

Explore Screen

In the Explore screen, students can focus on place value, adding strategies, and even subtraction, as they figure out how to combine and break apart numbers. Teachers can use this screen as a tool for number talks.

TOTAL of all the numbers in use

MOVE numbers by dragging the bottom

DRAG numbers out and play!

COMBINE numbers that add over ten by making tens

BREAK APART numbers by dragging the top

251 =

230

5 6

10

100 10 1

Hide Total

Make a Ten

Explore Adding Game

PhET

Adding Screen

The Adding can be used as an intervention tool or homework helper. Here students can enter a custom addition problem and find the sum using the combining strategies they learned on the Explore screen.

EDIT the numbers you want to add

MAKE TENS to combine the two numbers and find the sum

66 + 225 =

66

225

Make a Ten

Explore Adding Game

PhET

Game Screen

In the Game screen users answer challenges that build their number sense and addition skills.

The screenshot shows the 'Make a Ten' game interface. At the top, there are three pink challenge cards: one with two hands and '+', one with '7 + 9', and one with '20'. Below these are four teal cards: one with a person and '10', one with '59 + 3', one with '100' and a person, and one with '100' and a person. At the bottom are three purple cards: one with '600 3', one with '540 + 30', and one with '400' and a person. A callout box on the left points to the pink cards, stating 'LEVEL 2: Discover an add-with-9 strategy'. Another callout box on the left points to the teal cards, stating 'LEVEL 4: work on place value by adding with decade numbers'. A callout box on the right points to the top right corner, stating 'DESCRIBE the learning goals of each level'. A third callout box on the right points to the bottom right corner, stating 'EARN a star for every completed challenge'. The bottom of the screen features a navigation bar with icons for 'Make a Ten', 'Explore', 'Adding', and 'Game', along with the PhET logo.

LEVEL 2:
Discover an add-with-9 strategy

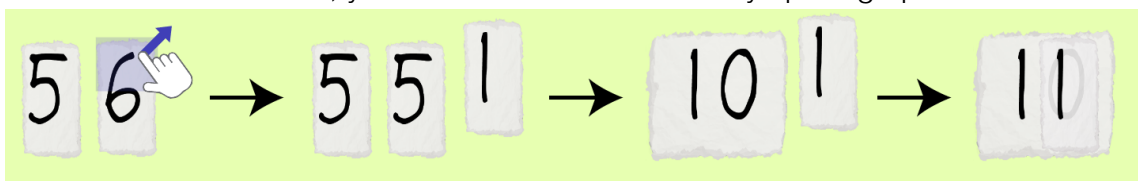
LEVEL 4: work on place value by adding with decade numbers

DESCRIBE the learning goals of each level

EARN a star for every completed challenge

Insights into Student Use

- When two numbers add over 10, you must first “make a ten” by splitting up one of the numbers.



- Some students, especially younger ones, will want to break apart a number into 1s. Encourage them to count how many 1s they get from the number they started with.
- Some students will put a 3 next to a 4 and say “This is 34.” This is an opportunity to see that 34 is not made of a 3 and a 4 but rather 30 and 4 – an important insight into place value.

Suggestions for Use

Number Talks (using the Explore screen)

- Pick a number like 12 and explore; you can break it into a 10 and 2, twelve 1s, three 4s, or four 3s.
- Break apart 63 into six 10s and three 1s. Predict how many 10s and 1s you will get with 75.
- Hide the total. Bring up a selection of numbers and challenge the class to find the total.
- Start with 63 and ask what needs to be added to make 85.
- Start with 85 and ask what needs to be removed to make 63.

Sample Challenge Prompts

- How many different ways can we express the same number?
- If I break up a number and put it back together, will I always get the same number?
- When I need to “make a ten” to combine two numbers, do I always make ten in the same way?

See all published activities for Make-A-Ten [here](#).

For more tips on using PhET sims with your students, see [Tips for Using PhET](#).