

# Ignite Your Passion Programs - Robotics



**GO-Bots:**

**Grades 3 & 4**

**Big Bad Bot Builders: Grades 5 & 6**

**Great Bots of Fire: Grades 7 & 8**

## Land Acknowledgement

We would like to acknowledge and thank the Skwxwú7mesh Úxwumixw (Squamish Nation) upon whose traditional territory West Vancouver Schools reside.

We would like to express our gratitude to this Nation as we value the opportunity to learn and share educational experiences on this traditional territory.





# **Welcome & Introductions**

## **Mr. Paul Eberhardt**

### **Vice-Principal, Academies**



- M.Ed. in Education Curriculum & Instruction
- High School Teacher and Coach for 30 years
- Joined the Academy team in 2018
- Responsible for day-to-day operations of the Robotics Academy including equipment purchase, tournament & travel organization, and finances

## **Dr. Mahesh Chugani**

**WVS Teacher & Certified VEX IQ Robotics Educator**



An Electronics Engineer who has worked as a Software Engineer at National Instruments (Austin, Texas, USA), and as Director of Support and Training at Momentum Data Systems (Huntington Beach, California, USA)

Diploma in Electronics and Radio Engineering from Cusrow Wadia Institute of Technology, Pune, India

Bachelor of Engineering in Electronics and Telecommunications from College of Engineering, Pune, India



# Dr. Mahesh Chugani

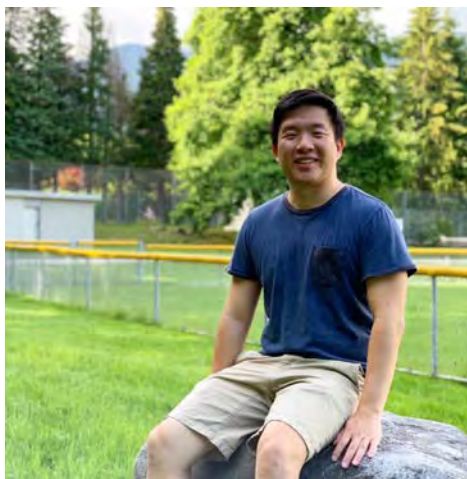
## WVS Teacher & Certified VEX IQ Robotics Educator



M.S. and Ph.D. in Electrical Engineering from Rensselaer Polytechnic Institute, Troy, New York, USA

He has authored numerous technical publications and has also coauthored two books

Member, Educational Advisory Committee of Canada's Information and Communications Technology Council (**ICTC**) Digital DASH initiative



## **Mr. Jeffrey Huang**

### **West Vancouver Schools Teacher**

- 2006 - 2011 B.Sc - Chemistry (UBC)
- 2011 - 2012 B.Ed - Secondary (UBC)
- 2021 - 2022 M.Sc – Chemistry (Ohio University)
- 2012 - 2014: Mapleleaf Canadian International School (China)
- 2016 - present: Science and Math teacher at Sentinel Secondary
- 2021-2022: IYP Robotics Teacher
- Premier Environmental Science Program
- Passionate about teaching students the knowledge and skills that are highly relevant in the job force and in the local communities
- Excited about helping students pursue their interests through this program giving them the opportunity to understand the importance of learning in this area

# **Mr. Braydan Pastucha**

## **West Vancouver Schools Teacher**



- 2021 – Current: WVS Mechatronics Robotics Academy & Ignite Your Passion Robotics Teacher
- 2016 – 2020: Daedalos Enrichment Programs senior robotics coach & STEM instructor
- 2017 – 2020: University Hill School – STEM instructor
- 2021: B.Ed. - Sustainability (UBC)
- 2018: B.Sci. - Math, Chem, Phys (UBC)
- Certified Robotics Education & Competition Foundation judge, head referee, and event partner
- Certified VEX GO, IQ, and V5 educator



# **Mr. Todd Ablett**

## **West Vancouver Schools Teacher**



Teacher with over 25 years experience  
Taught a wide range of students (K-12 & beyond)

Journeyman Red Seal Electrician  
Bachelor of Science UBC  
Trained Technology Education Teacher

Winner - Prime Minister's Teaching Excellence Award

Winner - VEX Robotics World Championship title competing with teams from all over the world

