

“Don't let anyone rob you of your imagination, your creativity, or your curiosity. It's your place in the world”. -Mae Jemison, the first African American woman astronaut in space. For 15 years, we have used our creativity to make STEM & FIRST a place for everybody, and change people's worlds.

### INSPIRE YOUTH TO ENGAGE IN STEM

#### 1. School Collaborations

Our school is an inseparable part of us, it houses our workshop, lets us hold events on its premises, and supports our ideas.

This year, we developed and carried out a hands-on physics activity, using gears, to make theoretical material practical. 60 students got detailed explanations from team members about how physics is used in everyday machines.

6 years ago we opened a robotics club for 9th graders, who can't join the team yet.

Each year, 15 students are taught meaningful STEM skills.

We take part in our school's open day for potential freshmen, presenting our robot and community work to future team members and exposing FIRST to 100+ kids annually.

In addition, we celebrate The Day every 22/12, introducing 600+ students and teachers to the team and FIRST's mission.

We also hosted a Science Day for Lod's 6th graders involving FLL-based activities.

We're overjoyed to be a part of a supportive environment and plan to continue this bond in the future.

#### 2. Science Holiday

We believe that everyone deserves the chance to join STEM, regardless of religion, gender, or economical background. We wanted to introduce the magic of science in various schools, so we made special kits in Hebrew & Arabic. Each kit has an experiment that relates to different holidays, a scientific explanation, and the needed materials. Now, kids all over the country can experience hands-on STEM.

Last year, due to the pandemic, we were motivated to think about those who can't go outside. We brought our kits to children in Ichilov Tel Aviv & Assuta Ashdod Hospitals, engaging 1,000 kids in STEM.

Because the interest in the project was enormous, we added a new edition-"Summer Science". During the summer, the kits came with us everywhere, from summer schools to meetings about opening FLL teams. Via our kits, we've exposed 6,700 children to the wonderful world of STEM.

#### 3. Science Fair

Two years ago, we gave primary school students the opportunity to learn biology and chemistry in a fun, practical way- a Science Fair.

For 2 months the kids conducted research and then presented it in front of their peers. Biology students from our school, who support our mission, mentored them during the process. The kids were eager to become scientists, showing their latest discovery.

Last year, we used ZOOM which allowed 5 schools in different cities to take part in the Science Fair. 60+ kids witnessed the positive impact STEM values have on communities.

#### 4. Science At Home

In 2020 we aimed to encourage kids to stay optimistic and keep believing they can be future leaders in STEM. We designed science experiments that can be done at home, and posted them on our social media. Over 700 kids and parents realized that STEM is all around them, even outside the school.

#### 5. Athena

This year, we wrote and coded Athena, an enjoyable program to make Java coding more accessible to youngsters. With the guidance of team members, 35+ kids from an elementary school in Lod wrote different commands to drive our robot through an obstacle course.

### INSPIRE THE UNDERPRIVILEGED AND UNDERREPRESENTED TO BECOME LEADERS IN STEM

#### 1. Learning Center

We believe that knowledge shouldn't be kept behind a paywall, and work to break that barrier. Since many families in Lod can't financially support their children academically, 9 years ago we decided to take the reins by opening a tutoring center for 25 NIS a year. Starting with 6 kids, now we tutor 50+ children who once struggled with homework and now show academic improvement.

In 2021, we opened a ZOOM version, The Virtual Guide. Since its launch we have reached more kids. In addition, we inspired the school to open its own Center.

#### 2. LIGHT

We believe that women have a place in STEM like everyone else, so we strive to be a role model to girls across the country.

In 2018, we started LIGHT, a women empowerment conference to inspire girls to follow their STEM dreams. We invited many female business leaders, scientists, and influencers in STEM to give lectures.

In 2021, we held LIGHT via ZOOM and 70 people came.

This year, 100+ people came to support our goal: shattering the glass ceiling.

We added lectures dealing with the gender gap that starts at a young age. We also brought different organizations like CyberGirlz & SheCodes that encourage girls to pursue careers in computer science. Additionally, to bring more recognition to women scientists who weren't appreciated in their time, we had a Poster Session- Spikers held lectures about different experts and their contribution to STEM.

Inspired by our actions, our principal created a wall of fame, featuring female scientists.

Together, we're able to make our dreams a reality and proceed to a better future.

