more ☐ less

How do you know?

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Ella says: 498 + 237 = 500 + 237, because 498 is close to 500.

Is Ella correct? ☐ yes ☐ no Explain why.

3 Which answer makes sense?

397 + 248 = ☐ 645 ☐ 648 ☐ 651

Tick the answer that makes sense. Why are the other two wrong?

4 Which hundreds?

596 + 299 Will the sum be in the 800s or the 900s? ☐ 800s ☐ 900s

How do you know?

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Noah says: 523 + 164 needs no friendly numbers. I just add by place.

Is Noah correct? ☐ yes ☐ no Explain why.

Friendly Numbers Keep the Total

GOAL Change three-digit numbers into friendly numbers and keep the total the same.

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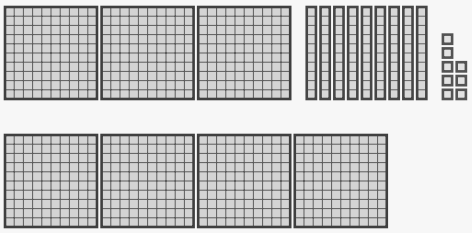
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Do they have the same total? ☐ yes ☐ no How do you know?

7 Give some, take some

WORKED EXAMPLE



398 + 205

400 + 203

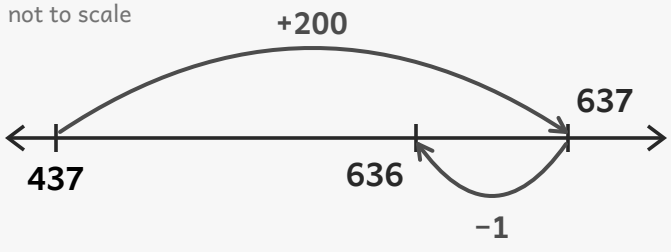
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8 Add too much, then take it back

WORKED EXAMPLE

not to scale



437 + 199 = 437 + 200 − 1

437 + 200 = 637. We added 1 too many, so take 1 away: **636**.

Is the Total the Same?

GOAL Check whether a change keeps the total, and choose when friendly numbers help.

9 Your turn, with help

299 + 146 = 300 + ☐ = ____

254 + 398 = ☐ + 400 = ____

526 + 297 = 526 + 300 − ☐ = ____

198 + 356 = 200 + ☐ = ____

10 True or false?

Each student changed the numbers to make them friendly. Is the total still the same?

499 + 101 = 500 + 100

☐ true ☐ false

If false, fix the right side: _____

298 + 156 = 300 + 156

☐ true ☐ false

If false, fix the right side: _____

365 + 199 = 365 + 200 − 1

☐ true ☐ false

If false, fix the right side: _____

597 + 248 = 600 + 251

☐ true ☐ false

If false, fix the right side: _____

11 When does it help?

Tick the sums where a friendly number helps. Then find every sum.

199 + 384

☐ helps

= _____

432 + 215

☐ helps

= _____

347 + 298

☐ helps

= _____

513 + 264

☐ helps

= _____

Choose Your Way

GOAL Compare two ways to add, show a jump on a number line, and make your own.

12 Two ways

Lin adds in columns

	H	T	O
	3	9	8
+	2	5	6
	1	1	
	6	5	4

Raj uses a friendly number:

398 + 256 = 400 + ☐ = _____

Do they get the same total? ☐ yes ☐ no

For 398 + 256, which way would you choose? Why?

_____

_____

13 Show it on a number line

Show **345 + 198** by adding 200, then jumping back. Write the numbers you land on.



345 + 198 = _____

14 Make your own

Write a sum of two 3-digit numbers, with a total of 1,000 or less, where moving a few ones makes a friendly hundred. Show the friendly numbers and the total.

_____ + _____ = _____ + _____ = _____

15 Check yourself

599 + 236 = _____

Friendly: 600 + ☐

450 + 298 = _____

Friendly: 450 + 300 − ☐

421 + 356 = _____

Would a friendly number help? ____

Think Before You Add

Answers in blue. Accept other clear reasons.

1 More or less?

299 + 356 Will the sum be more or less than 650? ☑ more ☐ less

How do you know?

300 + 356 = 656, and 299 is 1 less, so the sum is 655: more than 650.

2 Is Ella correct?

Ella says: 498 + 237 = 500 + 237, because 498 is close to 500.

Is Ella correct? ☐ yes ☑ no Explain why.

No. 500 + 237 is 2 too much. Take 2 from 237: 500 + 235.

3 Which answer makes sense?

397 + 248 = ☑ 645 ☐ 648 ☐ 651

Tick the answer that makes sense. Why are the other two wrong?

648 is 400 + 248: it forgets to take back the extra 3. 651 adds 3 more instead of taking 3 away.

