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TASKS AS OPPORTUNITIES TO PRACTICE CULTURALLY RELEVANT TEACHING

Packed within mathematics tasks are messages about what math is and what it means to do mathematics. Also implicit are ideas about context—that is, what is to be valued and for what purposes. Our basis for creating culturally relevant mathematics tasks lies in exposing students to as many higher-level tasks as possible. We see this in many ways as a fundamental element of culturally relevant teaching: that students have access to challenging opportunities through which to thrive and develop. This can happen in several ways. When students are asked to explore relationships between what is happening in real life and the procedure for finding a solution, they have the opportunity to make meaningful social and cultural connections.

In the middle and high school grades, students are often asked to make connections between prior learning in mathematics and new mathematical ideas, as well as between the mathematics they are learning and their real life. There is opportunity here to have students brainstorm things they do at home that could be connected to mathematics—things they like to do, things their families do together, things maybe they don't immediately see a mathematics connection to. This type of activity provides an opportunity for students to share about their home life, which at the secondary level is not always an easy thing to do. It helps students get to know one another and helps the teacher get to know their students. Students' roles at home are part of their identity, so it is important to allow students' whole selves into the classroom. In fact, celebrating their multiple identities helps in their identity development.

In the example that follows, if the student is familiar with mooncakes, a traditional Chinese dessert, they will find a connection between mathematics and real life.

Whether or not students personally know about mooncakes, they can use proportions to answer the question about the amount of ingredients and what family members they might gift the desserts. This would also be a great time to query students about their holiday traditions.



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My mom always makes delicious mooncakes to celebrate the Mid-Autumn Festival. Mooncakes are usually a round-shaped baked pastry with a sweet (like sweet bean paste, lotus seed paste, salted egg yolk) or savory (like ham, Chinese sausage, roasted pork) filling. In order to have a delicious mooncake that doesn't dry out, you must have the correct ratio of sugar to oil. My mom and I expect to make 150 mooncakes to enjoy and to gift to other family members. To make a batch of 12 mooncakes, you will need 100 grams of sugar and 90 grams of canola oil. How much of each ingredient is needed for 150 mooncakes?

Another way tasks provide opportunities for culturally relevant teaching is that they allow for exploring issues and contexts that arise in day-to-day living. By doing this, students can come to appreciate, acknowledge, and learn more about the personal, community, and cultural things that help them thrive and develop. Tasks can also provide the means of helping students respond to challenges of the day, discern patterns, and take stands for social justice and action.

FEATURES OF CULTURALLY RELEVANT MATHEMATICS TASKS

Based on the importance of high-level cognitively demanding mathematics tasks and culturally relevant teaching, let's define *culturally relevant mathematics tasks* as tasks (1) with high cognitive *demand*, (2) where culture and community are the source of math inquiry (*relevance*), and (3) where individual and collective *agency* are the intentional outcomes (see Figure 2.4).

FIGURE 2.4 • Culturally relevant mathematics task-building actions

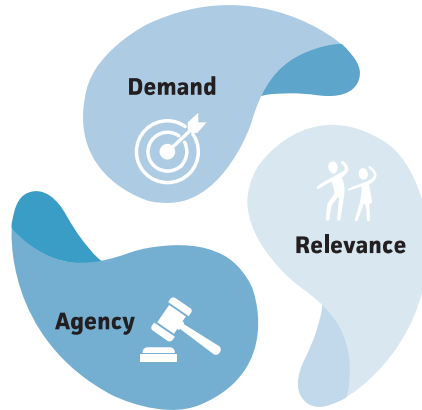


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As a more comprehensive list, culturally relevant mathematics tasks

- Are mathematically rich, higher-level cognitively demanding, and embedded in cultural activity.
- Explicitly require students to inquire (at times problematically) about themselves, their communities, and the world around them.
- Include content drawn from students' community and cultural identities and experiences.
- Affirm student belonging and culture—an empowerment and learning orientation (versus deficit or color-blind orientation). Tasks may explicitly seek to add to this knowledge through mathematical activity.
- Ask students to respond to, overcome, and challenge discontinuity and divide between school and their own lives.
- Require students to use mathematics to discuss and make sense of the world around them. The stated goal of the task is to make empowered decisions about themselves, their communities, and the world.