Vex Robotics Teacher of the Year Award

Inducted into the VEX STEM Hall of Fame



# **The Concept & Programs**

## General Concept



- IYP programs are district programs designed to provide unique opportunities for our students
- Students registered full time in the West Vancouver School District are eligible to apply
- The programs run after school & with no course credits for students
- IYP programs are choice programs with fees associated with them
- The focus is to meet the needs of the students in a challenging, yet fun learning environment

# **GO-Bots: Grades 3 & 4**

## **Big Bad Bot Builders: Grades 5 & 6**

## **Great Bots of Fire: Grades 7 & 8**

### **Hands-On Project-Based Learning Environment:**

Design, build, & program various types of robots

### **Hardware:**

Explore various elements of **mechatronics and robotics**: structures, gears, lifting mechanisms

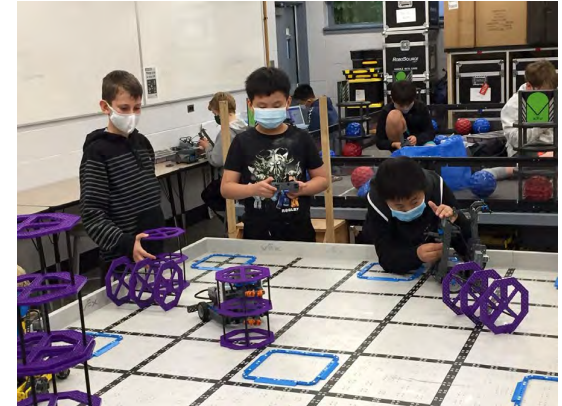
### **Software:**

Learn fundamentals of computational thinking, coding, & programming

### **Tournaments:**

Learn “soft” skills: teamwork, organization skills, and time management.

Learning from mistakes is encouraged!





# The Rationale

Students “learn by doing”

I **hear** and I **forget**  
I **see** and I **remember**  
I **do** and I **understand**

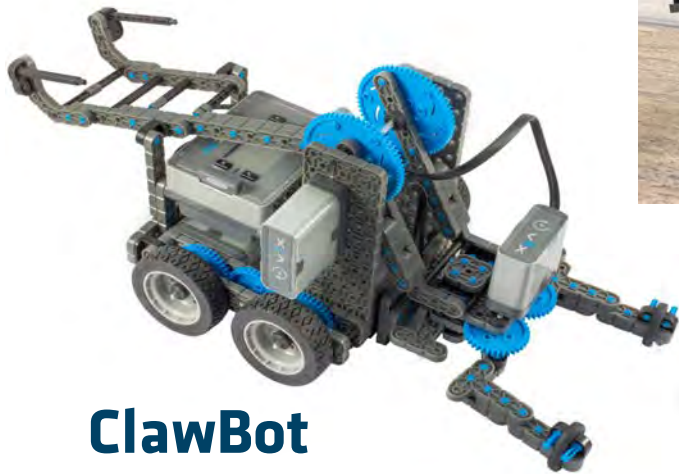


Students can follow several different paths, depending upon their interests:

1. Building robots (with instructions)
2. Building robots (using imagination)
3. Programming
4. Games
5. Tournaments
6. Leadership opportunities



