

Robots FOR THE WIN!

By Meira Levi

Let's meet the eighth-grade robotics class of Bais Yaakov of Baltimore.

VEX robotics is an international organization that hosts robotics competitions. Each year, VEX introduces a new "game" for the robots to play. Participating students design, construct and program robots to compete in the competition. Each round of the competition is 60 seconds, with two teams playing at a time. CIJE, the Center for Initiatives in Jewish Education, organizes these competitions for Jewish schools.

The eighth graders at Bais Yaakov of Baltimore have competed in two competitions this year. The BY robotics club consists of six groups. There are many different tasks the robot must do throughout the competition, so each group builds and programs a robot that will be able to succeed in the different aspects of the game.

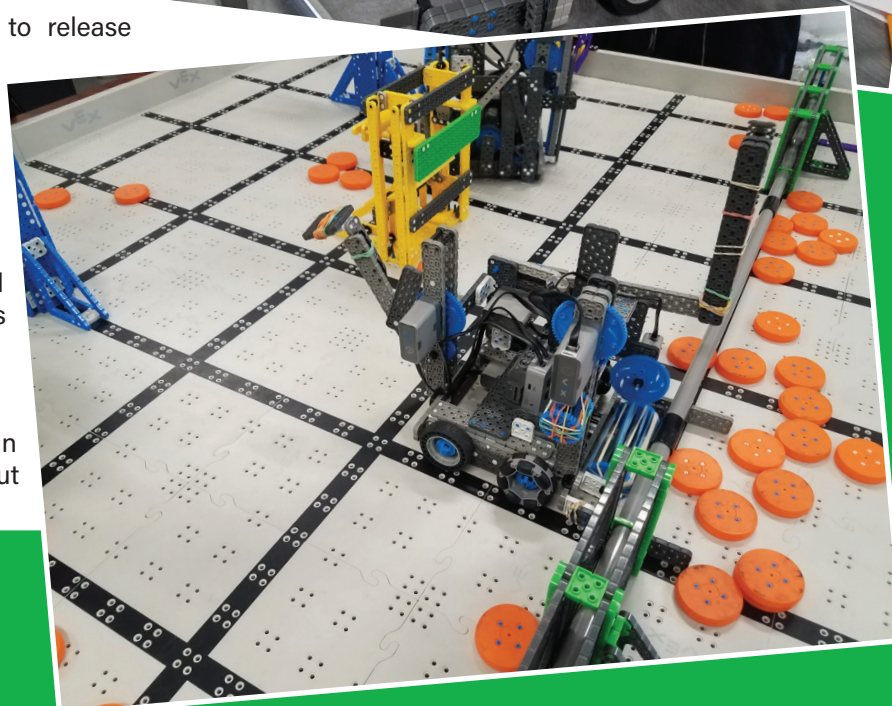
This year's VEX competition required robots to release orange-colored disks from a dispenser and push or shoot them under a fence. To dispense the disks, they had to lift or push on a wheel. Two teams competed against each other for points.

Complicated, intense and loads of fun, the girls worked long and hard for an entire year to build robots to successfully compete.

Two girls, Ayelet Elman and Shana Horowitz, told me about their experiences of being on the robotics team and competing with other schools.

Is robotics a real class?

Ayelet: I definitely learned more in robotics than in any other subject this year. You learn a lot about



engineering, tinkering with all the pieces, using motors, and placing gears next to each other. Also, you learn a lot about programming. We use block programming, which means that each command is preprogrammed, and you just line them up in the right order. It's very important that your code is correct, or your robot won't work properly. Most of all, robotics is trial and error through and through. We rebuilt our robots so many times! We would design and build a robot, test it and then start all over again.

Shana: My group had that experience as well! Every group had to start over multiple times. Robotics is a real challenge.

What's your favorite part about being on the robotics team?

Ayelet: We have robotics twice a week, once during school and once after school. Every Monday night, when we would stay after school, it was really fun. There's a really nice camaraderie in the class, and I enjoyed spending time with my classmates.

You have to work together as a team a lot — is that hard?

Ayelet: Yes. Definitely. But it's nice that we don't work by ourselves; it would be impossible to do our own.

Shana: Even though it's hard sometimes to work together, it's good to be on a team. You can't do it by yourself. Everyone is good at different parts of robotics — some are excellent programmers, some are really good builders, some are amazing drivers. You all have to come together to be able to do well.

What's the hardest part of being on the team?

Ayelet: Nothing ever works the first time. It can take ages to get something right. We had to take apart our robot and rebuild it so many times.

Shana: But then, when you finally get your robot to work just the way you wanted, it's so satisfying.

So you build your robots, practice, practice, practice, and then go to the competition. What's it like to compete with other schools?

Ayelet and Shana: Nerve-racking.

Ayelet: At the competition, there are so many people watching you. The first few rounds, we did not get high scores. Then, once we got our stride, we started doing a lot better.

Shana: The competition is very stressful. There is someone on the microphone announcing which teams are up next, everyone is cheering and yelling, and the scores are being announced, so it is very hard to hear anything. In addition, we are used to practicing with other Bais Yaakov teams. At the competition, we are paired with teams from other schools, and we aren't used to working with each other. You never know what to expect because you don't know the skills of the other robots.

Sounds like the competition is both loads of fun and very stressful. Would you do robotics again if you had the chance?

Ayelet and

Shana: Yes, for sure!

Ayelet: Robotics gives you a lot of experience. Nowadays, many jobs require coding and engineering, so here I am, receiving my first lessons!

Shana: I love the challenge — it's so much fun. Building robots with other girls... it's better than any other class!

What would you tell other girls who want to be part of a robotics team?

Ayelet: Go into it with a good attitude. Even if you lose, it doesn't actually matter because you learned something and had fun. And honestly, it's very possible that you will lose. Robotics is hard.

Shana: But don't ever give up. Even if the first time it doesn't work, it will work eventually, so keep at it!

Thank you for sharing! ■

