

Out with CUBES

and in with RDW

~Christina Lyndsley

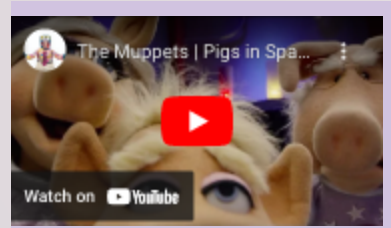
I've never had much success with CUBES. Perhaps it was in my delivery or maybe I gave up too soon. Nonetheless, I went searching for something new. When teaching the Engage NY Modules I came to love the RDW process. RDW stands for Read, Draw, Write. It seems so simple yet was a game changer for our word problem solutions. The part about CUBES that I became very frustrated with is that students mindlessly circled all the numbers right away, scanned the text for key words to box and then underlined the question- before even reading the problem. Some students even said, "I didn't have to read the problem because I knew I had to multiply these numbers." When asked, "How did you know to multiply, they'd respond, "The clue word groups told me." I was proud they were looking for clue words and I was proud that they remembered that multiplying has to do with groups. However, they were not comprehending the problem, or even more, they weren't even reading the problem. So RDW is where I turned.

R

Read

Read the whole problem, out loud, if it helps. Think about what you just read. What's happening in the problem? Create a little mind-movie of what you've just read. Put yourself in the movie too; make yourself the main character. After reading the problem, students should be able to cover it with their hand and tell the gist of what's happening. You can help that process by adding to the scenario. Ask leading questions. Can you picture yourself walking into a store? Can you picture standing in line and getting ready to pay? If you are paying, is the amount of money you have increasing or decreasing? What happens when you leave the store? Math is all around us. Help students reason through the sentences to understand the math. Comprehension is key.

This is my favorite part because I am a visual learner. I need to sketch out my thoughts. D stands for Draw. And not just draw any old way; it must be systematic. The kids need to be interested in this part. So, in your best game show voice, say the following. "We are going to work SENTENCE BY SENTENCE"! (If you are a child of the 80s you might remember the Muppet Show piece called "Pigs in Space". It had the best intro.... that is the voice I hear in my head every time! Click the video so you can get it stuck in your head too. Turn it off after the intro so you don't get sucked into the plot.) Direct students to start at the beginning of the problem and read the first sentence. Then begin your questioning. What math is happening in the first sentence? Do we need to draw groups of something? Do we need to make a model, like to show a fraction? Does the math require a number line? Allow students to draw pictures that help them reason through this. I may be scolded by saying this, but it's okay to let them draw something other than symbols. I'm not saying to allow them to be a full-on Picasso, but if drawing a quick sketch of a car makes sense to them, then let them. I call them stick figure pictures. After the math is represented from the first sentence, move on to the next and repeat this process. Does the next sentence give additional information? Does it tell us to do something with the math sketch or model from the first sentence? Does it give you a direction to go for the following sentence? Show your work. Continue this process for the whole word problem going **SENTENCE BY SENTENCE**. Be sure to connect the ideas and models from one sentence to the next.



D

Draw

W

Write

Word problems need word answers- Where is the question mark in your word problem? What is it asking? What will your label be? Use the information from your drawing, or models to write your final answer using words as labels.

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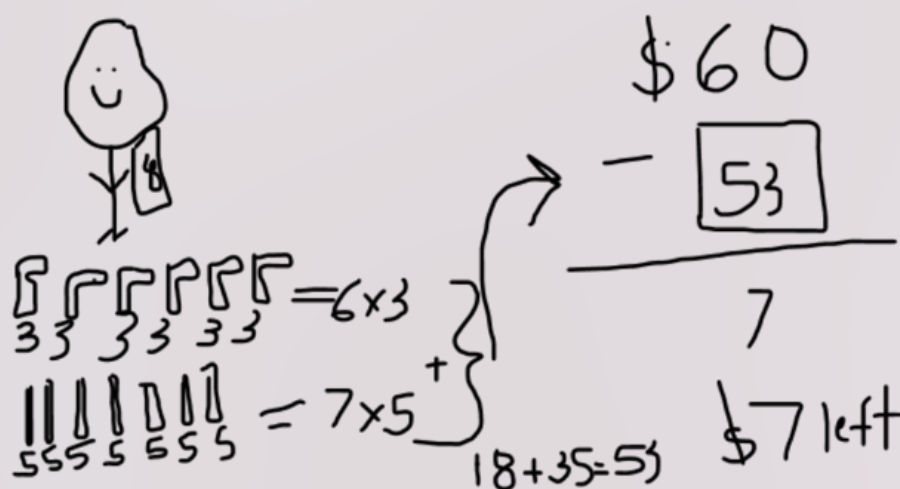
3rd Grade Word Problem

Alaina has a total of sixty dollars. She buys six whistles for \$3 each and 7 pens for \$5 each. How much money did Alaina have left?

R Read

Read and think about what is happening.
Alaina has money to spend at a store. She's getting water guns and pens. She will leave with less money.

D Draw



W Write

Find the question mark.
How much does she have left?
Alaina has \$7.00 left.

CUBES

Alaina has a total of sixty dollars. She buys six whistles for \$3 each and 7 pens for \$5 each. How much money did Alaina have left?

Using cubes, students get this far and get stuck. At the Solve part of CUBES students would need to go back and reread several times to understand what to do. This is why I prefer the RDW method.

Eventually, we all find what works for us.
So, I just wanted to share what I liked best.

RDW posters are included below if you're interested.

Let's work together to find the best methods for word problem solutions.

I'd love to hear what ways work best for you!

Send me your thoughts clyndsley@pval.org

READ

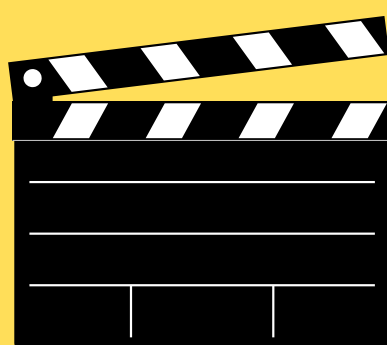


1.) Read the whole problem.

2.) THINK

What happened in the problem?

Make a mind movie. Make yourself the main character.



DRAW



Sentence
by
sentence!

3.) Sentence by Sentence

Analyze what to do;

Draw a picture, make a chart..



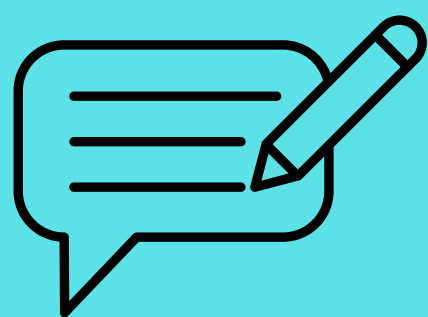
4.) **Stop** at each

. , ? and or but

to make a model, draw a picture or to take a note.

5.) Work the problem out one sentence at a time.

WRITE



Word Problems

need

Word Answers!

6.) Using your work from above, label your answers by using words from the question.