Teach It! Learn It!

Love It!!!!

1995–2012

From 2012-present

"Buy it, sell it, love it"

Breakout Activity

- Discuss challenges you see for students who struggle and students with disabilities in the area of mathematics
- Consider issues involving Instruction, Curriculum, Assessments, Teachers, & students—All levels
- Come up with a Top 4 List

Love It!!!!

- Before we can teach it or the kids can learn it…..we have to love it!!!
- We being **teachers**!!!!!

Love It!!!!

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FACT: When asked between doing Algebra Homework and going to the dentist….the majority of kids chose going to the dentist

Solve It!!!

3 = ## 5 = ### 6 = <>###

The answers may be 1, 2, 4, 7, 8, 9, or 10

a. <>#### _____

b. <> _____

c. ###### _____

d. # _____

e. <><>

Math Proficiency of U.S. Students

- International comparisons
- Low fractions of proficiency on NAEP
- Falling proficiency at higher grades
- Heavy remedial demand upon entry into college
- Achievement gap

Algebra as a gateway

Love It!!!!

- 78% of adults cannot explain how to compute interest paid on a loan
- 71% cannot calculate miles per gallon
- 58% cannot calculate a 10% tip

Mathematics Advisory Panel Final Report, 2008

Sell It…Learn It!!

- We have to **sell it by teaching it** (mathematics) or kids will never **Learn it!**
- Break away from “some” traditional teaching practices….

Sell it….Learn It!!

Sit and listen

Discover it!!!!

Sit quietly and do your work

Just watch me

Drill and kill……

Show and Tell

It's all Conceptual

40 homework problems

Low expectations for kids with disabilities

Just figure it out by working with the "smart" kid

Essential Question for Teachers

- Essential Question
  - What did I do ***"instructionally different"*** to support learning for the struggling students?

- Asked during instructional planning and after instructional delivery!!!

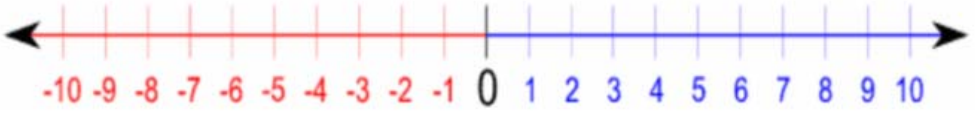
- **Evolve or NOT?????**

For Example

- **Low fractions of proficiency on NAEP**
- **WHY???????**

For Example

- **Low fractions of proficiency on NAEP**
- Teachers anchor the development of whole numbers with the visual representation of a Number Line.
  - Very important because the number line clearly demonstrated quantity
  - Visually shows that numbers have specific locations on a number line



For Example

- **Low fractions of proficiency on NAEP**
- As teachers begin to introduce fractions...the number line vanishes and the concepts of fractions are anchored by a circle
  - Circle does not demonstrate that a fraction is a number and that it has a location on a number line
  - Circles do not clearly demonstrate the quantity of fractions compared to other fractions

- A number line displaying fractions is very important to the conceptual understanding


"YOU WON'T HAVE A CALCULATOR EVERYWHERE YOU GO," SAID YOUR 8TH GRADE MATH TEACHER.
543.74
YEAH... ABOUT THAT....

Buy It….Teach It!!

- We ALL have to STOP with the "When will I ever use this…" questions…
- It is counter productive and misses the point.

Buy It….Teach It!!

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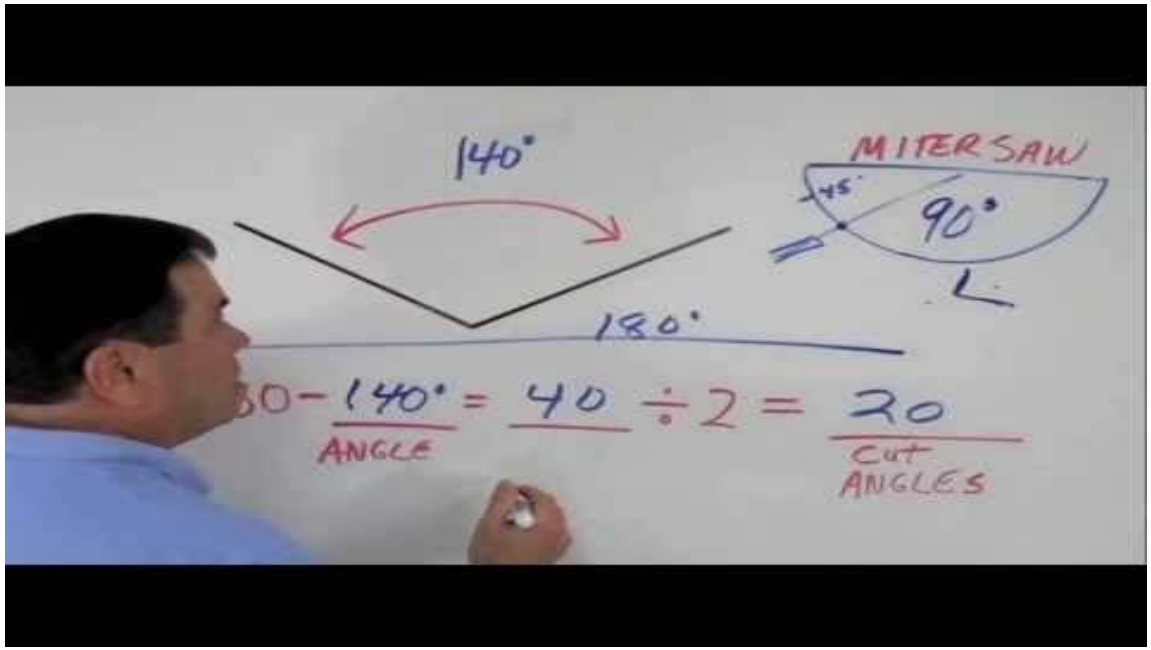
- It is counter productive and misses the point.

Math teaches logical thinking and reasoning through the connections of concepts, procedures, and skill to SOLVE PROBLEMS

Buy It….Teach It!!

- How…..by making the connections that are often in plain sight!
- For example:



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Teach It! Learn It!

Love It!!!!