**Thank you for your interest in booking workshops with Geering Up UBC Engineering & Science for Kids! Our Workshop topics are listed below. For more details on the Workshop topics, please visit http://www.geeringup.apsc.ubc.ca/workshops/.**

**Workshop Overview**

Workshops will run from May 6th to June 11th, Monday to Friday. Areas visited by our workshop teams include Vancouver, Burnaby, Coquitlam, North Vancouver, West Vancouver, Richmond, Delta, Tsawwassen and Surrey, however other accommodations can be arranged.

There is 1 team of instructors available each day, and each workshop team consists of 2 Geering Up instructors. Each workshop lasts between 1h to 1h30. There are 3 workshops available for registration per day per team of instructors. A standard 3 workshop day for a team of instructors would begin with workshop 1 from 9:00 AM to 10:15 AM, workshop 2 from 10:30 AM to 12:00 PM, and workshop 3 from 1:00 PM on. This schedule can be accommodated to fit your school's’ bell schedule.

We bring our own teaching/demo materials, and the enthusiasm and expertise to teach a hands-on STEM workshop! Travel fees apply to schools outside of Vancouver, and help us travel further and reach more schools - please refer to our website or inquire directly at workshops@geeringup.ca for more information.

We only require that during the duration of the workshop, teachers remain in the classroom. A typical workshop classroom will vary from 20 to 30 students.

**Pricing for High School Workshops**

Single Workshop: $160

3 Workshop Bundle: $140 each (Total of $420 for all 3)

6 Workshop Bundle: $120 each (Total of $720 for all 6)

**Pricing for Computer Science Workshops**

Single Workshop: $180

3 Workshop Bundle: $150 each (Total of $450 for all 3)

6 Workshop Bundle: $130 each (Total of $780 for all 6)

We offer financial support to schools that qualify as inner city or partially inner city schools. More information can be given upon request.

**Travel Fees:** apply to all schools outside of Vancouver. This helps offset the cost of vehicle rental and extra staff hours.

*+$15 travel fee per day for schools in Richmond, Burnaby, New Westminster, North Vancouver, West Vancouver*

*+$30 travel fee per day for schools in Delta, Surrey, Coquitlam, Langley, Port Moody*

**Registration is on a first come first serve basis, so contact us as soon as possible to ensure preferred scheduling for your school.**

The list of available Workshop topics can be found below. Workshops have been modified and new ones have been added to be more appropriate to each grade and to be aligned with BC curriculum learning outcomes.

**High School Workshops**

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| --- | --- | --- |
| **Grade Level** | **Workshop Topics** | **Workshop Description** |
| 8  | Wonderful Waves | Students will explore different properties of waves and how they relate to light. Through a combination of demos and and hands-on activities, they will learn about types of waves, the differences between mechanical and electromagnetic waves, refraction, and interference. |
| 8 | Quake Shake | Are you ready for the Big One? A topic very relevant to us in the Lower Mainland, studentswill be shaken by the mechanisms behind earthquakes, what happens in their aftermath, andhow engineers try to prepare for them. |
| 8/9 | Classroom Pandemic  | Students will play the role of a disease and race to infect the world! The game will explore therole of human actions, public health, and genetic mutations in speeding up or slowing downthe rate of spreading infectious diseases. |
| 8/9 | Demonstrating Density  | Students will explore the concept of density and how it applies to our everyday lives. Theywill dive into activities that will cover concepts of relative density, relationship of mass andvolumes, and apply these concepts in the making of a Galileo Thermometer.  |
| 9 | Electrifying Design  | Harness the power of electrons with circuitry! Students will learn the basic principles ofelectrical design and about the difference between series and parallel circuits. Activities willinclude drawing circuit schematics and building physical breadboard circuits.  |
| 10 | Dynamics and Design | Forces and the energy behind them are a major consideration in mechanical engineeringprojects. Key concepts of mechanics will be conveyed through demos, and students will thenhave to apply these principles to design a self-propelling vehicle. |
| 10 | Rocket Reactions | What actually happens during a chemical reaction?! Students will learn about how atomsbehave during reactions, will be presented with a variety of reaction types and will apply theirknowledge to build micro rockets! |
| 10 | Delightful DNA | Students will play the role of a genetic counsellor, reviewing and applying what they have learned about inheritance, dominance, and pedigrees. |

**Computer Science Workshops**

For computer science workshops, we will be providing laptops for the students to use for the workshop. Please indicate below if wireless internet and wall sockets are available on location.

**Note:** Our computer science workshops provide students with an introduction to computer science. If you teach a computer science course, we recommend booking "Stimulating Computations", which can be modified appropriately for your class. If this is the case, please indicate so on the Registration Details section below, under “Special Considerations”.

|  |  |  |
| --- | --- | --- |
| **Grade Level** | **Workshop Topics** | **Workshop Description** |
| 8/9/10 | Professor Python  | Dip your toes into the exciting world of programming! Learn the basics of computerprogramming, syntax, and logic. Students will be guided to create their very own computerprogram, and delve into how more complex games are created |
| 10/11/12 | Stimulating Computations | Step into the life of a computational scientist and explore all of the possible outcomes ofeveryday phenomena! Learn how scientist use computers to solve real problems in STEM |
| 10/11/12 | Magnificent Micro-controllers | Students will learn how microcontrollers are used in robotic applications as the "brain" of the robot, collecting sensory inputs and turning them into actions. Students will create circuits to connect an arduino to sensors and actuators, and write a program that controls the system. |

**Please tick the boxes relevant below if you are booking a computer science workshop:**

* I will have wireless internet available on location
* I will have wall sockets available to charge laptops

**Please fill out all relevant information below, and return this document along with any extra information to** **workshops@geeringup.ca****! Missing information will lengthen the registration process.**

**School Information**

|  |  |
| --- | --- |
| **School Name** |  |
| **School Address** |  |
| **Primary Contact** |  |
| **Primary Contact E-mail** |  |
| **Primary Contact Phone** |  |
| **Special Considerations**  |  |
| **How did you hear about us?** |  |

**Final step!** Please let us know your preferred day/time for each workshop you are registering for.

**Workshop Registration Details**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Preferred Workshop Date** | **Preferred Time****(eg 10-11:30 am)**  | **Teacher Name** | **Class Grade** | **Workshop Topic** | **Class Size** | **Special Considerations** |
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