



Let's Get Grouped by Grades

- List facts and skills you have your children learn throughout your school year in mathematics
- Check the grade below you and grade above you if possible.



Big Question

- How do I write quality lessons (for quality learning) when writing a lesson for a fact or a skill to be learned?



Interactive Model

Objectives

Motivation

Input

Processing Activity

Assessment



2-digit by 2-digit addition

- What might I have as a skill/fact objective for this lesson?
- TSWBAT correctly add two digit by two digit numbers.



"Backward Design"

- It actually makes more sense – once I know what I want my students to be able to do, I need to figure out how I will know my students have "gotten it" – or the assessment part.
- Creates a continuity in lessons



Assessment

- How can I know that my students can add two digit by two digit numbers?
- Possible ways: Homework, Journal with explanations, one on one interviews, 3 problem "check"



Motivation: Prior knowledge?

- What do students need to know or be able to do in order to do this type of addition?
- How can I activate that knowledge?
- Ideas I had: review single digit addition, have students explain place value to one another, come up with names for what we are doing when we add (join, combine, etc.)



INPUT

- How do I get from what they know to what they don't know?
- We've dealt with the conceptual part of this in the previous sessions (different topic).
- Skill lessons should ALWAYS come *after* a concept has been taught.



INPUT

- Perhaps students were combining 2-digit amount yesterday with manipulatives.
- Yesterday, they wrote different ways they could figure out how to combine *without* using the manipulative (as their processing activity)



INPUT

- Today – have 3 teams of students present to the class how they would add without using manipulatives using this problem .

$$\begin{array}{r} 25 \\ + 37 \\ \hline \end{array}$$



INPUT

- Discuss what might be the shortest way
- Present the "standard algorithm" for adding 2 digit by 2 digit.
- Present 4 problems on the board – have student teams try to solve.
- Have each team present a solution.



INPUT

Side thought on "problems"

- I always decide on two things before teaching a lesson:
 1. What problem will I use?
 2. Where will I place them on the chalkboard, overhead or other display device?



Processing Activity

- In this section I am trying to allow my students to make sense of what they have been learning – to solidify it and make it their own.
- How can we do this with 2 digit by 2 digit addition?



Processing Activities

Suggestions

- Have students compare what is similar and what is different between 1 digit by 1 digit addition with 2 digit by 2 digit.
- Have students write *why* they put a 1 over the tens place before adding the tens.



Homework?

- You bet!
- Prepare the parents
- If you use non-standard algorithms (like they use in Everyday Mathematics) do NOT send these problems home.



Your Turn!

- If you can – in grade groups
- Choose one skill that is critical for your students to learn
- Brainstorm how you might teach this.

