



# EMTP 2 - Implement Tasks That Promote Reasoning and Problem Solving

Sumer Smith, Kentucky Center for Mathematics

1 EMTP 2 - Implement Tasks That Promote Reasoning and Problem Solving.

2 Student learning flourishes in classrooms where the tasks push students to think critically and

3 reason through problems. When students are engaged in tasks that make them think deeply, they

4 understand the material better. On the other hand, tasks that are too routine or procedural do not

5 encourage that kind of growth. So, what does this mean for teaching?

6 High-quality tasks are those that require students to think and reason. They challenge students to

7 solve problems, reason through ideas, and think deeply about mathematical concepts. Teachers

8 need to plan well in order to avoid simplifying tough tasks during instruction. To do this, it's

9 important to think carefully and be intentional about how we facilitate high-quality tasks, keeping the

10 Effective Math Teaching Practices in mind.

11 Well chosen tasks promote inquiry and discovery, moving beyond memorization and engaging

12 students in explorations of the “why” behind concepts. These high quality tasks also offer multiple

13 entry points, meaning they are designed to allow an access point for every student, no matter their

14 skill level. For example, the goal of a Same but Different task might be illustrating a specific

15 mathematical concept, but answers related to the colors or numbers of objects in the pictures are

16 also acceptable responses to the question, what do you notice?” Teachers need to choose tasks

17 that provide multiple ways to gain access to the problem.

18 With well chosen tasks, teachers can encourage students to consider different approaches and

19 solutions, which can lead to more creativity and a deeper understanding of content. They can also



20 provide students with opportunities to make decisions about using appropriate tools to represent  
21 their thinking. This might help students to connect ideas and explain their reasoning more clearly.

22 When students have opportunities to reason, problem-solve, and justify their thinking, they build  
23 confidence and strengthen their understanding. Teachers have a responsibility to select tasks that  
24 promote reasoning and problem solving.