## Excursions in Mathematics: Connecting Students with Their Interests, Their Communities, and the World

Students need to see themselves, their families, and those in their communities as doers of mathematics and to learn how mathematics is present in other communities, in other times and places, and in other contexts such as science and the arts (Russell, et. al., 2023). Math class should provide students with mirrors for seeing themselves in the mathematics and windows for seeing the lives of others (Gutierrez, 2007). As Gutierrez writes,



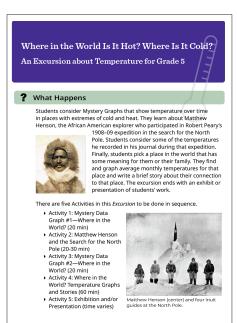
**66** students [should] find mathematics not just 'real world' as defined by textbooks or teachers, but also meaningful to their lives [p 3]."

*Excursions* are sets of related activities that enhance grade-level content and provide opportunities for students to:

- Uncover their own diverse competencies, experience, ideas, and interests while engaging in the mathematics they are learning.
- ▶ Apply the mathematics they are learning to a new context. These applications might involve collecting and interpreting their own data, investigating

data sets about contemporary or historical issues, or creating geometric patterns and structures.

- ▶ Generate questions of interest and pursue them using mathematics. These questions might involve some aspect of their own or others' lives, families, and communities, phenomena in the natural world, historical data, or the patterns and structures of mathematics.
- See images of people who are affecting or have affected the world using mathematics within a variety of fields, including people from a range of cultures, ethnicities, and genders.



Finding personal connections to mathematics, investigating content in their own and others' experiences, learning about the history of different people's and communities' use of mathematics, and seeing how mathematics supports art, science, architecture, and many other fields all enhance students' mathematical identities and sense of agency. Excursions are not "extra" work for only some students, e.g., students who finish their work quickly, but are meant as invitations into mathematics

for every student. These activities are one way to "engage in the necessary critical work to nurture a democratic society where all can use, know, and understand mathematics to comprehend and critique the world through mathematics and to experience its wonder, joy, and beauty [NCTM, 2020, p. xiv]."



## Citation

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## References

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