

A Summary of the Discussion on Situations for CMP

The proposal for the Connected Mathematics Project took the stand that this curriculum would be encountered by the students through situations, problems, or settings that help give the mathematics meaning for the students. In our staff discussions we have developed at least three ways to judge whether a situations should be considered as appropriate for this curriculum:

- Does the problem or situation make a mathematical concept or process more explicit for the students?
- Does the situation help motivate the study of mathematics?
- Does the situation provide opportunities for students to work together and to approach a problem in many different ways?

These lenses are not the only considerations we should have in making choices among possible options, however they are meant to convey the notion that situations can be large or small as long as they provide opportunities for the students to engage in productive mathematical thinking and as long as they can generate interest among middle school students.

At the second advisory board meeting Steve Leinwand made the suggestion that we consider developing two kinds of units in this curriculum. The first kind of units might be thought of as an MGMP-type Units in which settings, activities, or problem are written to help students develop an understanding of a specific set of related ideas in mathematics. Here the mathematics drives the unit. The situations serve the development of the mathematical ideas. Also, mathematics itself may serve as an interesting setting for the development of other mathematical ideas. In the second kind of unit, a big, rich situation is developed that allows students to integrate many levels of interest and mathematics to solve problems that are embedded in the situation. Here understanding the situation and using mathematics to help make decisions about the situation are what drives the unit. One could think of these units as primary candidates for the making of connections among mathematical areas and among other areas that use mathematics. We think that this idea has a lot of promise. It allows us to move back and forth between situations as the focus with mathematics as a tool for problem solving and decision making and mathematics as the focus with situations to help make sense of the mathematics. The proper mix of units will be clearer as we begin development, however, we certainly would want at least one big situational unit per semester.

Over the two advisors' meetings the list of potential ideas for situations has grown. We list them here to stimulate your thinking. We see this list as including big situations, little situations, and middle situations. We can see many of these ideas providing activities for the more mathematically focused units. Others seem to be excellent candidates for bigger more open-ended units that focus on using mathematics to make sense of situations. We have not elaborated the mathematics that could be a part of a given situation, but welcome any comments you have on the possibilities.

Situations or Settings:

How Things Work

Disasters

Garbage and Recycling

Quality Control