GSNETX Robotics Season

2016-2017

girl scouts of northeast texas

FIRST LEGO LEAGUE JR.

Creature Craze™

Girl Scouts of Northeast Texas was proud to have 9 First Lego League Jr. teams launched this 2016-2017 season. The 9 teams consist of Brownie troops spanning our council from Southern Sector to the Collin Area Service Center. Each of these teams took on a challenge called "Creature Craze" where the girls gathered for 8 weeks to generate solutions to protect animal habitats.

Some of the team requirements for their challenge included, building at least one robotic or moving structure on their habitat, use only Lego and Lego Education products to build their display and to create a "show me" board featuring all of the girl's work from the robotics' season.

This year several of our teams attended local FIRST Expos around the DFW area. An expo is a chance for the Girl Scouts to showcase their "Creature Craze" challenge along with other teams in the Dallas area. Thirty-two teams attended the expo and each team was visited by a panel of 9 judges. There were 10 categories to win awards and we were proud to announce that 4 out of the 10 awards were won by Girl Scout of North East Texas teams.

GSNETX is proud of all our Girl Scouts who participated in the 2016-2017 robotics season and look forward to growing our robotics program in 2018.

girl scouts
of northeast texas

AQUA ADVENTURE℠

Explore how you use water at home or in your community, the water's journey, and how to improve a part of this journey.

Create and Test a Team Model to show your ideas.

Share what you learn through your Team Model and a *Show Me* poster.

Hi, ***I'm Hydro the water drop!***

Find out how water like me gets to you. Can you help make my journey better? Join me on an AQUA ADVENTURE™!

Explore!

You and your community use water for many things every day. Where does your water come from? How does it get to you? Is the water cleaned or treated before you can use it? Why is it important to use water wisely? Pick one way that you use water at home or in your community. Learn as much as you can about the water's journey. Then design a solution to improve a part of this journey.

Create and Test!

Design, build, program, test, and improve a Team Model to show your chosen water use, the water's journey, and your idea for how to improve a part of the journey. Include the AQUA ADVENTURE™ Inspire Model (a LEGO® water pump) in your design. Also be sure to use LEGO® Education WeDo 2.0 or WeDo to build and program at least one motorized part of your Team Model.

Share!

Make a *Show Me* poster, and use it and your Team Model to share what you have learned with others. Participate in an Expo, invite your family and friends to a special team meeting, or share your Engineering Notebook to show what you know about water!

FIRST LEGO LEAGUE JR.

No matter what you do, have fun!

www.firstlegoleague.org | www.firstinspires.org

FIRST LEGO League 2017/2018 Challenge

HYDRO DYNAMICS℠

Solve problems using:

The Core Values

- We are a team.
- We do the work to find solutions with guidance from our coaches and mentors.
- We know our coaches and mentors don't have all the answers; we learn together.
- We honor the spirit of friendly competition.
- What we discover is more important than what we win.
- We share our experiences with others.
- We display Gracious Professionalism® and Coopertition® in everything we do.
- We have FUN!

The Season's Key Moments

If you need help, look at the sample schedule in the Coaches' Handbook or log into *FIRST*® Steps for a step-by-step guide to your season: http://info.firstinspires.org/fllfirststepsrequest

Read the Challenge. → **Register** for an event. → **Identify** problem and Mission strategies. → **Design** your robot and your Project solutions. → **Practice** your presentations and robot control. Refine as needed. → **Attend** an event and celebrate!

Download the rubrics to help prepare for your event: http://www.firstlegoleague.org/challenge

The Robot Game

- ***Read*** *the Robot Game Rules in the Challenge Guide: http://www.firstlegoleague.org/challenge*
- ***Identify*** *one or more Missions to solve*
- ***Design*** *a robot using LEGO® MINDSTORMS® that can solve the Mission(s)*

Missions as written below are only an overview. For full details, read the Challenge Guide.

Have you ever wondered how you get the water you use in your daily life? Whether it's to brush your teeth, quench your thirst, cook your food, or even take a swim – all of us need water! Does it come from the ground, a river or a lake? How do you make sure it's safe to drink, and what happens when it goes down a drain? In this season's HYDRO DYNAMICS℠ Robot Game, you'll explore these questions and many more, and you'll get to learn about the amazing engineering used to protect your most precious liquid asset – water!!

