

# 1-digit Number Recognition and Decomposition

## Subitizing\* Activities

\*Subitizing means to instantly recognize a quantity without counting.

**Standard:** Kindergarten Number Sense 1.2 Count, recognize, represent, name, and order a number of objects up to 30.

**Objective:** Students subitize numbers 1-4 using dot cards.  
Students decompose and recompose the numbers 1-4 using different dot arrangements.

**Materials:** Subitizing dot cards - one large set for teacher, and sets for pairs of students.  
Dot card sets should have various dot combinations for each number. Rectangular and dice arrangements are easiest for children to recognize. (See attached for examples.)

**Introduction:** Today we are going to use Dot cards to represent numbers.  
(Go over classroom norms for using manipulatives. Pass out dot cards after teacher demonstrates with whole class.)

Today we're going to look carefully at dot cards. We want to practice seeing how many dots there are without counting.

Show dot card with 1 dot.

How many dots do you see? Think. Choral Response: [1]

Show a different dot card with 1 dot.

How many dots do you see on this card? Choral Response:[1]

Show both 1 dot cards.

The dots can be in different places on the cards, but these two cards both show 1.

Continue showing dot cards with 2, 3 and 4 as above for 1.

Now we will practice looking at the cards quickly and saying how many without counting.

Mix up the dot cards. Flash one card briefly, (for 1-2 seconds).

How many dots did you see? (Ask students to respond using various engagement strategies by whispering to their partner, showing you on their fingers, and responding chorally together)

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Now you will do this activity with your partner.

Give student pairs one set of dot cards. Guide them in practicing with a partner.

Walk the room to do a formative assessment. Make note of dot cards students have success with, and dot cards that are more challenging. Note students who may need small group support on this task.

Closing:

What did you and your partner notice when you were doing this activity together?

What helped you to know how many dots without counting?

Give positive attention when different students subitize differently (Jose saw 3 and 1 and knew it was 4. Deandre saw 2 and 2 and knew it was 4.)

Continue on subsequent days with larger numbered dot cards. Intentionally choose dot combinations to foster decomposition of numbers. (Four 5-dot cards can show groups of 3 and 2, groups of 1 and 4, groups of 2, 2 and 1, and 1 line of 5 dots.)

Increase the complexity of the number of dots and the arrangements of dots as the year progresses. Discuss what groups of dots students see on the dot cards. Compare different ways of seeing larger groups of dots.

Students should have many opportunities to practice these activities in order to build their fluency with subitizing.

Additional Activities with Dot Cards and Subitizing

- \* Teacher flashes cards on overhead (with punched holes), or elmo very quickly. All students race with teacher to say how many dots there were.
- \* "One of these dot cards doesn't belong" - Students choose one dot card from a display of several where all but one display the same number in different dot arrangements.
- \* Concentration game with different dot cards for same number
- \* All students have 0-10 dot cards. Teacher calls out a number and students hold up dot card. Use different sets of dot arrangements on different days. Later in year, teacher holds up a numeral on a card and students choose dot card that matches.
- \* Students can say how much would be one more or one less than the number of dots on a card.
- \* Teacher walks room, pauses and makes a pattern with a number of beats (for example, 3 beats on a drum), students write the numeral on their whiteboards.
- \* Connect to dot patterns on 10-frames. Do some of the same activities with 10-frame cards.

References

Clements, Douglas H. "Subitizing: What is it? Why Teach it?" *Teaching Children Mathematics* (March 1999): 400-405.

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