



## SMP 5 - Use Appropriate Tools Strategically

**Dr. Kanita DuCloux, Western Kentucky University**

- 1 SMP 5 - uses appropriate tools strategically - is more than just using rulers, number lines, calculators,  
2 or counters to help us solve math problems. A critical component of this SMP is that we take the use of  
3 these tools beyond the teachers' hands and put them in the control of the students. We've all seen and  
4 taught lessons where the teacher determines which tools are needed, she passes them out to all  
5 students, and the lesson begins. SMP 5 expects more than having students use given tools. It is not  
6 enough for teachers to make mathematical tools available to students, they must teach how to use  
7 them - ensuring that students are sufficiently familiar with tools appropriate for their grade level and  
8 able to recognize both their affordances and limitations in problem solving contexts.
- 9 For example, when first grade students are adding whole numbers, they may choose from a variety of  
10 tools, including concrete objects like Unifix cubes or bead racks and semi-concrete representations  
11 such as 10-frames and hundreds charts to support their thinking and represent their strategies.
- 12 Teachers should model the thinking behind tool selection as they solve problems by saying, "I could  
13 model this equation with the bead rack."
- 14 To support students' engagement in SMP 5, teachers might ask:
- 15 • Which tool might help you make sense of this problem?
  - 16 • Have you solved a problem like this before? Which tools did you use to help you?
- 17 When solving problems, teachers should empower students to consider available tools, evaluate their  
18 helpfulness for a given problem, and initiate their use - supporting them in using appropriate tools  
19 strategically.