

### Introduction

The Food-to-Energy project advocates for conscious disposal of food waste with a focus on anaerobic digestion. Through interactive programs at Canton's Middle School Green Team, the Clarkson Food-to-Energy mentors educated youth about environmentally responsible waste habits. We supported the Green Team, a middle school club with over thirty students, and advisor Megan Smith. We planned to help members read the "Green Machine: The Slightly Gross Truth about Turning Your Food Scraps into Green Energy" by Rebecca Donnelly to Canton Elementary School students. We also created coloring pages to accompany the book, as well as a "Sort the Trash- BINGO" game that goes with a lesson on proper waste management practices for various items that we discard. Throughout this partnership, Clarkson University is promoting STEM education for the next generation.

### Objectives

The activity objectives for the students participating are the following:

- Identify the five major types of trash disposal along with the advantages and disadvantages that come with each of them
- Understand the environmental impact of each of the options specifically the impact of the by-products on the environment
- Spark conservation and ideas about how to better reduce the amount of waste we throw away, and properly handle what we do discard

The objective listed are the objectives of the Food-to-Energy Green Team task forces are the following:

- Engage students in an interactive anaerobic digestion activity
- Promote STEM learning to students. Also, teach the Green Team how to dispose trash properly.



BINGO day participants

### Methodology

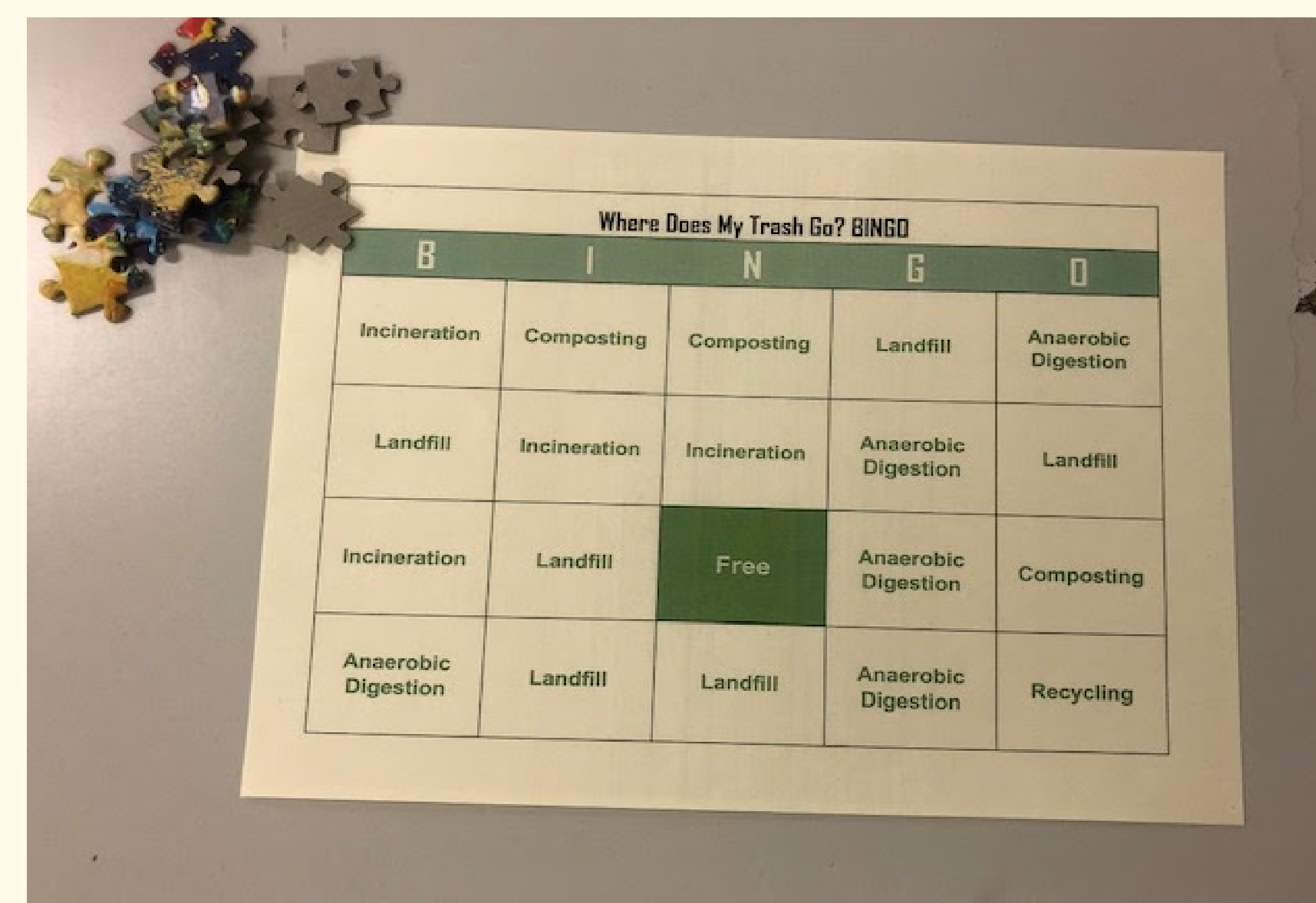
Students depending on their age and their teachers' interests could choose either the coloring page activity or BINGO. Each activity has the same objective. Also, the lesson plan is similar to each other. The interactive lesson is intended to keep the students engaged and highlights the importance of waste management.



