



Intro to Regrouping

Grade 3

Addition and Subtraction with Regrouping

6 levels

Probing Questions

- How do you know when to regroup?
- What do the white buttons on the top do?

Classroom Connection

Discuss with the class why it's a good idea to start with the ones and move from right to left. Move on to a discussion of how the algorithm helps you regroup.

What Concepts Are Being Developed?

Students often say "carry the one" without knowing what it means. Using this visual model strengthens student understanding of the algorithm.

The arrangement of petals focuses attention on the process instead of the facts.

Elements are strategically placed to mirror the algorithm.

STMath.

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Regrouping Dual Mode- Addition Puzzles

Grade 3

Addition and Subtraction with Regrouping

9 levels

Probing Questions

- Which step do you need to do first?
- How do you know which digit to select?
- What does the animation do when you have to regroup?

Use the Scrub Bar to Stop the Animation

After you click the regroup button, stop the animation and discuss how it reflects what is done in the algorithm. Compare the visual model with the algorithm to illustrate the regrouping process.

What Concepts Are Being Developed?

Connecting the visual and symbolic is a vital step in helping students develop a strong conceptual understanding. In this game, students see the two models side by side and can connect the elements in the visual model (such as "make a flower from 10 petals") to the algorithm ("carry the 1").

Students start by building the problem addition only in Level 1.

Use the auto pause on the scrub bar to compare the two models.

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Regrouping Dual Mode- Subtraction Puzzles

Grade 3

Addition and Subtraction with Regrouping

9 levels

Probing Questions

- What does the animation do when you have to regroup?
- What's the first thing you have to do to solve the problem?

Using the Scrub Bar Stop the Animation

After you click the regroup button, stop the animation and discuss how it reflects what is done in the algorithm. Compare the visual model with the algorithm to illustrate the regrouping process.

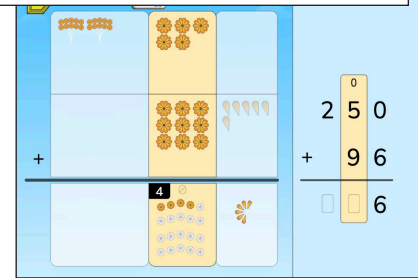
What Concepts Are Being Developed?

Connecting the visual and symbolic is a vital step in helping students develop a strong conceptual understanding. Here, students see the two models side by side and can connect the elements in the visual model (such as "make 10 petals out of 1 flower") to the algorithm ("subtract 1 and add 10").

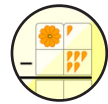
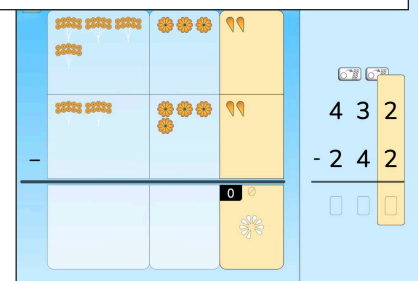
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If an error is made in regrouping, students can restart the puzzle.



Regrouping buttons work in either the visual or symbolic models.



Intro to Borrowing

Grade 3

Addition and Subtraction with Regrouping

6 levels

Probing Questions

- How do you know when to borrow?
- What do the white buttons on the top do?
- What do the red balloons mean?

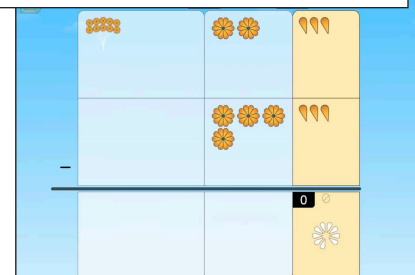
Classroom Connection

Discuss with the class why it's a good idea to start with the ones and move from right to left. Move on to a discussion of how the algorithm helps you regroup.

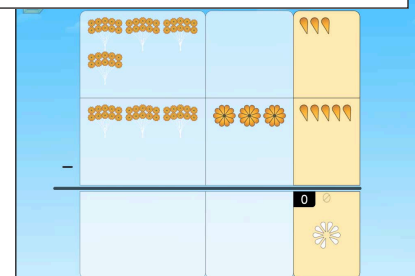
What Concepts Are Being Developed?

Students often "borrow" without understanding what is actually happening. Using this visual model strengthens student understanding of the algorithm.

The arrangement of petals focuses attention on the process instead of the facts.



In Levels 4 and 5, students may need to regroup twice.



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