#### 3. #FIRSTLikeAGirl

In 2017, we became ambassadors of a campaign started by FRC Hall of Fame winners-team 1902. Together we aim to improve STEM culture by sharing inspirational videos of female role models in FIRST.

In 2021, we didn't let quarantine prevent us from continuing the project. We created #FIRSTLikeAGirl from home, by explaining to the participants how to film the videos in their homes.

We have 6,850 views of over 30 girls from 16 different teams over 6 years.

#### 4. Krembo Wings

Krembo Wings is the only inclusive youth movement in Israel for children with and without disabilities.

In 2020, we led STEM activities in their meetings. Nobody knew how the kids would react since their exposure to STEM was minimal. It was a risk we gladly took. Our vision paid off, “No one has ever presented STEM to them like that. You made them feel so inspired”- Shiraz, lead coordinator.

In 2021, we couldn't meet in person so we customized STEM activities based on each kid's strengths so that they could do it at home with their mentors.

This year, we made a puzzle of wooden gears and let the kids find a pattern that connects all of them. When they successfully made the system work we provided a physics explanation that left them with a spark in their eyes.

We wish to raise disability awareness. We filmed a short clip together where we sang in Israeli Sign Language. That way we reached 420+ people and made them realize that anyone can be a STEM leader in the same way anyone can learn ISL!

## INSPIRE THE FIRST COMMUNITY

### 1. Mentor Seminar

Mentors are an integral part of FIRST, and we want to ensure they get every tool needed to provide professional support.

In 2013, we started our Mentor Seminar as a simple FLL C seminar. Later on, we added FLL E & FTC lectures.

In 2021, via ZOOM, we reached an overall of 200+ live views. We put all the lectures on YouTube for those who couldn't attend.

This year, we added 5 FRC lectures. We kept the seminar in ZOOM as we couldn't physically meet yet, with 13 lectures that had a total of 230 views on YouTube.

### 2. Summer Workshops

14 years ago, we started our first community project, summer workshops, for new Spikers to learn about FRC. Since then, we have opened our doors to everyone and our bond within the FIRST Israel community grew. Many teams come in to learn, such as: 1657, 2096, 2231, 3034, 3388, 4416, 4590, 4661, 5635, 5747, 5951, 5961, 5990, 6738 & 7112. In 2021, despite the lockdown, we successfully conducted them virtually, proving that knowledge can't be stopped.

### 3. Contributions for Solutions booklet

Raising money is a difficult task, and we wanted to help other teams prosper. 3 years ago, we decided to take action. After asking FRC teams around the globe for fundraising ideas, 26 teams replied, like: 379, 467, 586 & 810. Thus, the Contributions for Solutions booklet was written.

In 2020, we held fundraisers with 4586 & 4661 to share insights from the booklet and hold fundraising events together.

This year, Covid made it hard to raise money, so we took our own advice. We sold keychains that we 3D printed to students and teachers.

### 4. FIRST Teams

We aspire to start, mentor, assist teams and publish our resources.

We have published our Chairman's essay on our website since 2016.

In 2017, we created Lib- a code library teams can learn from and use in competitions.

Since 2018, we have started 14 FLL Explore and Challenge teams.

Over the years, we've been mentoring teams:

FLL- 529, 1059, 1199, 1539, 1930 & 2059

FTC- 12989 & 17131

FRC- 5636 & 5961

Since 2018, we have assisted teams, 5291, 4391, 5654, 5554, 1937, 3038, 4461, 2231, 1574, 1690, 5635, 5747 with every aspect of FRC.

This year we started and mentored:

- Two FLL E teams in Lod-3055, 3068
- Two FLL C teams Lod-2294, 2295
- Two FLL C teams in Orthodox Christian school in Ramla-2986, 2987

#### 5. Volunteering in FIRST

Since our inception, we've encouraged our members to contribute to FIRST. Spikers and mentors have been volunteering in FIRST competitions since our first year. We also build FLL kits for competitions annually, and this year we built trophies for FLL C. This spirit stays with us long after graduation. Countless alumni have volunteered in FIRST competitions over the years and 7 alumni volunteer in key roles, such as FTAs. In 2021, we edited and dubbed FLL's kickoff video.

This year, at FIRST Israel's request, we designed the posters for the FLL competitions.

15 years ago, The were born. As we grew, got creative, and developed new skills, we came up with a motto- "Aspire to Inspire". We live by it every day, bringing FIRST & STEM values to our school, city, and communities.