Part lab, part collections vault, part DIY garage, part hangout, and all fun.  
Q?rius – Unlock your world.
qrius.si.edu
Welcome to Q?rius

Introducing Q?rius

Q?rius offers a new way to connect science with everyday experience. It is a first-of-its-kind interactive and experimental environment – part lab, part collections vault, part DIY garage, part hangout, and all fun.

The Q?rius Learning Lab

Q?rius is an exhibit-sized interactive space filled with resources that are available only to your students at the world’s largest natural history museum. The lab includes:

• A collection of 6,000 objects – fossils, bones, insects, cultural artifacts, pressed plants, and more – all accessible for investigations, carefully selected to support learning goals connected to curriculum for your specific class experience
• A suite of digital tools, including videos, virtual objects, and references, that maximize hands-on learning from objects and link objects to core science ideas and the people who study them
• Scientific tools integrated with all school experiences

Create a New Kind of Field Trip

Book a field trip to Q?rius and help students experience firsthand how real-world investigations based on science pursued by Smithsonian scientists can spark new ideas, generate curiosity, deepen understanding of content, and help master scientific practices. [http://www.mnh.si.edu/calEvents/programs-for-school-groups.htm](http://www.mnh.si.edu/calEvents/programs-for-school-groups.htm)

The Q?rius Approach

Q?rius is different from most other places in the museum. Students enter into the role of scientist and engage in solving real-world problems.

All classes and self-guided experiences:

• Feature the work and amazing discoveries of Smithsonian scientists
• Use inquiry-based, team-oriented approaches to key questions similar to those addressed by Smithsonian scientists
• Integrate objects, data, scientific equipment, and digital assets to investigate core ideas
Q?rius offers 60-minute pre-registered classes led by experienced Museum Educators for up to 35 students at a time. Using objects, data, scientific equipment, and digital media, students complete a series of activities based on Smithsonian research. In the process, they investigate core ideas in nature and culture related to classroom curriculum. They gain critical skills in the practices of science by observing, documenting results, and justifying their conclusions with evidence.

**DIG DEEP: GRADES 6-12** During this staff-led program, students collaborate with classmates to identify the most efficient way to find and dig for iron ore by learning to read the stories of rocks and uses modeling techniques employed by Smithsonian scientists. Students will hone their skills by identifying geologic features in rocks, reading geologic maps, piecing together drill cores, and analyzing tectonic forces and their effects on layers of rocks. As a class they will compete in groups to find the extent of the natural resource most efficiently.

**FORENSIC MYSTERIES- MYSTERY AT YORKTOWN CREEK: GRADES 6-12** Erosion along a creek bed produces a startling discovery – a human skeleton! Before the clues are washed away forever, students will get the chance to examine the evidence collected by the archaeologist during this staff-led program. Using the forensic tools and techniques of Smithsonian scientists, they will study the human bones and artifacts found with the skeleton to determine who this person was, when they lived, and what their life might have been like. Uncover the mystery of a person whose burial could turn out to be over 200 years old!

**FORENSIC MYSTERIES- “GRIZZLY” DISCOVERY: GRADES 6-12** A group of hikers stumbled across what looks like human remains. Have they found a crime scene or could there be another explanation? During this staff-led program, students will examine real human bones, objects and artifacts using the forensic tools and techniques of Smithsonian scientists to determine age, sex, time since death, and maybe even cause of death.

**BIRD STRIKE WHODUNIT: GRADES 6-12** Students follow in the footsteps of a Smithsonian scientist to solve the mystery of which kinds of birds brought down a 747 jet airplane. During this staff-led program, students examine the bird fragments and feathers collected from the affected aircraft and simulate processing DNA from these samples. Students will understand how bird strike data is used by aircraft engineers to design better engines, how airport managers use the data to alter airfield habitats to discourage bird use, and how pilots use data to avoid flying where birds congregate.

**REEFS UNLEASHED: GRADES 6-12** During this staff-led program, students explore how Smithsonian scientists measure the biodiversity of coral reefs using nondestructive methods. Students will be faced with the real challenges of a NMNH ocean scientist to measure biodiversity in coral reefs beyond what can be seen with the naked eye. They will model the same scientific processes used by our scientists by exploring images of plates with the actual organisms that live in the ARMS, studying DNA barcodes, and analyzing percent coverage on plates. Through a guided discussion, students will connect the need to understand the biodiversity of our largest ecosystem and the human connections to the health of the ocean.
**Q?RIUS COLLECTIONS CHALLENGE: GRADE 6-12** The Q?rius Collection Zone includes 6,000 natural history objects, all accessible for student exploration in this staff-led program. Working in teams, students will receive a Collections Challenge Card, which describes a theme and assigns them to work in one of the Museum’s departments: Anthropology, Botany, Entomology, Invertebrate Zoology, Paleobiology, Mineral Sciences, or Vertebrate Zoology. Like curators and collections managers at the Museum, students will follow particular protocols for handling special and sometimes delicate objects and agree upon a strategy to find objects to start a collection of their own.

**DIY School Group Visit**

School groups are invited to “drop in” to Q?rius during public hours Monday through Friday from 2:00 - 5:00 p.m. Small groups can explore Q?rius with their chaperones, assisted by enthusiastic and engaging volunteers. Space may be limited.

Teachers and chaperones may pick up or download a map and guide to Q?rius to assist students in identifying science topics they want to explore.