4 Which hundreds?

596 + 299 Will the sum be in the 800s or the 900s? ☑ 800s ☐ 900s

How do you know?

600 + 300 = 900, but that is 4 + 1 = 5 too much, so the sum is 895: in the 800s.

5 Is Noah correct?

Noah says: 523 + 164 needs no friendly numbers. I just add by place.

Is Noah correct? ☑ yes ☐ no Explain why.

Yes. No place makes 10 or more, so adding by place is quick: 687.

Friendly Numbers Keep the Total

Answers in blue. Task 6: most students find 400 + 203 easier; accept either choice with a reason.

6 Notice

398 + 205 **400 + 203** Which is easier to add in your head?

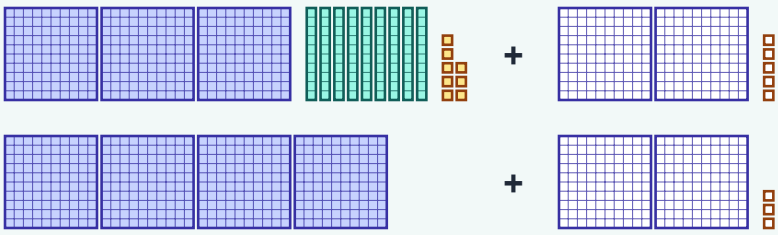
☐ 398 + 205 ☑ 400 + 203

Do they have the same total? ☑ yes ☐ no How do you know?

Both are 603: 2 moved from 205 to 398, so nothing was added or lost.

7 Give some, take some

WORKED EXAMPLE



398 + 205

400 + 203

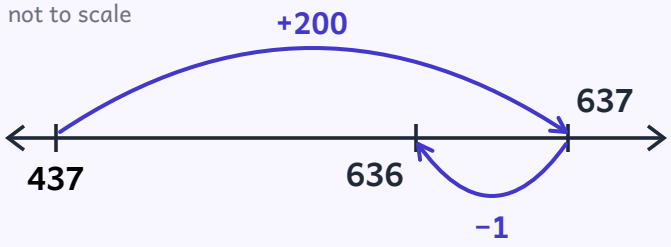
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398 + 205 = 400 + 203 = 603. One number got 2 more and the other got 2 less, so the total did not change.

8 Add too much, then take it back

WORKED EXAMPLE

not to scale



437 + 199 = 437 + 200 − 1

437 + 200 = 637. We added 1 too many, so take 1 away: **636**.

Is the Total the Same?

Answers in blue. Tasks 10 and 11 have more than one right answer.

9 Your turn, with help

299 + 146 = 300 + [145] = 445

254 + 398 = [252] + 400 = 652

526 + 297 = 526 + 300 − [3] = 823

198 + 356 = 200 + [354] = 554

10 True or false?

Each student changed the numbers to make them friendly. Is the total still the same?

499 + 101 = 500 + 100
☑ true ☐ false
If false, fix the right side: —

298 + 156 = 300 + 156
☐ true ☑ false
If false, fix the right side: 300 + 154

365 + 199 = 365 + 200 − 1
☑ true ☐ false
If false, fix the right side: —

597 + 248 = 600 + 251
☐ true ☑ false
If false, fix the right side: 600 + 245

Sample fixes. Accept any right side worth the same total (454 and 845), for example 300 + 156 − 2 or 600 + 248 − 3.

11 When does it help?

Tick the sums where a friendly number helps. Then find every sum.

199 + 384
☑ helps
= 583

432 + 215
☐ helps
= 647

347 + 298
☑ helps
= 645

513 + 264
☐ helps
= 777

199 + 384 = 200 + 383 and 347 + 298 = 347 + 300 − 2 (or 345 + 300) are good choices. 432 + 215 and 513 + 264 need no trade, so adding hundreds, tens and ones is already easy. Accept other ticks with a sensible reason.

Choose Your Way

Answers in blue. Tasks 12 and 14 have more than one right answer.

12 Two ways

Lin adds in columns

	H	T	O
	3	9	8
+	2	5	6
	1	1	
	6	5	4

Raj uses a friendly number:

398 + 256 = 400 + **254** = **654**

Do they get the same total? ☑ yes ☐ no

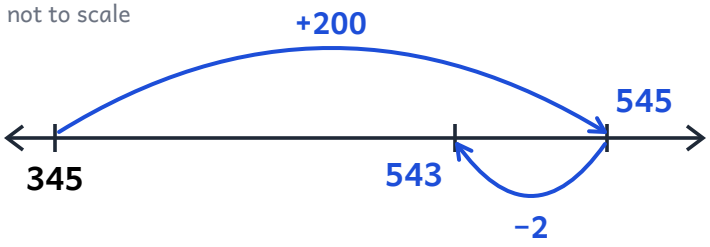
For 398 + 256, which way would you choose? Why?

