Get Ready Guide

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Camp Considerations

The tips and suggestions in the "**Get Ready Guide**" have been provided to help guide camp leaders through the thought process and considerations required when starting up a new camp.

As with any new venture, it is important to do your research, consult local governing bodies and authorities, and complete a survey of other similar camps in your area.

## Consideration #1: Set The Tone For Your Camp

Having a clear idea of the focus and tone of your camp will help you outline and advertise what your VEX IQ Camp has to offer. Here are a few points to help get you started.

- VEX IQ is primarily designed for participants ages 8-14.

- Learning Activities are hands-on, engaging, and focus on the engineering design process of Think-Do-Test.

  "Think-Do-Test" is an iterative (repeated) process engineers use to help solve a problem and design a solution for something. The basic process is a cycle that generally starts with a problem and ends with a solution, but steps can vary. When simplified, the design process can be seen as a three-step loop.

  The Learning Activities outlined in this guide have been developed with this process in mind.

- This guide outlines opportunities for 1, 3, and 5-day camp experiences.

- Learning Activities provide opportunities for building, programming, and designing robots in:

  - Modkit for VEX Robotics
    www.modkit.com/vex

  - ROBOTC for VEX Robotics
    www.robotc.net/download/vexrobotics

  - (Optional) ROBOTC for VEX Robotics – Graphical
    http://www.robotc.net/graphical/
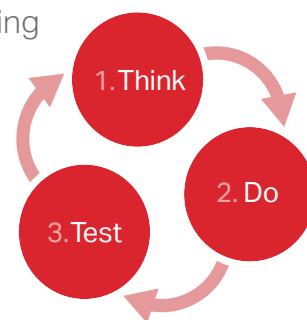
When outlining the day-to-day routines for your camp, make sure to include (and highlight!) social, outdoor, creative time, or time for team-building Learning Activities. Campers of all ages need time to get to know each other and time to move.

A sample schedule for a 5-day camp has been provided to assist with planning. See the section called "**Sample Camp Schedule.**"

A list of team-building activities has also been provided to help campers get to know and work with each other. See the section called "**Sample Team-Building Activities.**"

Consideration #2: Choose A Location

Throughout the school year, religious or community centers are often available and open to hosting day camps or workshops. Fees and conditions on use of the space will vary, so make sure to survey several locations and agreements.

Local colleges or schools may also be available throughout the summer months.

Features to look for in a location:

- Nearby parks or play areas for recreation time
- Accessible public transportation to and from the location at convenient times
- Nearby parking for easy drop off and pick up by parents and guardians
- Accessible spaces for campers of all abilities
- Convenient restrooms for camper and staff to use throughout the day
- Building owners or managers who are enthusiastic and encouraging of "camp spirit." Campers will be active, and at times, noisy, so it is important that staff and administration at the location are aware of and embrace this.

Consideration #3: Set Pricing

When deciding on a price per camper, make sure to include:

- Advertising costs
- Staff costs
- Site fees
- Insurance fees
- Consumables such as photocopies, paper, pencils, tape, scissors, or art supplies
- Beverages, snacks or meals (if they are to be included)
- Transportation costs
- Cost of VEX IQ kits and components (See the section called "Suggested VEX® IQ Components and Costs")

- When setting price, consider other camps in the area.
- Keep the pricing reasonable for families in the area.
- Look for and get involved with organizations to help support campers that may not be able to afford to attend otherwise.
- Depending on the location, needs, and interests of the community, some parents and guardians may appreciate a pricing option that includes the cost of a Super Kit to keep at the end of a camp session.

Consideration #4: Advertise

Make sure to include the following on brochures, postings, or websites:

- Age of campers
- Kind of camp
- Camp location
- Cost of camp
- How to register or get more information (email, phone, website)

It is a good idea to also include the following:

- Pictures of projects and campers (with consent from parents or guardians, or purchased from stock photography) , staff, location
- Experience, certification, or education of staff
- Licensing information may also be required by local authorities

Where to advertise:

- Schools
- Parent Teacher Organizations
- Childcare Organizations
- Parenting email lists or forums
- Word of mouth

Social Media:

Social media is a great tool to promote the camp brand by allowing students to share their excitement and experiences with others in their community.

- Campers can share pictures or videos of their robots in action.
- Consider a "theme" or suggested hash-tag for each day that campers can share with parents and friends via social media. (e.g., "#itsalive" to showcase their first autonomous program on the clawbot).
- Investigate, define, and clearly communicate policies about what is acceptable to share.

When to advertise:

- For summer camps, it is a good idea to advertise in late winter or early spring.
- For workshops and camps throughout the school year, it is a good idea to advertise at least three months before the camp will run.