Note: **Asterisks tell you a specific METHOD is required, and must be observed by the referee. Underlined conditions must be visible at the END of the match.*

M01 - PIPE REMOVAL
*Move the Broken Pipe so it is completely in Base.
20 Points

M02 – FLOW
*Move a Big Water (one time maximum) to the other team's field *only by turning the Pump System's valve(s). **25 Points**

M03 – PUMP ADDITION
Move the Pump Addition so it has contact with the mat and that contact is completely in the Pump Addition target. **20 Points**

M04 – RAIN
Make at least one Rain come out of the Rain Cloud.
20 Points

M05 - FILTER
Move the Filter north until the lock latch drops.
30 Points

M06 – WATER TREATMENT
Make the Water Treatment model eject its Big Water, *only by moving the Toilet's lever. **20 Points**

M07 – FOUNTAIN
Make the Fountain's middle layer rise some obvious height and stay there, due only to a Big Water in the gray tub. **20 Points**

M08 – MANHOLE COVERS
Flip Manhole cover(s) over, obviously past vertical *without it/them ever reaching Base. **15 Points EACH**
FOR BONUS: Score 30 Manhole Cover points as described above WITH both covers completely in separate Tripod targets. **30 Points Added**

M09 – TRIPOD
Move the inspection camera Tripod so it is
FOR PARTIAL SCORE: partly in either Tripod target, with all of its feet touching the mat. **15 Points**
FOR FULL SCORE: completely in either Tripod target, with all of its feet touching the mat. **20 Points**

M10 – PIPE REPLACEMENT
(Install the Optional Loop first, in Base, if you wish.) Move a New Pipe so it is where the broken one started, in full/flat contact with the mat. **20 Points**

M11 – PIPE CONSTRUCTION
(Install the Optional Loop first, in Base, if you wish.) Move a New Pipe so it is
FOR PARTIAL SCORE: partly in its target, in full/flat contact with the mat. **15 Points**
FOR FULL SCORE: completely in its target, in full/flat contact with the mat. **20 Points**

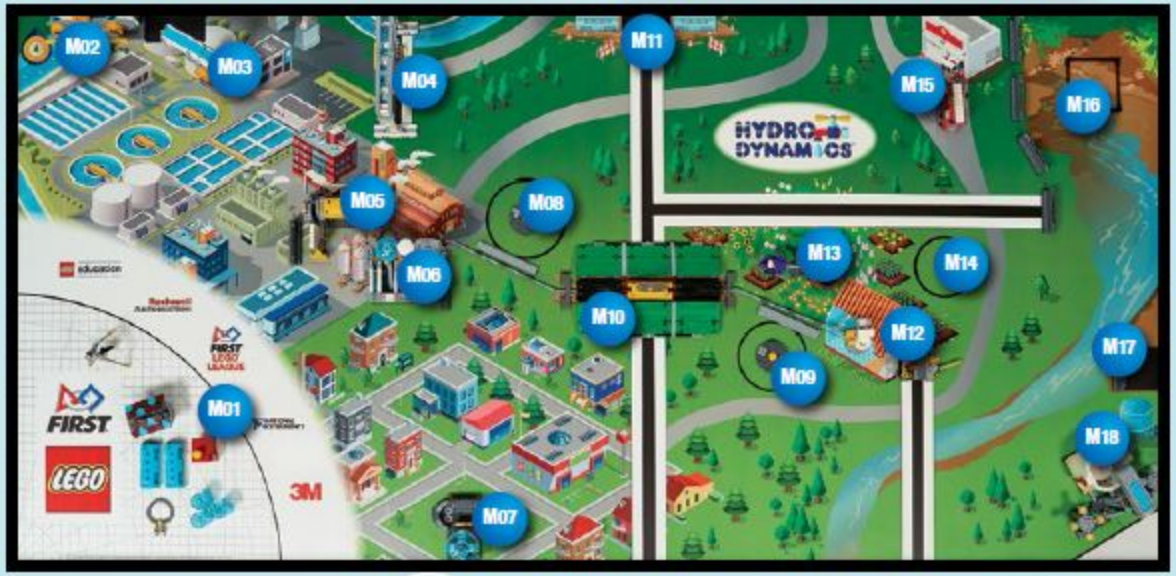
M12 – SLUDGE
Move the Sludge so it is touching the visible wood of any of the six drawn garden boxes. **30 Points**

M13 – FLOW
Make the Flower rise some obvious height and stay there, due only to a Big Water in the brown pot. **30 Points**
FOR BONUS: Score Flower Points as described above WITH at least one Rain in the purple part, touching nothing but the Flower model.
30 Points Added

M14 – WATER WELL
Move the Water Well so it has contact with the mat and that contact is
FOR PARTIAL SCORE: partly in the Water Well target. **15 Points**
FOR FULL SCORE: completely in the Water Well target. **25 Points**

M15 – FIRE
Make the fire drop *only by making the Firetruck apply direct force to the House's lever. **25 Points**

