

First Meeting of the Eureka Club for Girls at the Middle School

After general introductions, participants were given the challenge of building a structure from toothpicks and gumdrops that was strong enough to support one or more textbook(s). We suggested that they might want to work in groups of two or three but gave no other instructions.

In this photo, the girl on the left has already figured out that cubes are weak and need to be braced with diagonal supports to be strong. Her friend is constructing the cubes and she is putting in diagonal braces. Since we did not supply toothpicks that were long enough for the diagonals, she pushed two toothpicks through one gum drop to build the diagonals. The two are building a number of braced cubes so the structure can have approximately the same area as the textbook.

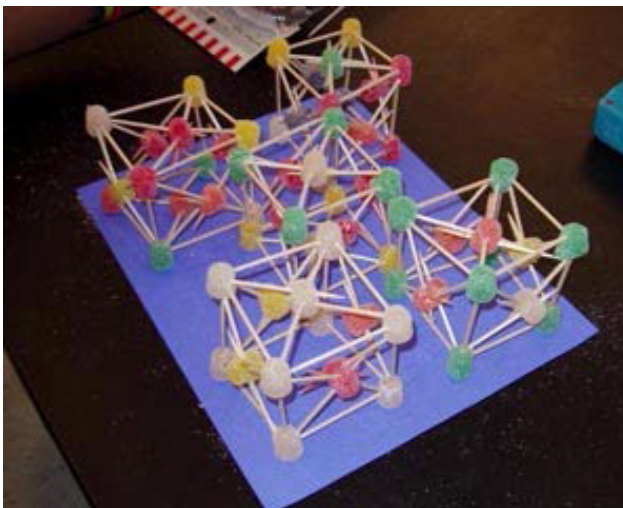


These two friends are building a strong structure with a lot of triangles. But it is not wide enough to support a textbook. It might be a good structure for a bridge and we discussed that possibility later.



Others were watchers rather than builders and cheered on their friends.

Note that the girl in the center is also building a braced cube.



This well-braced structure supported nine heavy textbooks! Even with that load it did not totally collapse but only decreased in height.



After this experiment the girls were hooked. We didn't lose any participants and gained two during the next two weeks.

Look for additional experiments and photos of the Eureka Science Club in future branch newsletters.