# Students Learn to Build: Follow Instructions



**ClawBot**



**Ike**

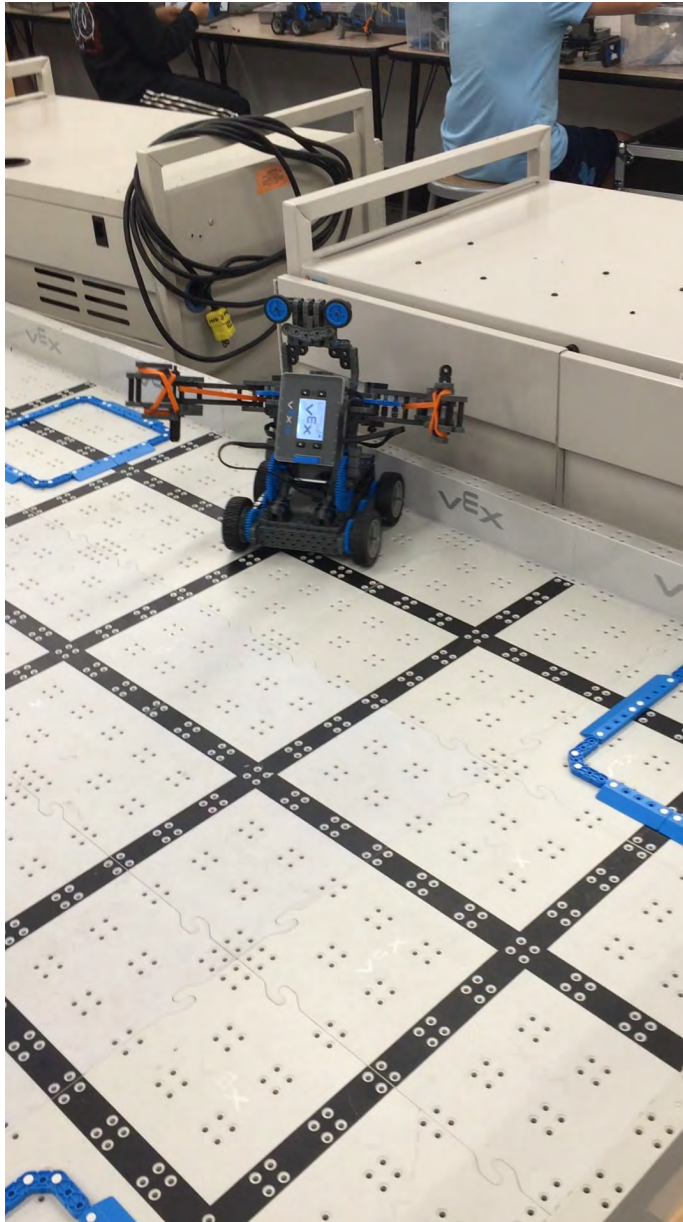


**V-Rex**



**Slick**

## **Sample Student Work Following Instructions**



Ike in Action

## Sample Student Work Following Instructions



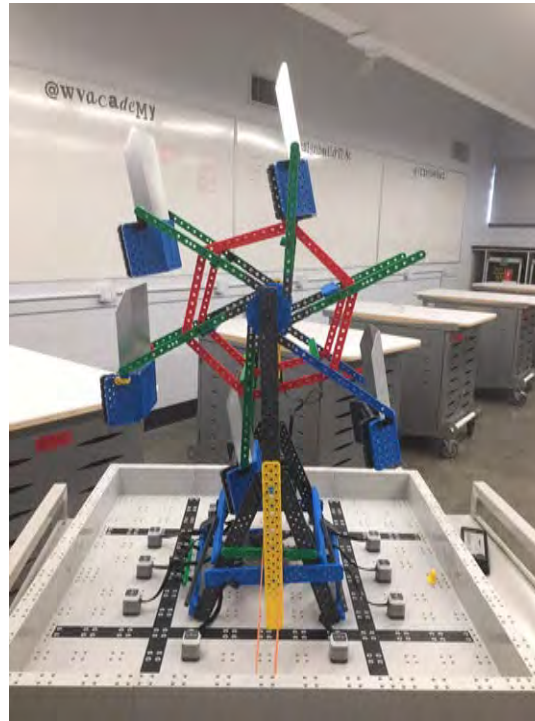
**V-Rex**



## Sample Student Work Using Imagination



Simpleton



