

COHERENT UNIT

1. Define: What's a unit?

A. Concepts to be learned

- big ideas
- Cluster of Standards
- Key questions

B. Practices to implement

C. Activities/Lessons that allow students to enact SMPs, Understand the concepts of the unit, and answer the key questions.

D. A logical sequence

2. CCSS-M: Content

A. Coherence (Jason Zimba)

B. Progressions (Bill MaCallum)

C. Focus (Phil Daro)

3. CCSS-M: SMPs

A. Habits of Mind (Cuoco, Driscoll)

B. Mathematical Character (Phil Daro)

4. Pedagogy

A. Questioning (Jo Boaler)

B. Accountable Talk (Cathy O'Connor et al., Lauren Resnick)

- Clear Goals
- Establishing students as resources for each other
- Students responsible for their own learning

C. Assessment for Learning (Dylan William)

• Feedback

D. Different types of lessons (Depending on purpose)

- YOU-WE-I (MAP-Shell Centre)
- I-WE-YOU (Swan Math)
- Differentiation (Phil Daro)

5. Performance Assessment (David Foster, SBAC)

A. Concepts & Procedures

B. Problem Solving

C. Communicating Reasoning

D. Modeling and Data Analysis

8. High Cognitive Demand (Margaret Smith, Edward Silver, Mary Kay Stein)

- A. Memorization
- B. procedures without connections
- C. procedures with connections
- D. doing mathematics

7. Balance (New Standards)

A. Skills

- recall from memory
- accurately
- automatically

B. Concepts

- multiple representations
- explain to someone else
- connect to other ideas to solve problems

C. Problem Solving

- formulate
- implement
- conclude/generalize

6. Lesson Planning (Margaret Smith, Mary Kay Stein)

0. Choosing the right task

1. Anticipating (e.g., Fernandez & Yoshida, 2004; Schoenfeld, 1998)

2. Monitoring (e.g., Hodge & Cobb, 2003; Nelson, 2001; Shifter, 2001)

3. Selecting (e.g., Lampert, 2001; Stigler & Hiebert, 1999)

4. Sequencing (e.g., Schoenfeld, 1998)

5. Connecting (e.g., Ball, 2001; Brendehur & Frykholm, 2000)