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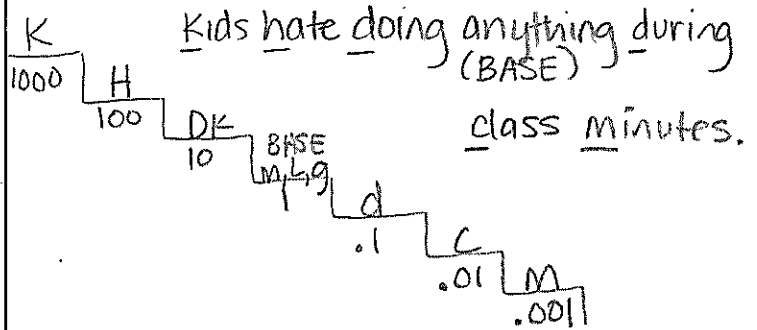
TOPIC: Dimensional Analysis

ESSENTIAL QUESTION: How do I convert units (metric ↔ metric AND metric ↔ English) using dimensional analysis? (Obj 4) AKA BFF! Big Fat Fractions

QUESTIONS AND CONNECTIONS:

NOTES:

What are the metric prefixes?
How can I remember them?



How do I convert metric to metric using the stair step method?

*move decimal L or R

EX: $6.5 \text{ km} = 6500 \text{ m}$ $14.55 \text{ cm} = 1.455 \text{ m}$

What other methods are there?

Another Method for Metric → Metric...

$\frac{6.5 \text{ km}}{1 \text{ km}} \times \frac{1000 \text{ m}}{1 \text{ km}} = 6500 \text{ m}$ D.A.!

2 equals

$5 = 5$ or $12 = 1 \text{ doz.}$ $\left\| \frac{\text{make fraction}}{\frac{5}{5} \text{ or } \frac{12 \text{ eggs}}{1 \text{ doz.}}} \right\| \frac{\text{ONE}}{1}$

*manipulate units while not compromising the integrity of measure

conversion factor: relates original unit to desired unit

What is a conversion factor?

D.A.

QUESTIONS AND CONNECTIONS:**NOTES:**

What are the 5 steps to converting w/DA?

5 Steps to converting w/D.A.:

① Look at what you start with
EX: How many eggs are in 3 dozen?

② ID desired units
EX: How many eggs are in 3 doz?

③ Find conversion
2 eggs = 1 doz

④ Decide which conversion factor allows you to cancel approp. units

$$\frac{3 \cancel{\text{doz}}}{1 \cancel{\text{doz}}} \times \frac{12 \text{ eggs}}{1 \cancel{\text{doz}}} =$$

⑤ Mult & divide \Rightarrow sig figs (only measurement)

$$(3) \times \left(\frac{12}{1}\right) = \boxed{36 \text{ eggs}}$$

* I am counting dozens, so ∞ s.f.

SUMMARY: