2015 External Enrichment Programs for Grades K-5 and Middle School

<table>
<thead>
<tr>
<th>After-School</th>
<th>Weekends</th>
<th>Summer Camps</th>
<th>School-Closing Days</th>
</tr>
</thead>
</table>

About Curious-on-Hudson:
Curious-on-Hudson offers engaging, inquiry-based classes led by professionals in science, technology, engineering and the applied arts. Our offerings include STE(A)M-based enrichment as classes and summer camps. From our loft space on the banks of the Hudson River in Dobbs Ferry, NY we are able to utilize our unique situation to develop engaging programming that explores the natural and built environment in a creative, hands-on exploratory way. We offer programs at our location and at off-site locations based upon the needs of the communities we serve. The key distinguishing factor of our organization is the belief that all children, regardless of background and means, possess a natural enthusiasm to explore and that by pairing highly passionate instructors with interesting and engaging curriculum, we can uncover the authentic interests of each participant in our programs. *We serve the inherent curiosity in all children.*

Enrichment Themes:

*Programs focused on:*

- Science
- Technology
- Engineering
- Applied arts (architecture & design)

Our programs offer the opportunity to explore these subject areas through fun, creative instruction utilizing hands-on experimentation and where possible, sensory, tactile activities. Programs objectives vary but the underlying goal is to create enthusiasm for the subject matter and then follow through with individual and team-based projects that reinforce each student’s participation and success.
**Instructors:**
Our instructors offer their professional expertise to children through curriculum in which they have had a direct hand in developing and adapting to the needs of the group. They are professionals from various fields including teachers, engineers, scientists, computer programmers and other fields. All our instructors share the passion for curiosity that is the hallmark of our programs.

**External Program Offerings:**
SEE CLASS DESCRIPTIONS ON PAGE 4

<table>
<thead>
<tr>
<th>Program</th>
<th>Age Range</th>
<th>Frequency &amp; Size of Class</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>You Go (Far), Girl™ Engineering Workshop for Girls</td>
<td>Adapted for girls in K-5, Middle School or High School</td>
<td>One Session, 3.5 hours</td>
<td>Maximum 16</td>
</tr>
<tr>
<td>Aquanauts™*</td>
<td>Adapted for: Grades K-2 or Grades 3-5</td>
<td>Multiple sessions (6,8)</td>
<td>90 minutes each Maximum 12</td>
</tr>
<tr>
<td>The Curator’s Workshop™*</td>
<td>Adapted for: Grades K-2 or Grades 3-5</td>
<td>Multiple sessions (6,8)</td>
<td>90 minutes each Maximum 12</td>
</tr>
<tr>
<td>The Curiologists™*</td>
<td>Adapted for: PreK or Grades K-2</td>
<td>Multiple sessions (6,8)</td>
<td>90 minutes each Maximum 12</td>
</tr>
<tr>
<td>The Curious Engineer’s Lab™*</td>
<td>Adapted for: Grades K-2 or Grades 3-4 or Grades 5+</td>
<td>Multiple sessions (6,8)</td>
<td>90 minutes each Maximum 12</td>
</tr>
<tr>
<td>Toy-Maker's Workshop*</td>
<td>K-2</td>
<td>Multiple sessions (6,8)</td>
<td>90 minutes each Maximum 12</td>
</tr>
<tr>
<td>Da Vinci STEAM Workshop*</td>
<td>Adapted for: Grades 3-5 or Middle School</td>
<td>Multiple sessions (6,8)</td>
<td>90 minutes each Maximum 12</td>
</tr>
<tr>
<td>Coder’s Workshop I</td>
<td>Grades 5-8</td>
<td>Multiple Sessions (8,10)</td>
<td>(I), (C)</td>
</tr>
<tr>
<td>Coder’s Workshop II</td>
<td>Grades 5-8</td>
<td>Multiple Sessions (8,10)</td>
<td>(I), (C)</td>
</tr>
<tr>
<td>SCRATCH Programming Lab*</td>
<td>Grades 3-5</td>
<td>Multiple Sessions (6,8)</td>
<td>90 minutes each Maximum 10</td>
</tr>
</tbody>
</table>

