

PLACE VALUE: UNITS AND MAGNITUDE

A discussion guide for instructional coaches and teachers to use with the DMT Insight on place value in grades 3–6.

How to use it. Work the guiding question both times. Use the Before prompts before the reading or video, and the After prompts once your team has read or watched.

THE GUIDING QUESTION

When your students work with a number like 526, are they naming the places, or reasoning about the units each digit stands for and how big the number is?

COGNITION

How learning holds

BEFORE

A student points to the tens place in 347 with no trouble. What is the difference between naming that place and picturing 34 complete tens inside 340?

AFTER

Unitizing means holding a group as one unit while still knowing what it is composed of, seeing 340 as 34 tens. Where are students naming positions when you need them, counting in units of ten and units of a hundred?

MATHEMATICS

How ideas connect

BEFORE

Where later this year does shaky place value quietly show up, subtracting across zeros, multiplying by ten, or comparing decimals like 0.38 and 0.4?

AFTER

Each place is worth ten times the one to its right, which is why 4,000 is 40 hundreds and 0.1 is ten hundredths. Which upcoming topic most needs students to see that times-ten structure rather than “add a zero”?

INSTRUCTION

How we teach it

BEFORE

When you ask “how many tens are in 347?”, what would a student’s explanation, not just the answer, tell you that a page of labeled place-value charts would hide?

AFTER

What is one item you will try this week, like “show 304 two ways” or “which is greater, 509 or 590, and how do you know?”, and how will the error you see point you to units or to magnitude?