Other Considerations To Investigate:

- Incorporation and general set-up
- Licensing
- Liability and accident insurance
- Medical insurance
- Background/criminal/reference checks on all staff
- Safety, fire, medical, emergency plans
- Waivers and legal concerns

Suggested VEX® IQ Components

The VEX IQ Classroom Bundle is a great option to supply a group of 12 campers with their own kits, or approximately 24 campers with one kit for every two campers. For greater numbers, individual Super Kits can be purchased to reach the desired number.

Alternatively, campers can purchase their own kits in advance of the camp.

Kits and components are available at www.vexrobotics.com/vexiq/products.

VEX IQ Super Kit
(P/N: 228-2500)

http://www.vexrobotics.com/vexiq/products/kits-bundles/super-kit.html

The Super Kit is an all-encompassing introduction to STEM and robotics. Students can use the familiar handheld Controller to drive robots right out of the box or program them to run autonomously using the additional Smart Sensors. While the included clawbot IQ instructions help students easily build their first robot, the intuitive snap-together parts mean the sky is the limit for their VEX IQ creations.

- Over 850 Structural & Motion Components
- 4 Smart Motors, 7 Sensors, Robot Brain, Controller & Batteries Included
- Storage Bin & Tray included for organized storage of all parts

VEX IQ Classroom Bundle
(P/N: 228-4000)

www.vexrobotics.com/vexiq/products/228-4000.html

- 12x VEX IQ Super Kits
- 2x 3-Inch Cube Kits

Perfect for a group of 24 students (working in pairs), this discounted bundle contains everything needed to start building robots in your classroom, after school club, or summer STEM camp.

The Super Kit is the most complete introduction to VEX IQ; a set of 12 means that in just a few hours, your classroom could be crawling with 12 robots drivable by wireless control, running autonomously using advanced sensors, or a combination of both. Plus, when you use 3-Inch Cubes to set up a simple game, it fuels a competitive atmosphere and engages students right away.
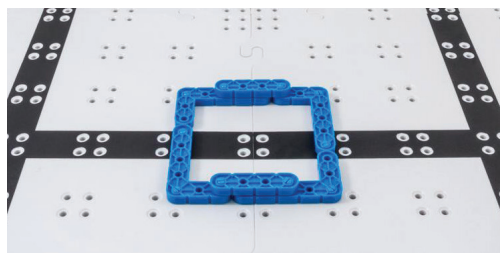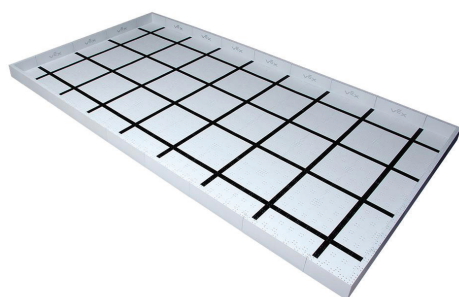

VEX IQ Cube-Base Kit
(P/N: 228-3452)
www.vexrobotics.com/vexiq/products/228-3452.html

- 1x Red Set of Parts
- 1x Blue Set of Parts
- 1x Green Set of Parts

VEX IQ Challenge Full Field Perimeter & Tiles
(P/N: 228-2550)
www.vexrobotics.com/vexiq/products/228-2550.html

The full field perimeter and tiles for the VEX IQ Challenge.

- Official IQ Challenge perimeter and tiles.
- Snap-together construction allows for assembly in minutes.

VEX IQ Documents and Downloads
http://www.vexrobotics.com/vexiq/documents-downloads/

VEX Robotics offers and extensive collection of resources online that are completely free of charge.

- Firmware Updates
- User Guides and other Documents
- Build Instructions
- Free VEX IQ Classroom Curriculum
- VEX IQ CAD Files
- A range of VEX IQ Videos
- VEX IQ - YouTube Playlist
  www.youtube.com/user/vexroboticstv

Sample Camp Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00-8:20	- Welcome - Introductions - Expectations and routines	- Morning meeting - Prepare for day - Find materials	- Morning meeting - Prepare for day - Find materials	- Morning meeting - Prepare for day - Find materials	- Morning meeting - Prepare for day - Find materials
8:30-9:30	Block 1	Block 1	Block 1	Block 1	Block 1
9:30-9:50	Break/Snack/Outdoor or Team-Building Activity				
10:00-11:00	Block 2	Block 2	Block 2	Block 2	Block 2
11:00-12:00	Block 3	Block 3	Block 3	Block 3	Block 3
12:00-12:50	Lunch and Outdoor/Free Play Time				
1:00-2:00	Block 4	Block 4	Block 4	Block 4	Block 4
2:00-3:00	Block 5	Block 5	Block 5	Block 5	Block 5
3:00-3:20	Break/Snack/Outdoor or Team-Building Activity				
3:30-4:30	Block 5	Block 5	Block 5	Block 5	Block 5
4:30-4:50	Clean Up	Clean Up	Clean Up	Clean Up	Clean Up

Sample Team-Building Activities

The activities in this section have been included as a starting point to help campers to get up and moving and get to know each other a little better. They are a great way to start the day, or they can be worked into the schedule throughout the day when it seems that campers need a change of pace.

