MLR 7: Compare and Connect

Thought Process Visualization : Have students work through a problem and create a display.

- Provide problems that can be approached and solved using multiple strategies, or a situation that can be modeled using multiple representations.
- Ask students to prepare a visual display of how they made sense of the problem and why their solution makes sense.
- Encourage and support variation among the representations that different students use to show their strategy.
- Post student visuals around the room.

Comparison: Tour the visual displays and discuss the various approaches.

- Permit self-guided tours, a "travelers and tellers" format, or take on the role of "docent".
    - As a docent, provide questions for students to ask of each other, pointing out important mathematical features and facilitating comparisons.
- Urge comparisons about the typical structures, purposes, and affordances of the different approaches or representations, asking:
    - What worked well in this or that approach?
    - What is especially clear in this or that representation?
- Listen for and amplify any comments about what might make an approach or representation more complete or easier to understand.

Connect: Conduct a discussion identifying correspondences between different representations.

- Prompt students to find correspondences in the different appearances of mathematical relationships, operations, quantities, or values.
- Guide students to refer to each other's thinking by asking them to make connections between specific features of expressions, tables, graphs, diagrams, words, and other representations of the same mathematical situation.
- Amplify language students use to communicate about mathematical features that are important for solving the problem or modeling the situation.
- Call attention to the similarities and differences between the ways those features appear.