SPRING YOUTH FAIR

May 3rd, 4th & 5th, 2019
Southwest Washington Fairgrounds
Chehalis-Centralia

<u>ALL EXHIBITS OPEN TO ALL YOUTH</u>

ROBOTICS DEPARTMENT

SUPERINTENDENT
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Event Divisions:

I.	Young Junior Exhibitor	1st - 3rd grades
II.	Junior Exhibitor	4th - 6th grades
III.	Intermediate Exhibitor	7th & 8th grades
IV.	Senior Exhibitor	9th - 12th grades

Classes:

A.	Light Activated Dragsters
B.	Cube Wrangler
C.	Sumo-bots

Times:

11:00am – 1:00pm   Class A
We will start with Division I and finish with Division IV

1:30pm – 3:30pm   Class B
We will start with Division I and finish with Division IV

4:00pm – 6:00pm   Class C
We will start with Division I and finish with Division IV

7:00pm PREMIUMS DISBURSED

Entries:

Fee per entry is $5.00
Each child may enter once per "Class"

Rules:

CLASS A - Light Activated Dragsters

This event will take place on ~4'x8' white boards with center and outer lane markers in 5/8 inch black electrical tape.

Each lane will be 20 feet long and 23 inches wide (two lanes side by side on each board segment).

A black strip of cardboard will be removed from underneath the dragsters to signal the start of the race.

The race is over when the first dragster senses the black line indicating the finish and comes to a complete stop.

A dragster may exceed 12" in one dimension.

Each dragster will be positioned at the starting line with its light sensor pointing down towards the black starting strip (located approximately 18 inches from one end of the course) with its program running.

Note: This means various designs will extend different lengths beyond the starting line; however, each dragster's light sensor (and hence the dragster itself) will travel the same distance to the finish line.

Only one false-start per match per entrant will be allowed. Failure to start moving after the light activation does not constitute a false start. It is recommended that a value of "100" be used as the sound sensor threshold for starting.

Any dragster that crosses its lane side boundaries will be disqualified in that race.

In the event that both dragsters leave the boundary area, the dragster which reached the furthest before leaving the boundary area will be deemed the winner of that bracket.

The light sensor must be mounted at a fixed location on the dragster.

CLASS B - Cube Wrangler

This event will take place on a ~4' X 8' white board with 2 x 4 side walls (as per FLL), with a 1" dark blue painters tape (Lowes) Center Line (referred to as line 3 in image below), two parallel Goal Lines ~12" from the each end and two additional parallel lines (referred to as lines 1 & 2) randomly placed between the Center Line and the Goal Line on each half of the table. All these lines will be at least 6" from each other and symmetrical (approximately) about the Center Line. No-Score zones marked by a ~12" squares in each table corner will bracket Scoring zone.

A total of 5 FTC Block Party cubes will be placed on the board; 1 on each of the numbered lines and mirrored about the Center Line. Teams will compete for the cube placed on Center Line (line 3). Cubes will be randomly placed at least 6" from the side walls, holes facing up. Cube faces will be approximately centered on and orthogonal to the numbered lines. Cubes will be numbered 1, 2 or 3 on their flat sides.

Robots must always touch the team's home side of the board. Robots that completely cross the center line will forfeit the match.

To start the match, robots must be placed completely in either of the No-Score zones, with program selected and waiting for center button to be pressed once, before officials place the cubes. Once robots are in position, cubes will be randomly placed by the officials, but mirrored across the Center Line.

The match will begin with a 3, 2, 1 countdown by the official. Each match will last 90 seconds. Once a robot has left the No-Score zone, it may return to either of the No-Score zones to change programs or reposition within the No-Score zone.

Any cube in the No-Score zone while the robot is being handled will be returned to the center of the line from which it came. If a robot touches any cube while being handled in the No-Score zone, the cube will

be returned to the center line from which it came.

