

Math Tasks

Definition:

A math task is a scenario, problem, real-world situation, puzzle, etc. that students will explore and tackle. This provides the context and detail—the **what**—for deep exploration of sound and significant mathematics.

Things to Consider When Planning for and Implementing Math Tasks:

Tasks should....

- align to the standards
- be accessible to all learners
- allow for differentiation within the same task (scaffold and/or extend).
- allow for multiple entry points and multiple strategies
- promote productive struggle:
 - Requires critical thinking skills
 - Requires perseverance
 - Allow students to sit with a problem before giving the next step of guidance
- be group-worthy
 - Promotes student exploration
 - Promotes student collaboration
 - Promotes student discussion
 - Sparks student curiosity
- provide opportunities for extension
- build towards procedural fluency through application and conceptual understanding

Questions to consider:

- Which standard/s does this task align to?
- Which instructional routine/s supports the task?
- What is the purpose of your task?
 - Introduction to a mathematical concept
 - Transfer mathematical understanding to a non-routine situation
- Are there multiple ways to enter the task and to show competence?
- Does the task require students to provide a justification or explanation?
- Does the task provide the opportunity to use and make connections between different representations of a mathematical idea?
- Does the task provide the opportunity to look for patterns, make conjectures and/or form generalizations?

Planning for math tasks:

- Anticipate possible student strategies
- Timeframe for student completion
- Prepare to anticipate common errors and misconceptions
- How to support students without taking over the process of thinking for them
- Consider logical sequencing of students sharing ideas
- Time for students to synthesize their learning.

Things to avoid:

- Yes or no questions
- A task without a purpose
- Tricks, shortcuts without meaning, acronyms
- Periods of inactivity; stagnant thought
- Tasks that can be done by a calculator (Mathways, WolframAlpha, etc.)
- Practice worksheets with naked numbers and unrelated word problems