Either, with a reason. Raj's way: 398 is 2 away from 400, so one easy step. Lin's way needs two trades.

13 Show it on a number line

Show **345 + 198** by adding 200, then jumping back. Write the numbers you land on.

not to scale



345 + 198 = **543**

14 Make your own

Write a sum of two 3-digit numbers, with a total of 1,000 or less, where moving a few ones makes a friendly hundred. Show the friendly numbers and the total.

296 + **135** = **300** + **131** = **431**

One answer. Accept any two 3-digit numbers, total 1,000 or less, where one number is a few ones from a hundred and the other changes the opposite way by the same amount.

15 Check yourself

599 + 236 = 835

Friendly: 600 + **235**

450 + 298 = 748

Friendly: 450 + 300 − **2**

421 + 356 = 777

Would a friendly number help? **no**

421 + 356 has no trades, so adding hundreds, tens and ones is already quick.

Friendly Numbers with Three Digits: teaching notes

GOAL

Student goal: change three-digit numbers into friendly numbers, keep the total the same, and choose when it helps. **Precisely:** compensation that preserves the sum (moving an amount from one addend to the other, or adding a friendly number and taking back the extra), and judging when it is more efficient than adding by place.

THINK BEFORE YOU ADD (TASKS 1–5)

Five ways to reason before adding: more or less than 650 using 300 + 356, a change that adds 2 (Ella), the answer that makes sense (648 forgets to take back, 651 takes back the wrong way), which hundreds, and a sum where friendly numbers are not needed (Noah is right). Ask for reasons, not sums.

BEFORE THIS LESSON

Friendly numbers with two digits (A10), making the next hundred (B23) and three-digit addition with trades (B20–B22). **Quick check:** "What do you add to 398 to make 400? To 596 to make 600?"

MATERIALS

Base-ten blocks and two plates, so ones can visibly move from one number to the other.

TEACH (TASKS 7–8)

Put 398 and 205 on two plates. Move 2 cubes from 205 to 398: the 10 ones make a ten and the 10 tens make a hundred, so 398 becomes 400. Ask: *"Did the total change?"* Then 437 + 199: "What if I add 200 instead? How much too much?" Draw the jump back.

THE IDEA TO PROTECT

Friendly numbers work because **the total is kept the same**. Ask after every example: "How do you know the total is the same?" And not every sum needs it: task 11 and task 12 ask when it helps.

MISCONCEPTIONS AND RESPONSES

- **Changes only one number** (298 + 156 = 300 + 156). Put it on plates: 2 ones appeared from nowhere.
- **Changes both numbers the same way** (597 + 248 = 600 + 251): 6 extra.
- **Forgets to take back the extra** (437 + 199 = 637). "We added 200, but the problem had 199."
- **Thinks a friendly number is always best.** For 432 + 215, adding by place is quick: no trades. Ask which way was quicker for them and why.

Friendly Numbers with Three Digits: teaching notes (continued)

WHAT TO LOOK FOR

Secure: correct true or false choices with fixes, sensible choices in task 11 and a reason in task 12, and a correctly labeled number line in task 13. Developing: correct totals but cannot say why the change is allowed. Needs support: changes one number only.

SUPPORT AND EXTENSION

Support: do task 10 with plates and blocks; start with numbers 1 away from a hundred (499 + 101). **Extension:** "Is 398 + 205 = 393 + 210? Is it 408 + 195?" (Yes, yes.) "Make 697 + 248 friendly two different ways."

ABOUT THE GRADE

Strategies based on place value and properties are named in Grade 2 (2.NBT.B.7, NC.2.NBT.7) and Grade 3 (3.NBT.A.2). Use tasks 6–9 in Grade 2 with blocks; the rest suits both grades.

STANDARDS

Set	Direct	Supporting
Common Core	2.NBT.B.7 (strategies based on place value and properties); 2.NBT.B.9 (explaining why the total stays the same); 3.NBT.A.2	
NC 2017 (current)	NC.2.NBT.7; NC.3.NBT.2	
NC 2026 (adopted; from 2028–29)	2.ANR.7.2; 2.ANR.7.3; 3.ANR.2.2	
Florida B.E.S.T.	MA.2.NSO.2.4 (Grade 2 "explore": properties of operations); MA.3.NSO.2.1	
Texas TEKS	3.4(A) (strategies based on place value and properties)	

Standards crosswalk, verified 2026-11-04 against corestandards.org, NC DPI (2017 SCOS; 2026 SCOS adopted Oct 1, 2026, in classrooms from 2028–29), FLDOE B.E.S.T. and TEA TEKS.