# iCOMPUTE Level 3
# Parent FAQs

### *What is iCOMPUTE?*

iCOMPUTE is program aimed at Ismaili youth. It aims to bolster participation in STEM, specifically Computer Science and Software Engineering, by providing youth with exposure to the field and opportunities and support to build pertinent skills and develop a growth mindset.

iCOMPUTE consists of three levels. In Level 1, participants work with Scratch to learn basic computational concepts. In Level 2, participants apply computational concepts to build an app using Appinventor. In Level 3, participants are introduced to the basic principles of descriptive and inferential statistics using R.

### *Why R?*

R is powerful tool and leading language in statistics and data analysis. RStudio provides a convenient and easy to use interface, allowing students to quickly and easily see graphs and tables. Additionally, students are able to see the values of variables, which makes debugging and developing code much easier. RStudio also saves its current state upon quitting, allowing students to pick up right where they left off, even if they quit the program between classes.

### *Is iCOMPUTE Level 3 right for my child?*

In iCOMPUTE Level 3, participants will apply computational and statistical concepts to model a real-world problem.

iCOMPUTE Level 3 is designed for youth between the ages of 14 and 16. For individuals falling in this age bracket, no prior experience is necessary. Students will be learning advanced statistics and should thus be proficient in math.

To benefit fully from the program, your child should have access to a computer and be prepared to spend time outside of the classroom completing their model.

### *What will my child learn in iCOMPUTE LEVEL 3?*

The curriculum is divided into five modules. The modules are designed to provide participants with necessary knowledge and skills to build and make inferences from a statistical model.

In each module, participants will be introduced to one or more statistical or computational concepts through a brief demonstration and a skill building exercise. Participants will apply these concepts to their model of a real-world problem. Concepts include: data scrubbing, linear

regression, animated graphing, interpreting data, and effectively communicating results and conclusions.

### *What is the schedule for iCOMPUTE Level 3?*

iCOMPUTE Level 3 is taught over eight (8) weekly sessions of 3 hours each. Weeks 1 to 5 will be spent teaching Modules 1 – 5 (see below), three weeks will be working sessions allowing time for participants to complete their models, graphs, and presentation.

Module One:
1. Computational Concept: Introduction to R and Loading Data, Data Scrubbing

Module Two:

1. Computational Concept: Plotting Linear Data and Lines of Best Fit
2. Statistical Concept: Linear Regression

Module Three:

1. Computational Concept: Graphing in R
2. Statistical Concept: Choosing Appropriate Graphs

Module Four:

1. Computational Concept: Modifying Graphs
2. Statistical Concept: Interpreting Data, Causation vs. Correlation

Module Five:

1. Computational Concept: Animated Graphs
2. Statistical Concept: Presenting Data

### *My child can only attend some weeks - can I still enroll them in iCOMPUTE Level 3?*

iCOMPUTE Level 3 runs on a tight schedule; each session introduces new concepts that build on concepts from previous sessions. If your child misses a week, this will hinder their learning and will also create a challenge for facilitators. Please ensure that your child can attend all sessions prior to registering him/her.

*What technology does my child need to attend iCOMPUTE Level 3?*

Your child should have access to a computer and the internet as they will need to spend time outside of class working on their project. Students will also need to download R and RStudio. Assistance downloading and installing these tools will be provided in the first class.

We would like to ensure that all children are able to access the program, so if you have difficulty getting access to a computer or laptop, please contact your local AKEB Excellence in Education Member.

*I have a question, who can I contact?*

The National Convener for iCOMPUTE, Alysha Rahim at alysha.rahim@iicanada.net.

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