The object of the game is to move up to three cubes to the Score zone. Scoring:

Cubes completely inside the Score zone (completely beyond the tape, not touching the tape; this is different than FLL scoring) will be scored at the end of the 90 second match.

➢ The cube from line 3 is worth 3 points. ➢ The cube from line 2 is worth 2 points. ➢ The cube from line 1 is worth 1 point.

Robots must only transport and score one cube at a time. If a robot appears to be intentionally transporting more than one cube at a time, all transported cubes will be placed in the center of their respective lines.

Multiplier: If a cube is stacked on top of another cube, the cube immediately below it is doubled in value. Stacks must be freestanding in order to receive the multiplier. See Scoring Examples below.
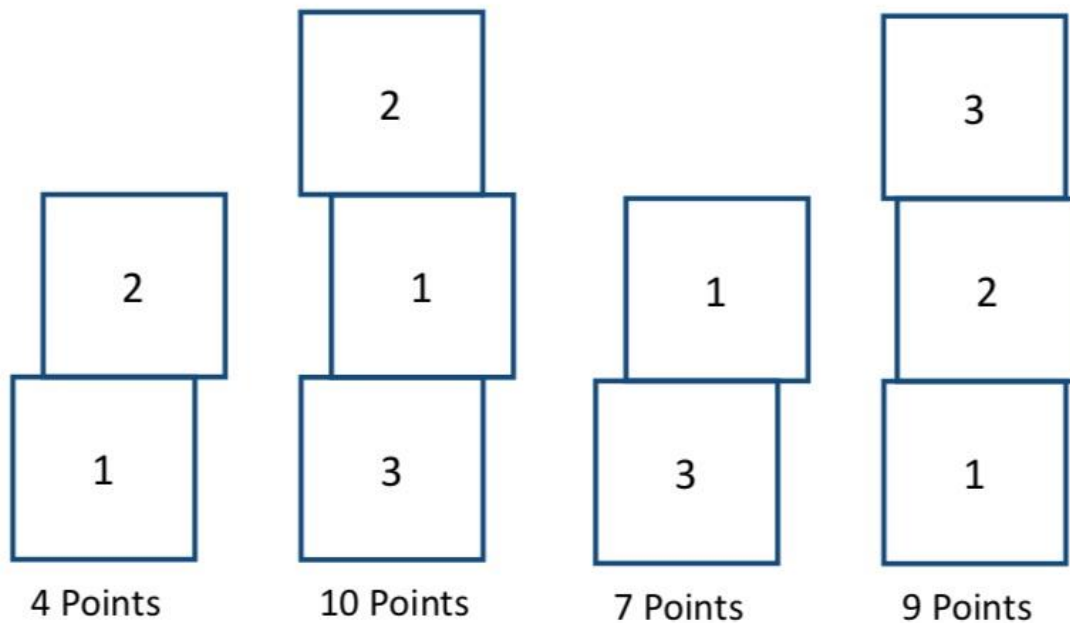
Touch Penalty: A robot may be handled and returned to a No-Score Zone at any time, however any cubes being handled will be returned to the center line from which it came and a negative one-half point penalty will be assessed.

Tie Breaker: Should a tie occur, the first team to have placed a cube in the Score zone will win the match.