M16 – WATER COLLECTION
Move or catch Big Water and/or Rain water (one Rain maximum; no Dirty Water) so it is touching the mat in the Water Target, *without the target ever reaching the white Off-Limits Line shown below. Water may be touching the target, and/or other water, but not be touching nor guided by anything else. Each water model is scored as an individual.
— At least one Rain: **10 Points**
— Big Water: **10 Points EACH**
FOR BONUS: Score at least one Large Water in its target as described above WITH one on top, which is touching nothing but other water. **30 Points**
(Maximum only one Bonus can score)



M17 – SLINGSHOT
Move the Slingshot so it is completely in its target. **20 Points**
FOR BONUS: Score Slingshot points as described above WITH the Dirty Water and a Rain completely in the Slingshot target. **15 Points Added**

M18 – FAUCET
Make the water level obviously more blue than white as seen from above the cup, *only by turning the Faucet handle.
25 Points

The Robot Game Missions can provide real-world examples for your Project research. Learn about the stories behind the Missions in the Challenge Guide: http://www.firstlegoleague.org/challenge

PENALTIES: Before the match starts, the Ref removes the six red Penalty discs from the Field, and holds on to them. If you Interrupt the Robot, the Ref places one of the removed Samples in the white triangle, in the southeast, as a permanent/untouchable Interruption Penalty. You can get up to six such penalties, worth **-5 Points EACH**

Girl Scouts of Northeast Texas

2107-2018 FLL JR. & FLL Robotics Teams

FAQ Sheet

- **All GSNETX Daisy, Brownie and Junior** troops are eligible to have a FLL robotics team.
- GSNETX teams are partners of the **FIRST Lego League Jr.** Organization of North Dallas.
- The FLL season starts approximately in **October and runs through March.**
- **FLL Jr.** teams consist of 2 adult coaches and between 2-6 girls ages **K-3rd** grade (ages 6-10)
- **FLL** teams consist of 2 adult coaches and between 2-10 girls grades **4th-8th** grade (ages 9-14)
- GSNETX sponsored team coaches must be **registered GS volunteers**.
- Teams usually meet once a week for 8-12 weeks….**8 week curriculum.**
- There are several expos that teams can attend. Generally expos are scheduled in the months of **January, February and March**.
- All teams applying for Council sponsorship must first register through our **Council Website**, as you would to pay for any event for your troop.
- Once your team is formed and registered through GSNETX, **our staff will finalize registration** through the First Lego League organization.
- The final step for your team formation is **completing the background check sent to you by email from FIRST**. After this step is complete we will order your We.Do Kit or your EV3 Kit from Lego Education.
- The cost for a GSNETX will be **$50 per girl** and is found on the **GSNETX website under events**. **This registration for the event will not be live until Friday, September 22nd**. This cost will cover FLL supplies, registration fees, Camp Cedars coaches training, 2017 GSNETX Fun Patch and registration for the Girl Scout Expo/STEM day at Camp Whispering Cedars.
- This cost **DOES NOT** include: t-shirts, spirit wear, snacks, field trips, NPP badges, other North Dallas FLL expo registration, extra Legos or supplies for Show Me poster.
- Space will be available for team meetings at the **JAFSC** and the **STEM Center of Excellence**.
- Volunteers Needed!
  -There is no better way to learn how to be a robotics coach than to **volunteer at one of the expos**. No experience needed! See GSNETX staff if interested!
  -Do love event planning? We are looking for a few Girl Scout Volunteers to help **organize a water hydraulics field trip** for our GSNETX teams. See GSNETX staff if interested!

More information? Contact our team at: STEM@gsnetx.org

FIRST Lego League / GSNETX Teams
Application Form 2017

Option One

Independent Girl Scout

☐ My daughter/Girl Scout needs a team to join

Girl Scout's Name_____ GS Program Level _____

Grade_____ Age_____

Parent's Name_____ Parents email_____

Parent's Phone_____

Parent's Address_____ Zipcode_____

Option Two

Team: FLL Jr. Grades k-3rd

Teams are made up of 2 to 6 girls.

Troop number _____ Girl Scout Program Level_____

Name of girls (if you have them)

1. _____ 4. _____
2. _____ 5. _____
3. _____ 6. _____

☐ Yes- we have room for more girls

☐ No- we have our max number of 6 girls

☐ We are a returning team from last year

Option Three

Team: FLL Grades 4th-8th

Teams are made up of 3 to 10 girls.

Troop number _____ Girl Scout Program Level_____

Name of girls (if you have them)

1_____ 2. _____
3_____ 4. _____
5_____ 6. _____
7._____ 8._____
9._____ 10._____

☐ Yes- we have room for more girls

☐ No- we have our max number of 10 girls

☐ We are a returning team from last year

Adult volunteer/coach's name _____

Address _____ Zipcode _____

Phone Number _____ Email _____

Second volunteer/coach's name_____

Address_____ Zipcode _____

Phone Number _____ Email _____