*These programs are also offered as one-week summer mini-camps

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**CODES**

<table>
<thead>
<tr>
<th>(I)</th>
<th>Classes with this symbol require internet access</th>
</tr>
</thead>
<tbody>
<tr>
<td>(C)</td>
<td>Classes with this symbol require computers</td>
</tr>
<tr>
<td>(M)</td>
<td>Classes with this symbol must be held in a space where water, paint and other medium can be used</td>
</tr>
<tr>
<td>(O)</td>
<td>Classes with this symbol require access to the outdoors</td>
</tr>
<tr>
<td>($)</td>
<td>A material fee of $25/per student will be added to the enrollment fee for this class.</td>
</tr>
</tbody>
</table>
Basic requirements for all classes:

- All classes require use of chairs, tables and electrical outlets
- 500 sq. ft. space is required for a 12-student class
- Additional requirements on a per-class basis as indicated above.

Rates and Scheduling:

- A per student-per class fee structure is applied.
  - Basic rates:
    - $150/student per class for 6-week program.
    - $190/student per class for 8-week program.
    - $250/student per class for 10-week program
    - $30/student per single workshop
    - Additional material fees apply to some classes. See above.

- Minimum 8 students per class
- Maximum number of students varies by class as indicated above.
- Flexible class scheduling as required by individual organizations.

Operating Agreement:

A service agreement is required between Curious-on-Hudson and the school or community partner hosting our programs. Its basic tenants are as follows:

- Curious-on-Hudson is responsible for providing all instructors and aides for classes, who are employed by Curious-on-Hudson as independent contractors.
- Instructors have undergone background checks.
- In the event of school closings, Curious-on-Hudson classes are also canceled. Make up dates are made available for missed classes.
- In the event of cancellation due to instructor illness or other unforeseen situation, make-up classes are made available based on scheduling availability of the host partner. If availability for a make-up class cannot be found, a refund is made for the individual class.
Class Descriptions:

You Go (Far), Girl! Engineering Workshop for Girls
This workshop is a single session class designed to offer both an informational component on engineering as a career as well as a small group activity geared towards and solving an engineering problem. The informational component discusses the work of an engineer and presents case studies of various women engineers, their work and lifestyles. The program includes short videos of engineering students from various universities involved in projects around the globe in a variety of engineering disciplines. The goal of the informational component is to show the myriad ways in which women have contributed to the field of engineering as well as how enriching a career can be on a personal level. The program seeks to overcome stereotypes of a career in engineering both by showcasing current female engineers and the work they do. After the presentation and Q&A, the girls break into small teams where a project is assigned. Depending on age group, the project will involve a challenge that must be completed in a given window of time. Younger girls will build spaghetti towers that must withstand a weight-bearing test. Older girls are given time to design a spaghetti bridge that must span a given distance and also withstand a weight-bearing test.

Aquanauts™*
The Curious-on-Hudson Aquanauts are marine explorers who seek to understand the Hudson River estuary, its ecosystems, geologic features and aquatic life forms. Aquanauts study the geology of the region; the Hudson River, the Palisades and the ancient formations that created the physical characteristics of this area. The class includes the concepts of marine biology; a study of aquatic animals in the Hudson River and how they interact with each other as well as with animal life on shore. The class examines the various plant forms in the immediate area of the river bank and learns how native vs. non-native plants come to exist there and the impact they have on the river valley itself. The class seeks to gain a basic level of understanding of the ecology of our area. What’s working and what’s not working for people, plants and animals of the Hudson River Valley.
The Curator’s Workshop™:
The curator’s class combines creative activities with an underlying theme of natural science investigation. The Curator’s Workshop can be customized to a particular group or area; the most common being the flora and fauna of the local area. Students begin by learning about the species that occupy their environment and then collaborate to shape a display of those species through drawing, sculpting, paper mache, and other media. Observation and recording the environment through note-taking and drawing (where outdoor access is possible, the class will routinely go on “observation” field trips) are routine parts of this class. Where outdoor access is not possible, the class will use digital media, books and other presentation materials to learn about their environment and then re-create that environment in a representative format. The class ends with an open invitation for family and friends to view the final exhibit and a web page is created for the exhibit that allows participants to share their work with others.