- "**Two truths and a Lie**" – Ask campers to think of three interesting facts about themselves to tell the group. Two of the facts should be true (but possibly surprising) and one of the facts should be false (but seem possible). Have the campers tell the group their facts and have the group guess which facts are true or false. This can be done verbally, or by writing the facts on small scraps of paper for a partner or leader to read if campers are shy.

- "**Connected Campers**" – Use a ball of yarn or string. Have campers stand in a circle and have one camper hold one end of the string. Have campers toss the ball of yarn or string to other campers at random, saying their names, (facts they've learned about their fellow campers) out loud to let that person know they should catch the string. Each camper should hold the string as they catch it and cannot let go. When the last camper has caught the string, give the campers the challenge of untangling themselves by climbing over or moving under the lengths of string that connect them.

- "**I am a robot.**" – Ask campers to work in partners for this activity. Have one student act as a robot and the other two campers act as "drivers." Provide the campers with a basic task, such as picking up a pencil or taking a picture on a smart device. The robot can only do exactly as their partners dictate (literally). The operator must give precise, step-by-step instructions. (e.g., Lift your left arm 45 degrees. Take one, 24-inch step forward. Open your hand, then rotate your wrist 180 degrees so your palm is facing down.). This is also a great "pseudo code" activity to help campers understand the level of detailed thinking required to program effectively.

- "**I say, you build.**" – Have campers work in pairs and have them sit back-to-back in a position where one camper can see an image or example of a simple model (created by the camp leader, or use the sample basket or tower model examples provided in the camp Learning Activities). One camper should have a copy of the kit documentation, VEX IQ Super Kits Contents and Build Tips poster and one camper should have access to a VEX IQ Super Kit. As one camper describes the components and process to build the simple model, the other camper follows and uses the kit to build. They can ask "yes" or "no" questions for clarification, but cannot show their partner what they are building. When the activity is done, campers can look at the example model to see how closely they were able to replicate it as a team. This is a great way to get to know the components in the VEX IQ Super Kit using accurate terminology.

- When campers have started to work in pairs for different challenges, it is a good idea to give them time to come up with a team name, motto, and if time allows, an original "high-five" or handshake combination and cheer. As campers move into different pairs for different challenges or work together on multi-team challenges, "high-fives", handshakes, and cheers can be combined and expanded, incorporating elements from each team involved.

Tips and Tricks for Camp Management and Organization

Set up

- Allot one kit per two campers. Assign campers to their kit and let them know they are responsible for their kits and all its components throughout the camp.

- Try to limit camp sections to 24 students maximum per instructor, with 12 VEX IQ Super Kits.

- It is a good idea to have 1 or 2 extra VEX IQ Super Kits on hand for additional challenges, to replenish parts, or in case a camper is very keen to work on their own.

- Make sure kits are complete and all components are functional before the start of each camp.

- Make sure batteries are charged and ready before the start of each day.

- Provide a large, flat open work surface for campers (e.g., a 6-foot work desk or a group of smaller desks pushed together).

- Have extra pens, pencils, tape measures, etc. on hand.

- For the first day or two, it is a good idea to provide campers with name tags so they can get to know each other.

Rules and Routines:

- Keep it simple (e.g., Be safe. Be respectful. If you make a mess, clean it up. Stay in the areas of location that have been designated for the camp.)

- Hold a morning meeting every day to set expectations and let campers know what they'll be doing that day.

- Factor in 10-15 minutes of transition time between activities and breaks.

- Factor in 20-30 minutes of clean up time every day.

Organization during Hands-On Activities

- VEX IQ is primarily designed for participants ages 8-14. Campers in this age range can be quite diverse in maturity and ability, so it is a good idea to consider how you would like to group them together into camp sections or pairs within a section.

- Begin every activity with a quick reminder of the task and any specific expectations.

- Circulate often and remind campers that they are responsible for their own kits.

- Reinforce that an organized kit and workstation makes it much easier to find the components you need when you need them.

- Keep a container or bucket by the door for spare components that end up on the floor at the end of the day. These can be accessed throughout the day as needed, or distributed to make sure kits are complete at the end of camp.

- Give campers notice when an activity block has 30, 15, and 5 minutes left to help them keep their eye on the clock.

Keep Parents and Guardians Informed

- Make sure camp documentation includes clear instructions for parent or guardian parking, pick up, and drop off.

- Encourage campers to take photos of their work (challenges and successes!) and share them with their parents.

- Be aware of privacy concerns when it comes to photos or videos being taken of minors. Obtain parent consent before distributing or posting any images of campers or focus documentation on the robots and programs they create.