Example Set-up for Cube Wranglers Challenge
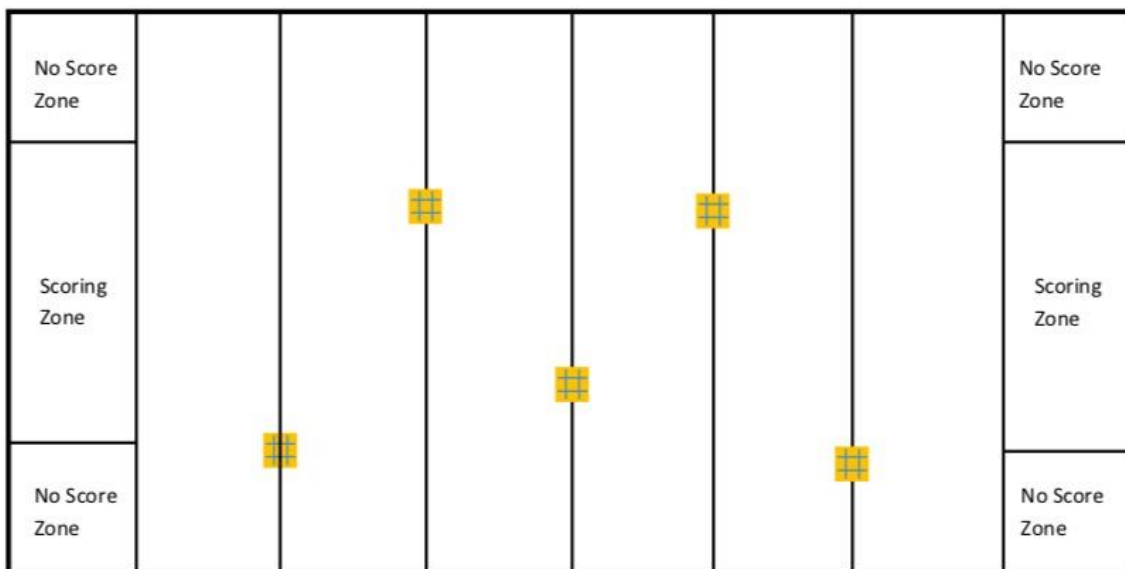
Cube Multiplier Scoring Examples

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                    ┌─────┐                        ┌─────┐
                    │  2  │                        │  3  │
            ┌─────┐ ├─────┤         ┌─────┐        ├─────┤
            │  2  │ │  1  │         │  1  │        │  2  │
    ┌───────┴─────┤ ├─────┤ ┌───────┴─────┤        ├─────┤
    │      1      │ │  3  │ │      3      │        │  1  │
    └─────────────┘ └─────┘ └─────────────┘        └─────┘
       4 Points      10 Points   7 Points         9 Points
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CLASS C - Sumo-bots

This event will take place on a ~4'x4' white board with a black border. The arena will be a white square 36" on a side.

The arena will be slightly elevated to facilitate timely conclusion of matches.

Sumo-bot wrestling will begin with opponents in opposite corners and will continue until either one opponent is completely out of the arena, or one Sumo-bot is disabled.

The match will begin with a countdown, followed by the student pressing the "Run" button on the NXT or EV3 brick or a touch sensor serving as a remote "Start" button. After pressing "Run", the competitor must step out of the boundary zone (at least 3 feet from the arena).

If, after one minute, there is no clear winner, the competition will be halted. After a second, abbreviated "call to start" (30 seconds), an additional one minute re-match will begin. For the rematch, Sumo-bots will be placed back-to-back in the center of the arena and must move forward or turn (may not move backwards) immediately after the start of the match. If there is no clear winner after the re-match, judges will declare a winner based on which Sumo-bot is least disabled, or has most nearly pushed its opponent from the arena during the matches.

The winning robot must either push its opponent completely out of the arena (not counting appendages extending beyond 12"), or disable its opponent (render opponent unable to maneuver, while victor Sumo-bot still can). If a robot is not pushed off the mat, but is flipped, the flipped Sumo-bot is considered disabled and loses the match.

S P R I N G   Y O U T H   F A I R

SOUTHWEST WASHINGTON FAIRGROUNDS
CENTRALIA-CHEHALIS

<u>DO NOT TAKE ENTRY FORMS TO
SWWA FAIR OFFICE</u>

ROBOTICS DEPARTMENT

First Name_____ Last Name _____ Age_____

Street Address _____

City, State, Zip_____ Phone _____

Email _____

School or Youth Organization that encouraged you to enter, if any: _____

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A.	Light Activated Dragsters
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Division	Class	Description/Title	Fee	SYF USE Place	SYF USE Premium
		Total		Total	