**Digital Field Books and Natural History Badge**

**WHAT IS A DIGITAL FIELD BOOK?**
Just as scientists record their observations, students can record their experiences with Q?rius activities and collections. They can gather digital collections objects, videos, and images; and make and save their own notes. Once they go home, students can also access and organize the digital objects they found at the museum.

**WHAT IS A NATURAL HISTORY BADGE?**
Natural History badges acknowledge students’ deep engagement with the science practiced at the National Museum of Natural History. They can earn a Hidden Worlds Natural History badge by completing activities and earning stars. With 55 stars, they earn a badge. If they don’t earn enough stars onsite, they can earn stars by completing activities online at qrius.si.edu. Natural History badges can only be earned during public hour visits or online.

The Hidden Worlds theme refers to the many ways natural history science helps make the invisible visible; this can mean bringing the microscopic into view; finding patterns and connections that are usually hidden in our day to day lives; displaying large amounts of data; or documenting rare or hard to reach aspects of the natural world and humans’ interactions with it.

**HOW TO REGISTER?**

**FOR GROUPS PARTICIPATING IN A Q?RIUS EXPEDITION FACILITATED PROGRAM:**
Teachers may register groups of students using a single e-mail address and with a user id alias not related to student names. Multiple accounts may be created with the same email address but can only be used for field books, not badges.

**FOR INDIVIDUAL STUDENTS VISITING Q?RIUS DURING PUBLIC HOURS:**
Students with adult permission or aged 13 or older can create their own personal user ids and passwords to earn badges and store images, video and objects to their personal Digital Field Books. (School and personal identities cannot be combined.)
Continuing the Curiosity

The Q?rius website at qrius.si.edu offers a variety of different follow-up opportunities for your students. Students can conduct an investigation with an online activity, jump into science stories, create a digital field book, complete a natural history badge challenge, or explore science in action.

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<tr>
<th>PARTICIPATE IN LIVE WEBCASTS</th>
<th>Smithsonian Science How delivers real-world science into classrooms through free, interactive, live webcasts and supporting classroom resources. The 25-minute programs feature the research and personalities of the Smithsonian’s National Museum of Natural History, providing your students with positive STEM role models, information about science careers and pathways, and connections to current research. Every webcast includes a package of standards-aligned lessons, activities, and other resources that highlight science content and practice.</th>
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<td>DO AN ACTIVITY</td>
<td>Are your students predisposed to the super science skill of pattern recognition? In the “Decoding Mars” activity, students can look for geologic features that indicate evidence of water on Mars. Other online activities invite students to measure coral reef diversity in Bali or examine human bones.</td>
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<td>JUMP INTO SCIENCE STORIES</td>
<td>Delve into the same topics being explored by Smithsonian scientists, such as volcanoes, genomics, extinction, and human evolution. Read about the cutting-edge work and adventures of Smithsonian scientists, watch videos of them in action, hear them talk about what inspires their curiosity, and manipulate digital objects similar to the ones they use.</td>
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<td>CREATE A DIGITAL FIELDBOOK</td>
<td>Just like a scientist records their observations, students ages 13 and over may record the results from their experiences with Q?rius activities and collections online. Create an account to save objects, stories, images, and notes to a Digital Field Book.</td>
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<td>EARN A NATURAL HISTORY BADGE</td>
<td>Field Book accounts also enable students over age 13 to earn stars for their activities online that they can share through their own social media networks. Complete multiple activities online or while exploring Q?rius on subsequent visits, get enough stars, and earn a digital badge that you can share through social media.</td>
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<td>EXPLORE SCIENCE IN ACTION</td>
<td>Watch videos of real-life scientists explaining their work, how they got started in their careers, and how they balance and integrate their work, passions, and everyday lives.</td>
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<td>KEEP EXPLORING SCIENCE</td>
<td>Even more Web-based science learning activities can be accessed through the Museum’s main webpages, including a forensic mystery webcomic and interactive maps. Activities cover topics such as the Earth and solar system, human culture and diversity, and life’s diversity.</td>
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Teacher Planning
Prior to your field trip, feel free to explore Q?rius on your own. Join us at Smithsonian Teachers Night or walk in any day of the week during public hours for a pre-visit opportunity.

Hours:  2:00 - 5:00 p.m. daily, Monday - Friday; 10:00 am - 5:00 pm, Saturday and Sunday

The Q?rius website includes a section just for Teachers. Get ready for your field trip by mastering the logistics of a Museum visit and preparing your students for what they will see and do. Think of the National Museum of Natural History as one of the largest science classrooms in the world, and take advantage of all that it has to offer to inspire and engage your students!

Other Learning Spaces
Throughout the Museum, different learning spaces are open to the public during certain hours and reserved at other times for school groups that have registered for immersive programs led by museum educators. Your group is welcome to conduct its own DIY visit during public hours.

Q?RIUS JR. – A DISCOVERY ROOM
A learning space for grades K – 8 that focuses on exhibition themes, including comparison and contrast of objects, close examination of specimens such as fossils, skulls, and shells, and use of evidence to draw conclusions

O. ORKIN INSECT ZOO
A special exhibit hall on the second floor of the Museum where visitors can get to know live insects and their many-legged relatives. Tarantula feedings and an insect touch cart are offered daily.

BUTTERFLY PAVILION
Experience live butterflies at Partners in Evolution exhibit. (Note: fee-based.)

JOHNSON IMAX THEATER
IMAX On Demand films are shown at 9:30 a.m. for school groups and at other times throughout the day.

Questions?
For questions about Q?rius and other education programs at the National Museum of Natural History, please feel free to contact us at (202) 633-4039 or NMNHSchoolPrograms@si.edu.