Ferris Wheel displaying  
student's award-winning  
plaques



Hole Digger

# **Lots of Opportunity for Creativity**

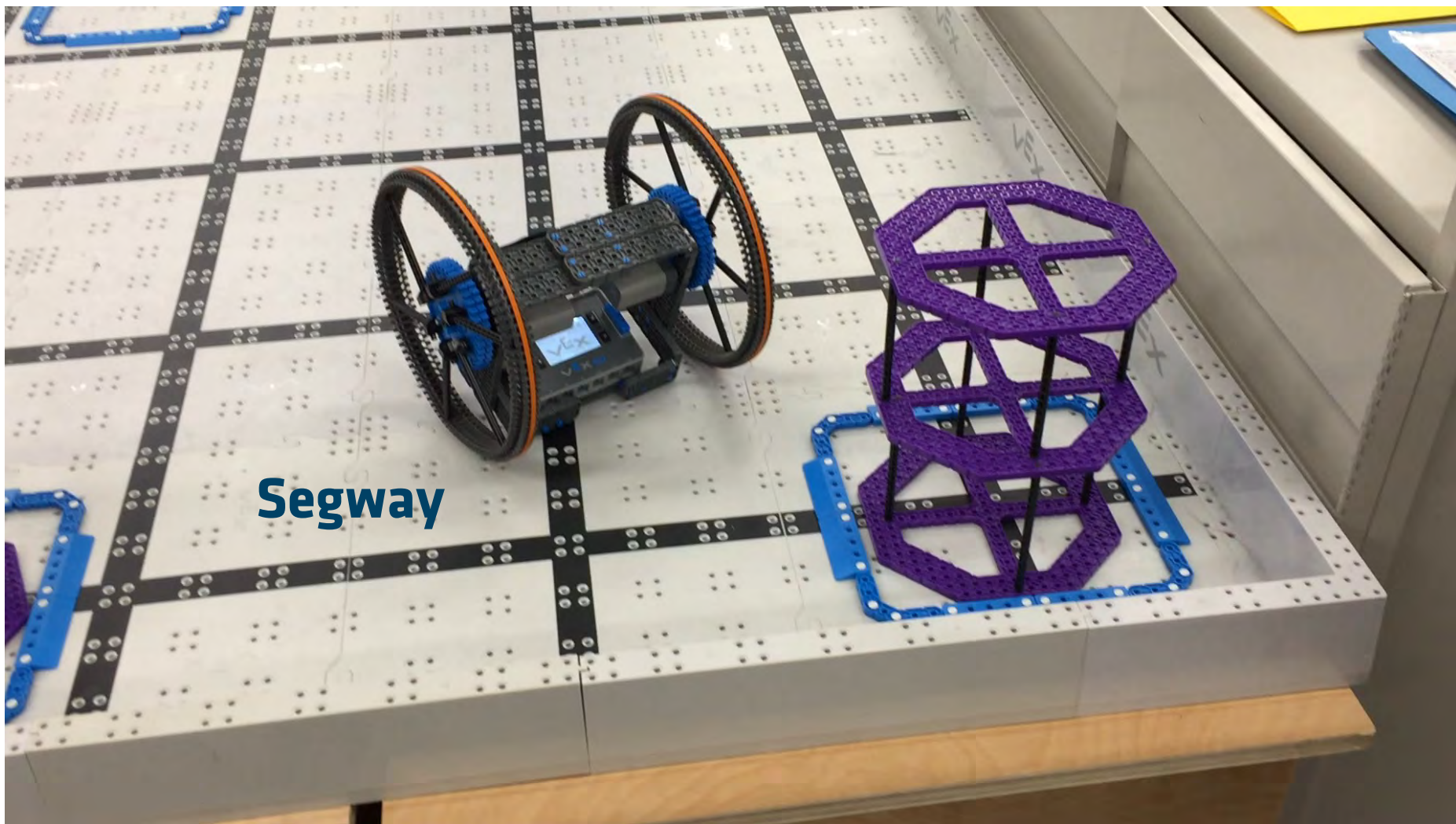
**Simpleton**





## Students Learn by Doing

**Segway**

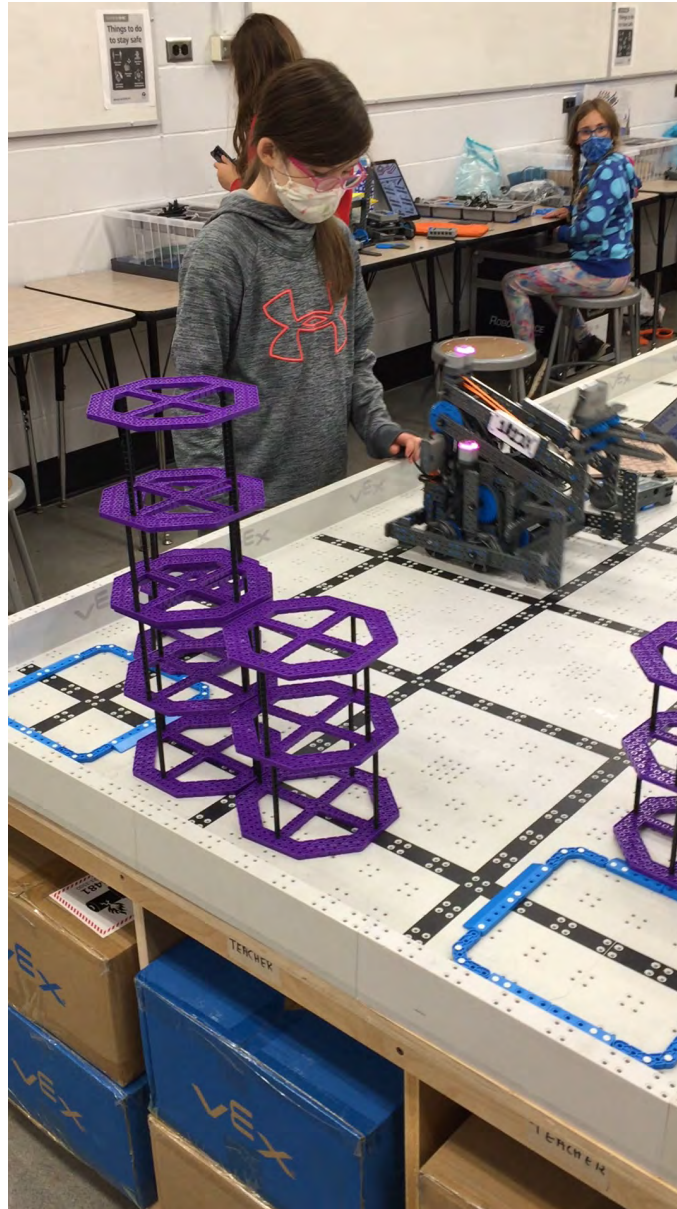


# The Skill of Building: Students Use Their Imagination

**Airplane**



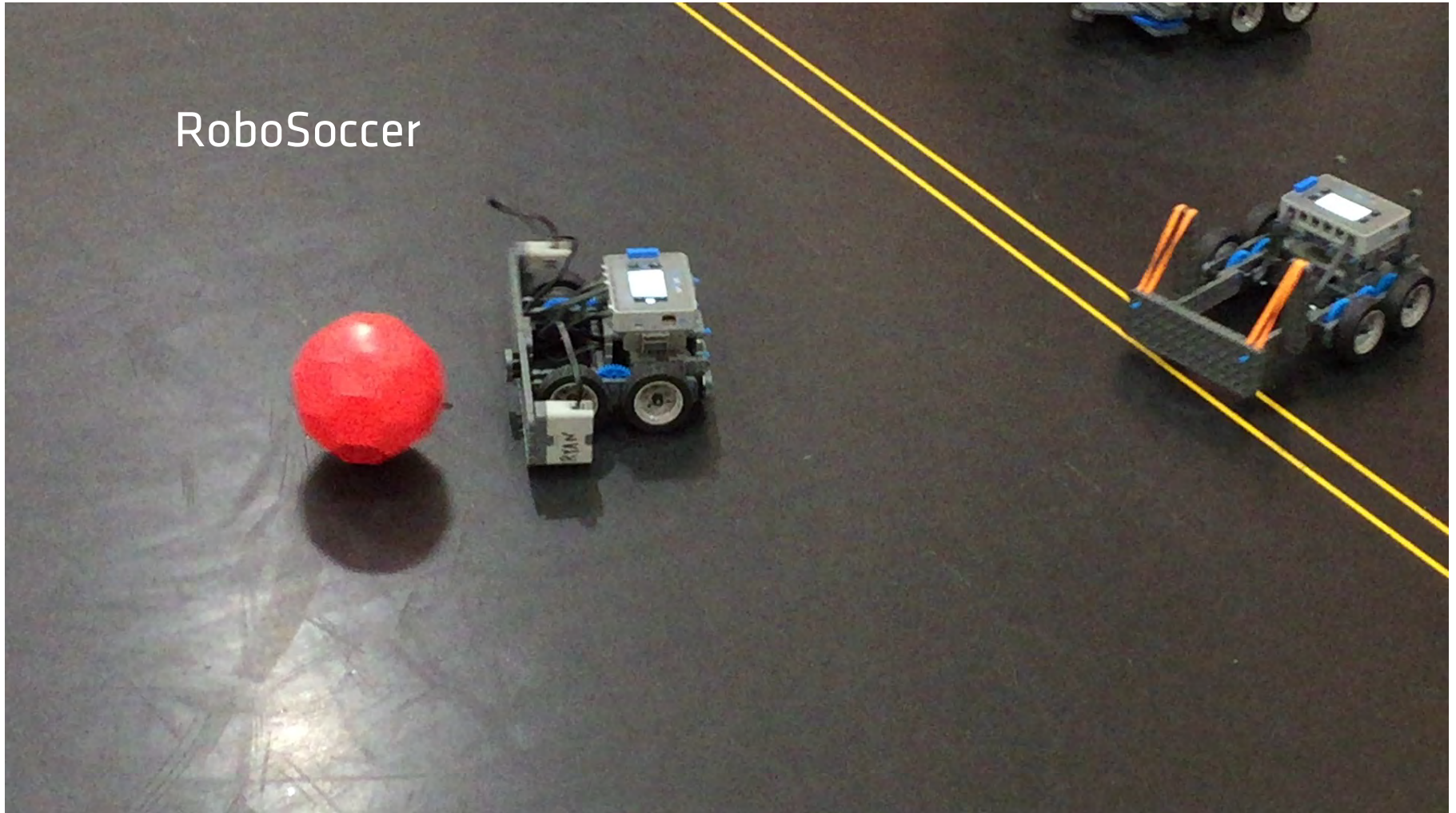
