PUZZLE TALK

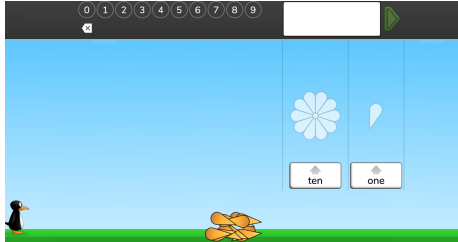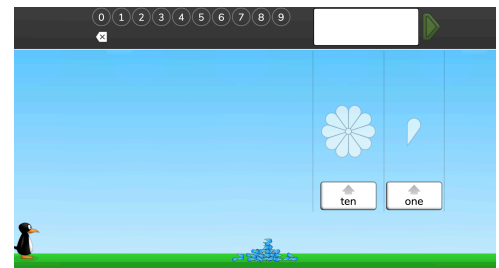| First Grade	Place Value Concepts	How Many Petals?

Materials

Whiteboards and markers

Directions

- Display the first puzzle from Level 1. Ask students. "What do you see? How can we clear a path for JiJi?"
- Say to students, "Turn and talk to a neighbor about how you might solve the problem."
- Try what the students suggest. (You can select numbers at the top or click on any of the place value columns.)
- Once the students see that they need to click on the columns until they are out of petals, ask "Which column do you want to try first and why?" Talk about how students are guessing how many petals they see and why they would start with the tens place.

- Display the first puzzle from Level 2. Ask students to write an estimate for the number of petals they think are in the pile. Group students and have them discuss their estimates. and Tell students they need to discuss and decide on an estimate for the group. Record group estimates on the board.
- Click one time so some of the petals leave the pile. Tell the groups they can adjust their estimate if they want.

- Ask the groups, "Did any of you adjust your estimate? Why? How did you change your estimate?"
- Have students compare their estimates to the group estimates.
- Continue to click until the puzzle is solved. Ask, "Which group had the closest estimate?" Have that group discuss their strategy for estimating. Ask students what they would do differently the next time and why.
- Repeat with a few more puzzles.

Sample Questions

- Which estimate is the greatest? Least?
- How did you determine your estimate?
- Why did you change your estimate?
- Which estimate is the closest to the exact number? How did you determine that?
- How many of the petals are on each flower? How many flowers are in each bunch? How do you know?
- Why are there ten petals on each flower?

What to look for

How does the student:
- make their initial estimate? Is it reasonable?
- use the change in the size of the pile of petals to adjust their estimate?
- explain the reason for adjusting their estimate?
- demonstrate understanding of place value?