

ICTCM 2020

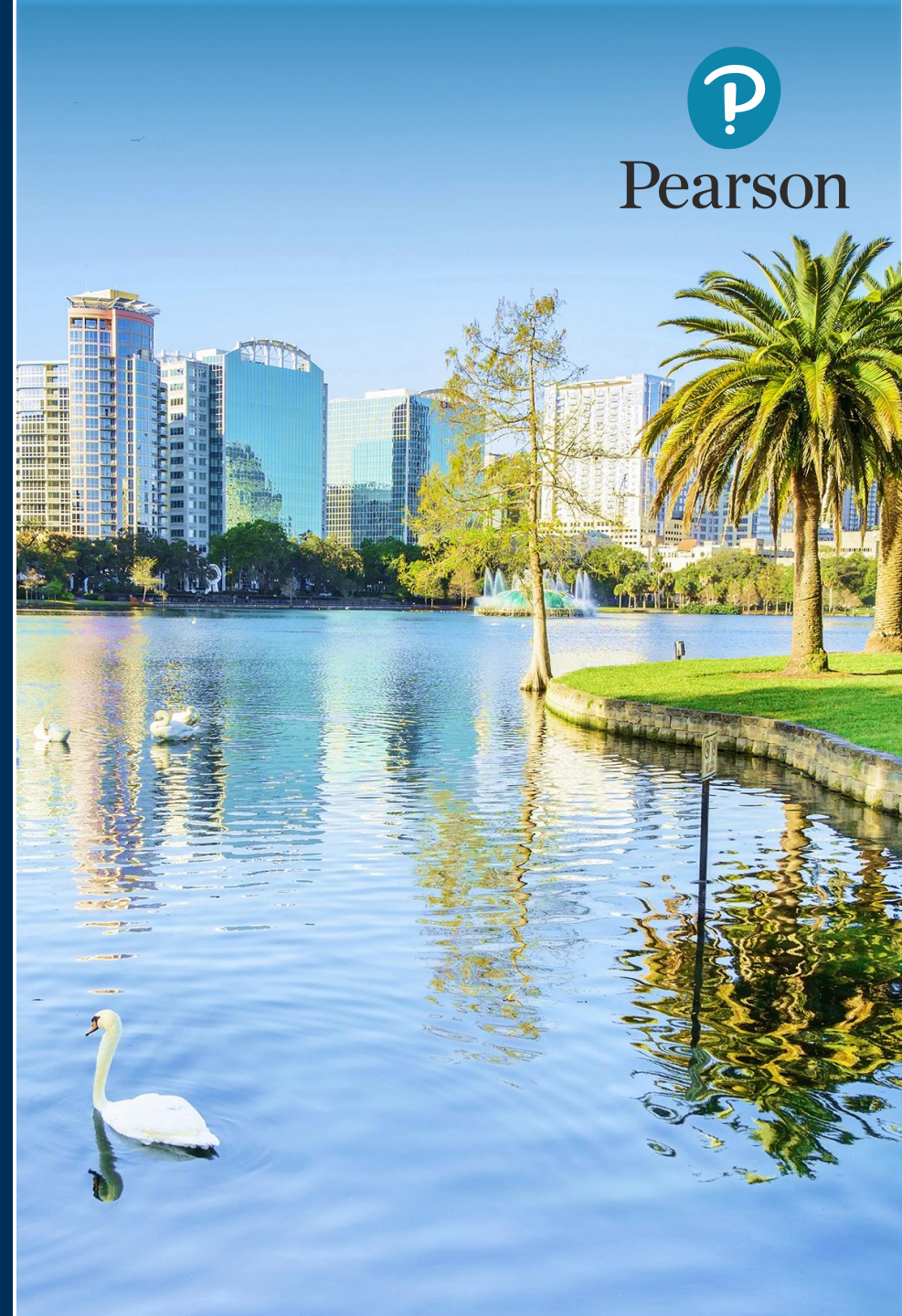
32nd International Conference on
Technology in Collegiate Mathematics

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Pearson



SERVICE LEARNING IN MATHEMATICS EDUCATION

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WHAT IS SERVICE LEARNING?

Many schools have various definitions, but Georgia State's definition is:

Service Learning is an organized academic learning opportunity that allows students to be of service to the community through “real-world” experiences



TYPES OF SERVICE LEARNING

- **Direct Service Learning** – face-to-face or “in-person” service that has a direct impact on those receiving the service.
- **Indirect Service Learning** – service that is not provided directly, but still has an impact on those receiving the service.

WHY HAVE SERVICE LEARNING?

- Service learning is meant to allow students to apply what they have learned in the classroom to real-world situations.
- It is meant to benefit both the giver and the receiver of the service.
- Some individual professors have incorporated it into their classes as a supplement.
- Some schools make it a requirement for some courses.

MATH 2008

FOUNDATIONS OF NUMBERS & OPERATIONS

- This is the course that teaches early childhood and elementary level mathematics topics.
- This course leads naturally into a service learning component.
- Allows students to apply what they learned in class, in a fun and applied environment.
- Allows students to volunteer at local elementary schools.