## Students Learn to Program the Robot





# Students Design Their Own Robots

RoboSoccer



# Sample Game: RoboRace





## Students Informally Learn the Design Cycle



The students never fail. They either success or they continue to learn the cycle to success: improve the robot and return better prepared for the next tournament.

## Students Participate in Tournaments



## Preparing for a Tournament



The student on the left is driving his robot to stack the risers in the goal zone



# Preparing for a Tournament



## Tournaments – Sample Photos



**Team 1012X**



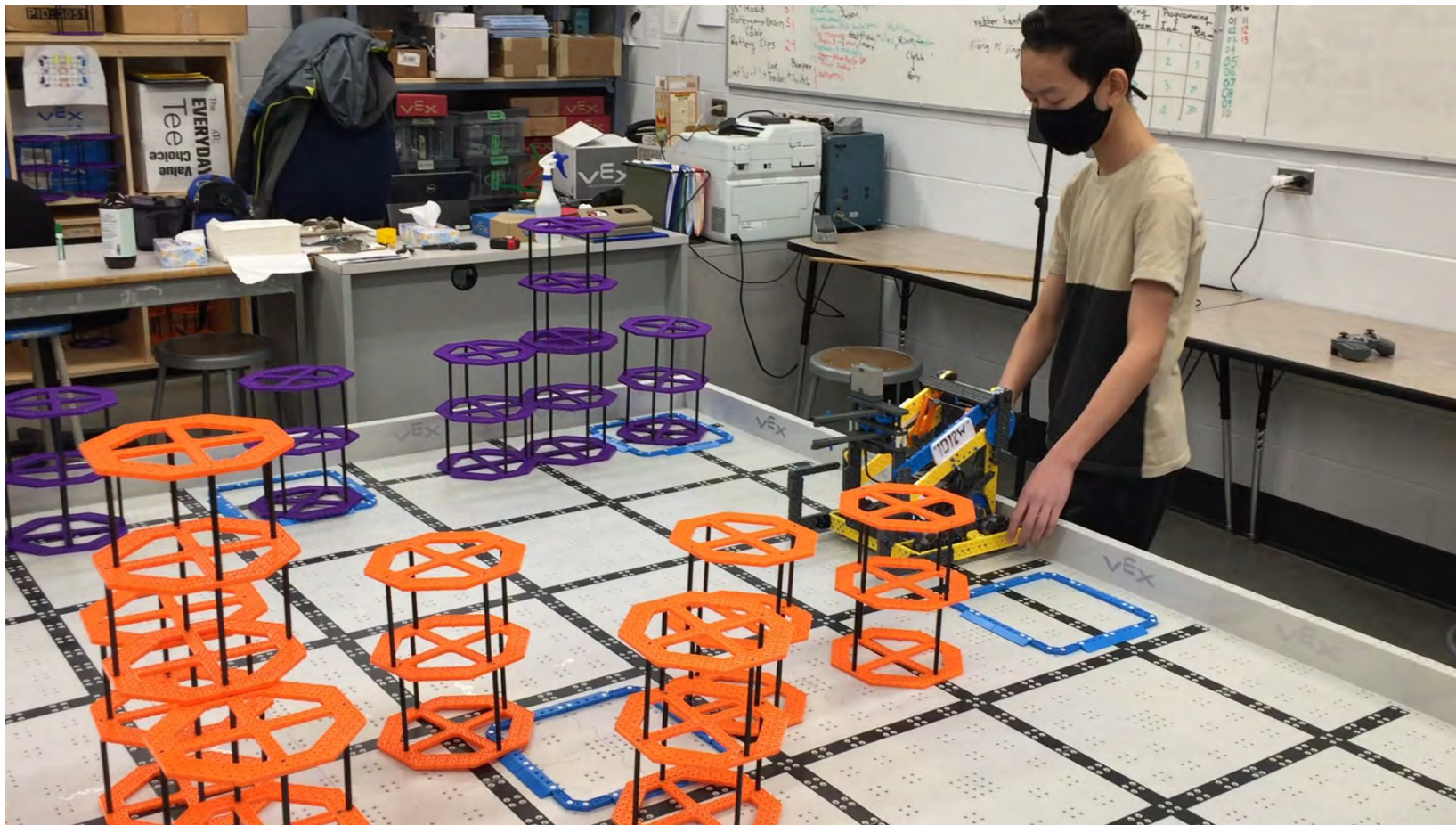
Winner after competing in a  
virtual competition hosted  
from Oahu, Hawaii



