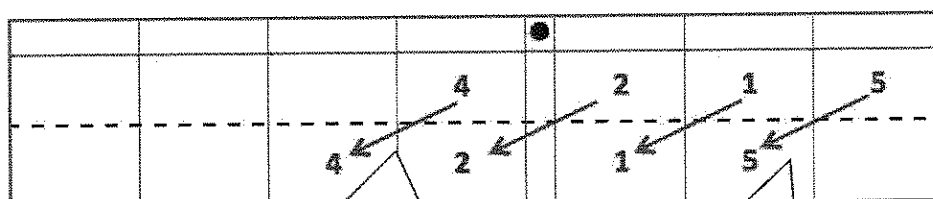


G5-M1-Lesson 1

Note: It is common to encourage students to simply “move the decimal point” a number of places when multiplying or dividing by powers of 10. Instead, encourage students to understand that the decimal point lives between the ones place and the tenths place. The decimal point does not move. Rather, the digits shift along the place value chart when multiplying and dividing by powers of ten.

Use the place value chart and arrows to show how the value of the each digit changes.

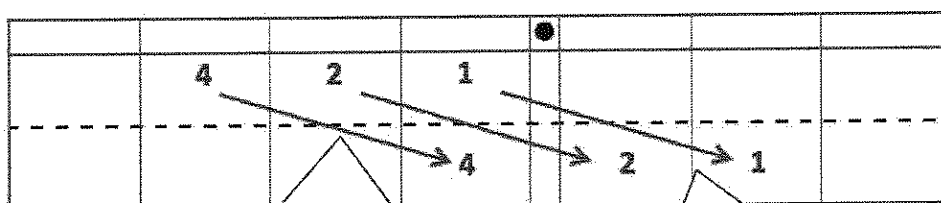
1. $4.215 \times 10 = 42.15$



4 ones times 10 is 4 tens. Since I'm multiplying by 10, the value of each digit becomes 10 times greater.

When multiplying by 10, each digit shifts 1 place to the *left* on the place value chart.

2. $421 \div 100 = 4.21$



4 hundreds divided by 100 is 4 ones. Since I'm dividing by 100, the value of each digit becomes 100 times smaller.

When dividing by 100, each digit shifts 2 places to the *right* on the place value chart.

- 3 hundreds times 10 is 3 thousands. The original number must have had a 3 in the hundreds place.

I used the place value chart to help me visualize what the original number was. When multiplying by 10, each digit must have shifted 1 place to the left, so I shifted each digit 1 place back to the right to show the original number.

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When multiplying by 100, each digit shifts 2 places to the *left* on the place value chart.

Since the microscope magnifies objects 100 times, the bug will appear to be 100 times larger. I used a place value chart to show what happens to the value of each digit when it is multiplied by 100. Each digit shifts 2 places to the left.