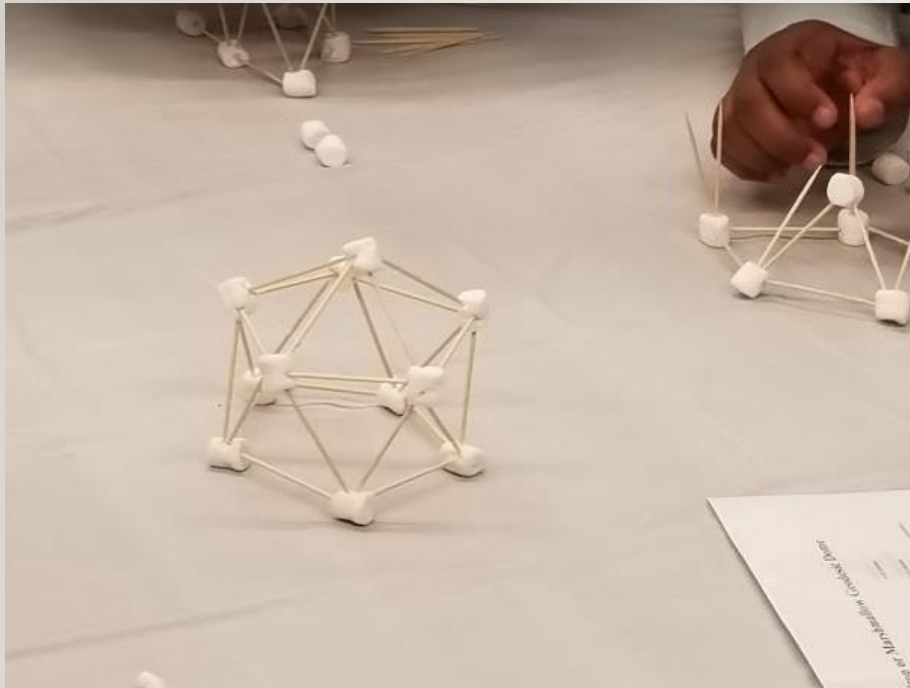
STEM DAY

- STEM Day is an event held, usually at an elementary school, where there are stations set up for children to interact with various interdisciplinary activities.
- The event can take place during school hours or after school.
- After-school events are usually bigger and is open to parents & families, as well.

EXAMPLES OF STEM DAY STATIONS

- Math Bingo (multiplication)
- Aluminum Foil Boats
- Baking Soda, Vinegar, & Balloons
- Puzzle Race (geometric shapes)
- Gumdrops Geodesic Dome
- Mobile Planetarium (*science faculty)

PHOTOS FROM PAST STEM DAY EVENTS



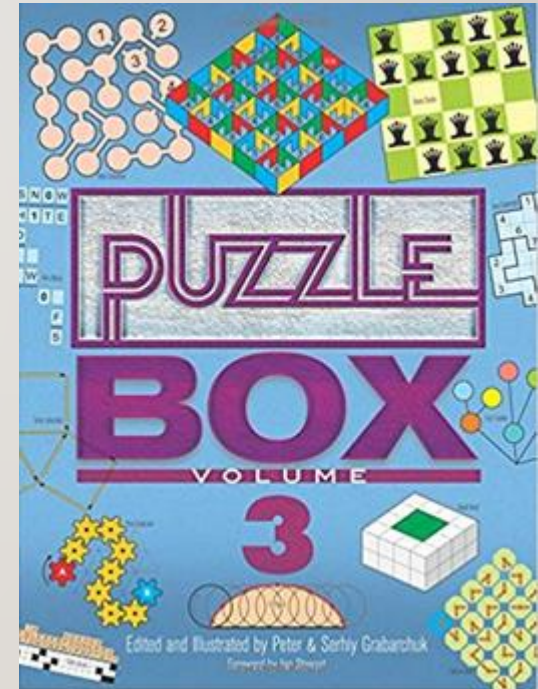
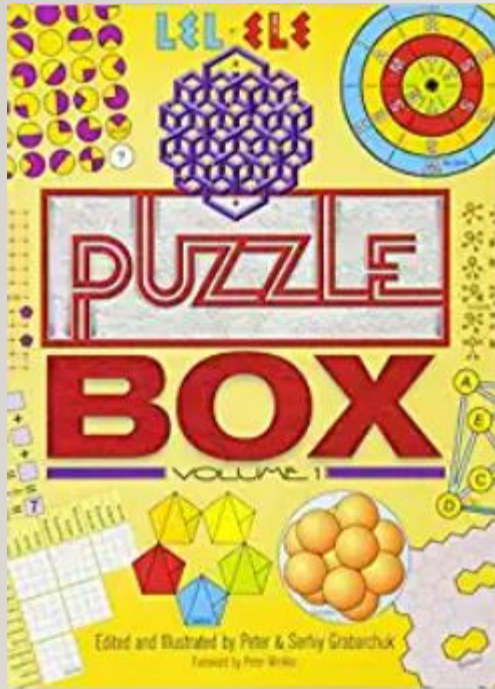
PHOTOS FROM PAST STEM DAY EVENTS



FINDING NEW STEM DAY ACTIVITIES

- Math 2008 Students, research project
- Puzzle Books
- Online teacher websites
- Teacher Education articles & magazines
- Must consider time & cost of each activity, along with grade-level.

PUZZLE BOX BOOKS



SERVICE OUTCOME

- Since Fall 2018, we have had a STEM event at Flat Shoals Elementary School in Decatur, GA every semester. In the fall we see the 4th grade students, in the spring we see the 5th grade students.
- Teachers and administrators at the school praise the activities and the volunteers.
- Students love the STEM days and they like taking the things they make home with them.

SURVEY RESULTS (1-5, WITH 5 BEING STRONGLY AGREE)

1. The event was well organized. Results: 4.62
2. The activities were fun. Results: 4.46
3. The activities were challenging. Results: 3.54
4. The instructions reviewed before the event were helpful. Results: 4.31
5. We had the right amount of students in each group at our station. Results: 4.67
6. The event activities kept the interest of the students. Results: 4.54

SURVEY COMMENTS

- More stations to able to rotate more.
- I wish there would be more variety of station, these activities are very cool and I would love to see more of them.
- I think it would make it more interesting if there's more challenging level in each station because there are a few students that are very capable!
- Maybe some less difficult, more engaging activities.



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