G5-M4-Lesson 23

1. Sort the following expressions by rewriting them in the table.

$\boxed{13.89} \times 1.004$

$\boxed{602} \times 0.489$

$\boxed{102.03} \times 4.015$

$\boxed{0.3} \times 0.069$

$\boxed{0.72} \times 1.24$

$\boxed{0.2} \times 0.1$

Since 0.489 is less than 1, if I multiplied it by 602, the answer would be less than 602. I'll put this expression in the column on the left.

The product is less than the boxed number:	The product is greater than the boxed number:
$\boxed{0.3} \times 0.069$ $\boxed{602} \times 0.489$ $\boxed{0.2} \times 0.1$	$\boxed{13.89} \times 1.004$ $\boxed{0.72} \times 1.24$ $\boxed{102.03} \times 4.015$

All of the expressions in this column have a boxed number that is multiplied by a **scaling factor less than 1** (e.g., 0.069 and 0.1). Therefore, the product will be less than the boxed number.

All of the expressions in this column have a boxed number that is multiplied by a **scaling factor more than 1** (e.g., 1.004 and 4.015). Therefore, the product will be greater than the boxed number.

2. Write a statement using one of the following phrases to compare the value of the expressions.

is slightly more than ***is a lot more than*** ***is slightly less than*** ***is a lot less than***

a. 4×0.988 ___*is slightly less than*___ 4

b. 1.05×0.8 ___*is slightly more than*___ 0.8

c. $1{,}725 \times 0.013$ ___*is a lot less than*___ 1,725

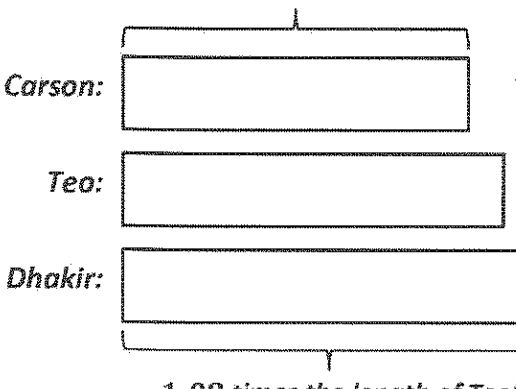
In this example, the product of 4×0.988 is being compared to the factor 4. Since the scaling factor, 0.988, is less than 1, the product will be less than 4. However, since the scaling factor, 0.988, is just ***slightly*** less than 1, the factor will also be ***slightly*** less than 4.

d. 89.001×1.3 ___*is a lot more than*___ 1.3

In this example, the product of 89.001×1.3 is being compared to the factor 1.3. Since the scaling factor, 89.001, is more than 1, the product will be more than 1.3. However, since the scaling factor, 89.001, is ***a lot more*** than 1, the product will also be ***a lot more*** than 1.3.

3. During science class, Teo, Carson, and Dhakir measure the length of their bean sprouts. Carson's sprout is 0.9 times the length of Teo's, and Dhakir's is 1.08 times the length of Teo's. Whose bean sprout is the longest? The shortest?

I draw a tape diagram to help me solve.



0.9 is less than 1, so that means Carson's sprout is shorter than Teo's.

1.08 is more than 1, so that means Dhakir's sprout is longer than Teo's.

Dhakir's bean sprout is the longest.

Carson's bean sprout is the shortest.