



naturally
mathematical

Early Subtraction

A Collaborative Guided Inquiry
with Ann Baker

Number Talk Sample



What is Number Talk?



When we give students pages of repetitive drill-and-kill practice sheets we are doing them a disservice. Students come to see such exercises as tests to be carried out as quickly as possible and as *answer recall* only.

Yes, students need practice, but that practice needs to be designed to develop deep understanding, not just procedural knowledge and recall. Many students do not look at the numbers in a subtraction in a mathematically thoughtful way. They simply painstakingly follow what may be an inappropriate, over-learned way, such as counting all and then counting back – often incorrectly.

Pattern and Structure Number Talk

These number sequences are designed to foster the expectation that students should always self-talk:

“Do I need to work every one of these or are some related?”

“Do I have a visual image that will help me with this one?”

“What patterns can I see?”

Thinking in this way develops fluent, efficient and flexible thinking about subtraction.



What is Number Talk?



In the *Student Slides* you will find a series of subtractions that can be used in any available 5-minute slot to promote fluency with subtraction strategies.

Here is an example:

1.
$$\begin{array}{c} \boxed{6} - \boxed{1} \\ \diagdown \quad \diagup \\ \boxed{5} \end{array}$$

It's like on a number line.
Count back one more each time.



2.
$$\begin{array}{c} \boxed{6} - \boxed{2} \\ \diagdown \quad \diagup \\ \boxed{4} \end{array}$$

There's a pattern.

$$\begin{array}{l} 1 - 5 \\ 2 - 4 \\ 3 - 3 \\ 4 - 2 \\ 5 - 1 \end{array} \quad \begin{array}{l} \downarrow \\ \text{down} \\ \downarrow \end{array}$$



3.
$$\begin{array}{c} \boxed{6} - \boxed{3} \\ \diagdown \quad \diagup \\ \boxed{3} \end{array}$$

4.
$$\begin{array}{c} \boxed{6} - \boxed{4} \\ \diagdown \quad \diagup \\ \boxed{2} \end{array}$$

$6 - 2$ is 4.
 $6 - 4$ is 2.

Use the same numbers each time.



5.
$$\begin{array}{c} \boxed{6} - \boxed{5} \\ \diagdown \quad \diagup \\ \boxed{1} \end{array}$$

