

Planning Mathematics Instruction: Essential Questions

Determining Mathematical Objective(s) for Students

- What should students know, understand, and demonstrate?
- Which bullets from the Essential Knowledge and Skills will be addressed?
- What criteria will be used to determine student understanding?

Connecting to Prior Knowledge and Future Content

- What is the related content (prior knowledge) from previous grade(s)/course(s)?
- What is the related content in future grade(s)/course(s)?
- What representations/strategies were used to develop prior knowledge?
- How is the objective connected to the related content and to the real world?

Developing and Reinforcing Content

- What are students' common misconceptions and how will they be addressed?
- What vocabulary is essential?
- Which representations/strategies will model the mathematics and deepen and extend students' mathematical understanding?
 - What are the strengths and limitations of the representation/strategy?
 - How will the selected representation assist in student understanding?
- In what order will the content and different representations be introduced?
- What mathematical tasks will be used to develop content?
 - How is the task connected to the objective and representation/strategy?
 - Does the task require an appropriate level of cognitive demand?
 - In what ways could the task be extended to connect to other mathematical concepts or other disciplines?
- How will students communicate their understanding?
- What differentiation will address the learning needs of students with disabilities, language learners, and gifted students?
- How will student understanding be monitored throughout instruction (formative assessment)?
- How will students be organized (individuals, pairs, small groups)?
- What materials or technologies will enhance content development?
- How will students be engaged in bringing closure to the lesson?