## Tournaments – Sample Video



## Tournaments – Sample Video





# Leadership Opportunities

1. Robot Inspector
2. Referee
3. Judge
4. Queuer
5. Tournament Manager
6. Tournament Director



# Great Pathway for Ongoing Learning

There is so much to learn in these programs

Students are challenged each year that they participate

1. Building robots (with instructions)
2. Building robots (using imagination)
3. Programming
4. Games
5. Tournaments
6. Leadership opportunities



Depending on student interests....plenty of opportunity for creativity.

## Sample Student Feedback

*I enjoy the freedom to create.*

*You get to work with your hands and work in teams to develop and construct ideas.*

*We have the chance to build whatever we like without limits.*

*Learning a new skill set that will help me in the very fast changing world.*

*I like being able to create and improve my ideas in a physical way.*



# The Schedule & Location

September – June

GO-Bots (Grades 3-4)

Thursday, 3:30 – 5:00 p.m.

Big Bad Bot Builders (Grades 5-6)

Monday **OR** Wednesday (TBC)

3:30 – 5:00 p.m.

Great Bots of Fire (Grades 7-8)

Tuesday **OR** Thursday (TBC)

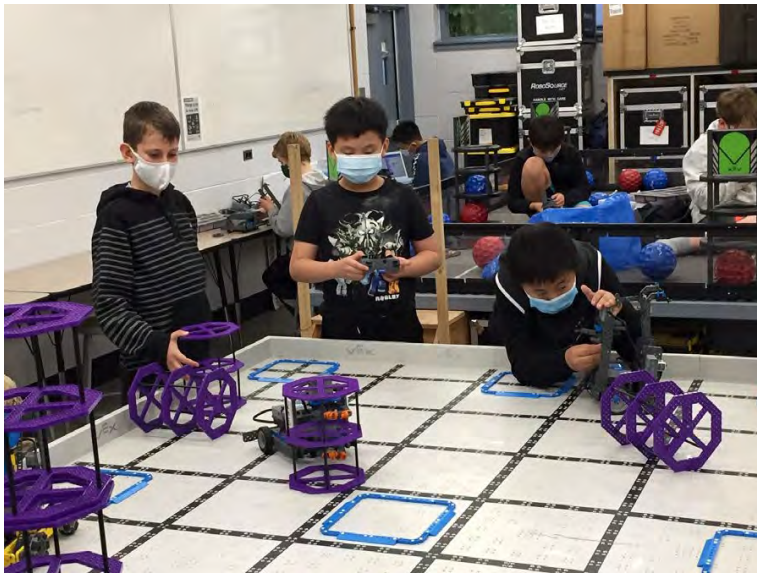
4:00 – 5:30 p.m.

