## GLOBAL MATH STORIES: TRAVEL THE WORLD, EXPLORE SOCIAL JUSTICE, AND DEEPEN YOUR UNDERSTANDING OF MATH

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## Short description of the Workshop Groups: organizers, aims and underlying ideas

Mathematics class comes alive through global connections. Unfortunately, many classroom teachers lack the time and resources to required to make these connections.

GlobalMathStories.com is a free resource for making global connections in the classroom. The site consists of approximately 75, one-page stories written by people from around the World. Teachers may choose to write their own lessons from the stories or use one of the lessons already developed. Each story contains resources to further explore the culture and social justice questions behind the mathematics.

While completing mathematical tasks based on these stories, students explore life in other parts of the world and learn about the people in those places. Each story contains sample social justice or extension questions to motivate students to think more deeply.

The sample problems attached to various stories are written in ways to facilitate teachers to engage all students. Moreover, the social justice and extension questions encourage all students to think more deeply and to share their unique perspectives with the class. Many students and teachers have been motivated to write a story about their own communities or to contribute a lesson or question of their own after engaging with the site.

In this workshop, participants will learn about the site and how to use it in their classroom. First, they will participate in a mathematical task based on one story. In addition to completing the tasks, individuals will consider social justice questions associated with the story. Throughout, the presenters will emphasize the importance of reading an audience and telling a great story during the lesson.

Next, participants will explore a second story. Working as teams, groups will propose mathematical tasks they might create based on the story. Additionally, they will propose social justice questions that arise from their exploration.

Next, participants will choose a story from the site to develop. They will present the story to the audience and describe how a lesson would progress, complete with a social justice question.

Finally, everyone will discuss how connections of local and global cultures enhance student learning. They will be invited to contribute stories to the site and to share it with educators and authors in their communities.

## Planned structure:

Insert the planned structure of the workshop in the table below. You can insert rows if needed.

Planned timeline of the first meeting	Topic	Material / Working format / responsible person
20 Minutes	Model lessons drawing from a Global Math Story (GMS). GMS set the reader in a culture and provide opportunities to complete mathematical tasks based on that story. The presenter will outline how a lesson might look using a GMS.	Cooperative learning in groups. Chadd McGlone Hanna Haydar, and Paoula Castillo.
20 Minutes	The presenter will tell another GMS and allow participants to work in groups to design a mathematical task based on that story. An emphasis will be on helping participants understand they must bring students into the story. Additionally, participants will learn how easy it is to connect stories to mathematical tasks.	Cooperative learning in groups. Chadd McGlone Hanna Haydar, and Paoula Castillo.
30 Minutes	Participants will choose one of 60 available stories from which to develop a lesson. They will create a mathematical task from the story and present the story to others in the workshop.	Cooperative learning in groups. Chadd McGlone Hanna Haydar, and Paoula Castillo.

## References

- Ball, D. L. (1991). Research on teaching mathematics: Making subject matter knowledge part of the equation. In J.E. Brophy (Ed.), *Advances in research on teaching: Vol. 2. Teachers' subject matter knowledge and classroom instruction* (pp. 1-48). Greenwich, CT: JAI Press.
- Carpenter, T. P., & Lehrer, R. (1999). Teaching and learning mathematics with understanding. In E Fennema & T. A. Romberg (Eds.) *Mathematics classrooms that promote understanding*. (pp. 19 32). Mahwah, NJ. Lawrence Erlbaum Associates.
- National Council of Teachers of Mathematics (2000). *Principles and standards for school mathematics*. Reston, VA: NCTM.
- National Council of Teachers of Mathematics (2014). *Principles to Action: Ensuring Mathematical Success for All.* Reston, VA: NCTM.
- Yackel, E., & Cobb, P. (1996). Sociomathematical norms, argumentation, and autonomy in mathematics: A case study. *The Journal for Research in Mathematics Education*, 28. 587 616.