*Grades K-2 or 3-5*
6 or 8 week sessions

The Curiologists!™
This program is designed to create an early enthusiasm for science through a series of investigations into elements that make up the world around us. Each unit focuses on a different area of scientific research and kids are assigned the role of geologist, biologist, botanist, etc., as they make inquiries into the nature of “things” around them. The program takes a very hands-on approach using rocks, soil, plants and plant matter, food, shells, and other natural materials to form the basis of “what’s inside?” or “how is it made?” In the 8-week sequence, the class includes 2 units on chemical reactions. The K-2 version of this program involves a journal of recorded activities.

*Pre-K or K-2*
6 or 8 week sessions

The Curious Engineer’s Lab™
Each session in the Curious Engineer’s lab involves solving a problem utilizing different STEM-based solution designs. Projects are solved using a collaborative, hands-on approach and are designed to encourage teams to work together to address major “real world” needs and issues such as how to clean up an oil spill, build a super-dome from ultra-light materials, use solar energy to create a heat source, learn the physics of flight and more. These programs utilize a curriculum designed to enhance classroom learning for elementary and middle-school students.

*Grades 3-5 or Middle School*
6 or 8 week sessions

Curious-on-Hudson
145 Palisade Street  • Dobbs Ferry, NY 10522  • Telephone 914-274-8205
http://curiousonhudson.com/
The Toy-Maker’s Workshop – The Science of Toys

Learning basic principles of energy is a lot of fun when the product of your learning are toys, gizmos and contraptions that students can build (and take home). Using raw and pre-formed materials, participants work on a variety of traditional toys that exemplify principles of force, motion, gravity and more. The toys may include catapults, pea shooters, mazes, and imaginative toys that you have never seen before.

Grades K-2
6 or 8 week sessions

Da Vinci STEAM Workshop

As Da Vinci did, students in the Da Vinci STEAM workshop start by making their own sketch books, which will be the journal for their original ideas and notes. Then they will collaboratively produce models based on existing objects in the real world as well as designs of their own choosing. Architecture is intrinsic to every part of life. As a learning tool, it intersects with a myriad of other disciplines: art, math, physics, history, philosophy, biology, technology, and a wide range of crafts. In order to build even the simplest structure, an understanding of these disciplines is necessary. In this class, students have studied the physics of a suspension bridge and produced a beautiful working model, a geodesic dome, and masks made from geometric shape reflecting the themes of the period in which Da Vinci lived and worked. Each class involves hands-on projects and experiments, incorporating theoretical material that is then put into action through creative group work.

Grades 3-5 or Middle School
6 or 8 week sessions

“I have no talents. I am only passionately curious.”

~Albert Einstein

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**The Coder’s Workshop I**
An introductory class on computer programming that exposes students to a range of software tools that will enable them to first create their own website then learn how to add functional features to the site. Tools include HTML, CSS, Javascript and Flash. By the end of the six week session, students will have completed their own website and have it loaded on a server to share with others and to continue working on in their own time. This class is designed for students with no prior coding experience.

**The Coder’s Workshop II**
This is a continuation of the Coder’s Workshop I and takes students further along the path to developing applications using Python and Java programming tools. The 6-week session offers three sessions on each tool providing a fundamental understanding of the programming environment used for each platform.

*Grades 5-8*
*6 or 8 week sessions*

**SCRATCH Programming Lab**
The M.I.T. SCRATCH programming language is a perfect way to introduce the concepts of programming to young learners. By learning how to combine and modify scripts in a graphical interface, students build their own animations and games and then share those on the SCRATCH website for others to enjoy. The SCRATCH programming lab gives students a chance to see how a combination of creative thinking combined with the application of sequencing and logic can make for some very unique results.

*Grades 3-5*
*6 or 8 week sessions*

*“When you are curious, you always find something to do.”*
*~Walt Disney*