All programs located at

West Vancouver Secondary School

Technical Wing

Robotics Classrooms





## **Equipment & Supplies**

# The Equipment & Supplies

## VEX IQ Super Kit







**Fees**

## The Fees

All programs run September – June

GO-Bots	\$130 per month x 10 months	\$1300/year
Big Bad Bot Builders	\$175 per month x 10 months	\$1750/year
Great Bots of Fire	\$250 per month x 10 months	\$2500/year

Once a student is accepted & fully registered into the program, parents will be asked to provide a non-refundable deposit (which covers September's fee) to hold the student's spot

All payments are completed through School Cash-Online

More information will be provided to parents from the Academy Office as we move forward with the application process

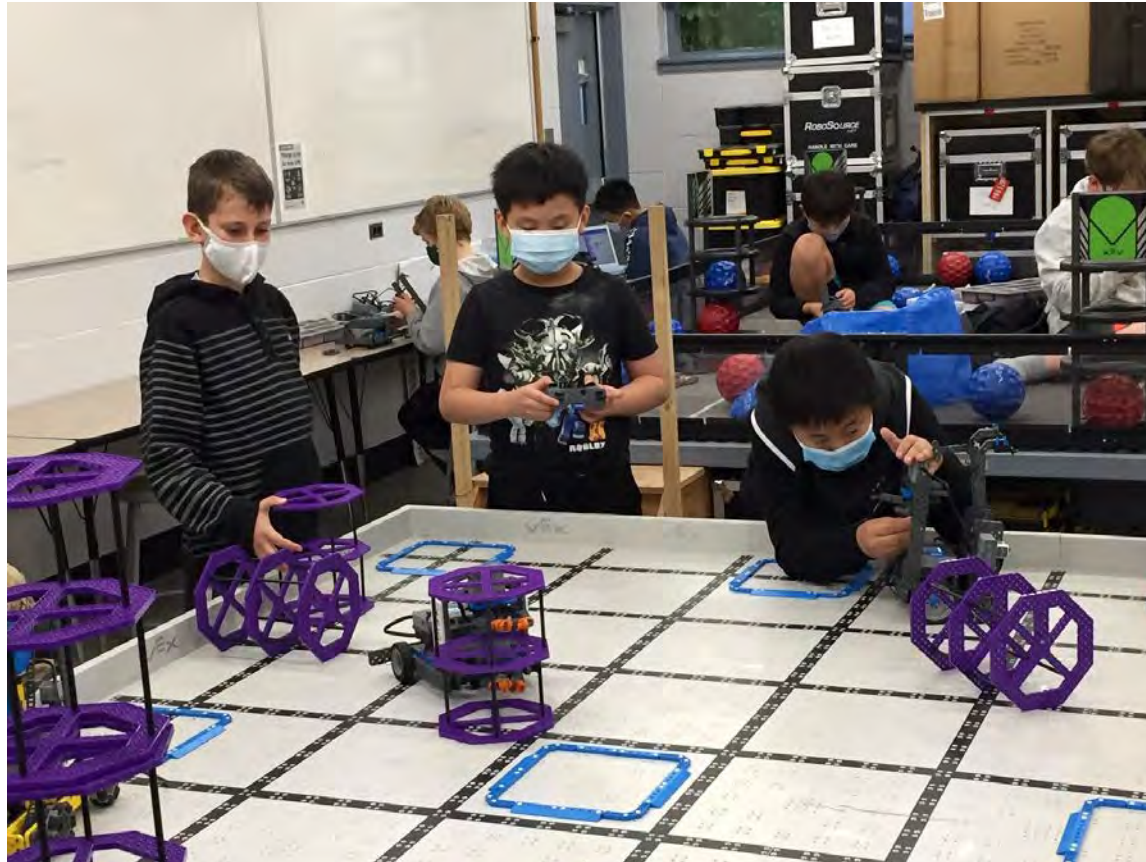


# **The Selection Process**



## Selection Process & Criteria

- ☐ Genuine interest or passion – sound reasons for applying
- ☐ Commitment to participate for the full school year
- ☐ Complete the online Student Information Form for the specific Ignite Your Passion program (e.g., GO-Bots, Big Bad Bot Builders OR Great Bots of Fire)
- ☐ The online Student Information Form requires parents to upload a copy of the student's most recent report card. Registration is not complete without the report card. If there is a delay in providing a copy of the student's most recent report card, this is to be communicated to Academy Assistant, Ms. Tara Ledingham ([tledingham@wvschools.ca](mailto:tledingham@wvschools.ca)) so we are aware of this delay.
- ☐ Show evidence (report card) or answers within the completed registration form:
  - Ability to work well and making good progress in current classroom at school
  - Evidence of good character: being responsible & respectful
  - Ability to work well with others, as well as independently
  - Ability to follow instructions or rules of the classroom or health & safety protocols



**Thank You**