"Where Does My Trash Go?" coloring page

### Discussion

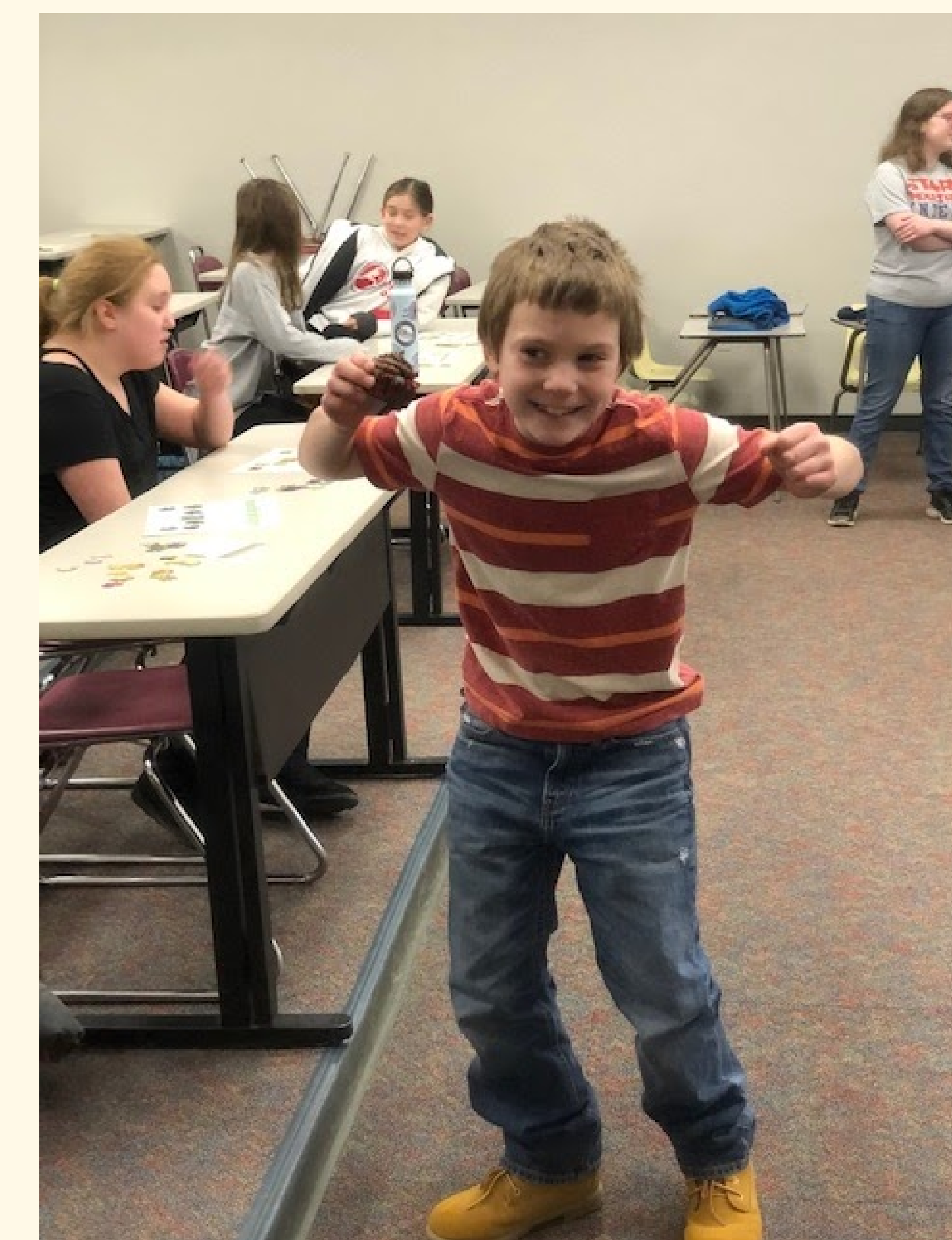
With our time with the students and Megan Smith, we learned of improvements Food-to-Energy mentors could implement next year. To begin, mentors should use the new BINGO board with the correct dimensions. Furthermore, when playing the BINGO or coloring page activity with the students move quickly. For example, when working with young students, it is easy to lose their attention, so calling out the next square is critical. Lastly, remember to stay organized in the classroom and practice before bringing activity to the students.



"Where Does My Trash Go?" BINGO board

### Conclusion

Food-to-Energy anaerobic digestion activities at Canton Middle School inspired students to learn how properly dispose of our waste. With the help of our mentors, Dr. Jan DeWaters and Dr. Stefan Grimberg, and the Green Team advisor, Megan Smith, we taught young students and promoted STEM education.



BINGO winner excited about his homemade cupcake prize.

### Acknowledgement

Thank you to the following advisors, students, and participants involved in this project:

- Megan Smith
- Dr. Jan DeWaters
- Dr. Stefan Grimberg
- Christine Weber
- Noah Bohl
- Canton Middle School Green Team