



**School Adventure Program
Junior Curator
Pre-visit and Post-visit Activities**

Dear Teacher,

We are excited about your upcoming visit to the Brooklyn Children's Museum, the world's first museum for children! We are looking forward to working with you and your students during your visit. The enclosed pre/post-visit materials are provided to help you prepare your students for participating in and getting the most out of the workshop. It includes learning concepts, vocabulary, discussion questions and activities that you can use before your introduction to the **Junior Curator** program. In addition, we have included post-visit activities that will help you to reinforce and extend the learning back in the classroom.

If you have any questions about your visit or these materials, please contact Group Reservations at (718) 735-4400, extension 118. We look forward to working with you.

Junior Curator

How can I describe the object in front of me? Is it hard or soft? Light or dark? Smooth or rough? Students will use scientific tools to explore the properties of objects and then classify them. Students will then explore minerals from the museum's collection and use their scientific observation to create a mini-museum exhibit.

Meets NYC Scope and Sequence Standards

- *Pre-kindergarten*, Math standards: classifies objects and events and provides rationale for their classification and sorts, classifies, orders and regroups objects by size, number and other properties as well as recognize and analyze quantitative and qualitative properties.
- *Kindergarten*, Science Unit 2 Exploring Properties: Observe and describe physical properties of objects using all of the appropriate senses and sort or group objects according to their properties. PS 3.1b,c; PS 3.1f
- *Grade 1*, Science Unit 2 Properties of Matter: Use tools such as hand lenses, rulers, thermometers, and balances to observe and measure the properties of materials. PS 3.1e

During the program your students will:

1. Weigh, examine with magnifying glasses, and feel rocks and minerals to identify their properties
2. Classify (sort) the rocks and minerals based on visible properties
3. Describe a rock using visible properties and have another student match the description to the correct rock
4. Design a mini-museum exhibit by selecting rocks that have something in common

Learning Components

1. Identify properties including opposites
2. Use verbal description of an object to explain its properties
3. Group objects according to similarities and differences

Vocabulary Words

Rock: natural, nonliving solid object made up of one or more minerals

Mineral: natural, nonliving solid object, which is the same all the way through

Property: a property describes the way the object is; this may include color, texture, density, weight, length.

These are all physical properties, in contrast to chemical properties which students will study much later.

Compare: Observing two (or more) things and thinking about how they're the same

Contrast: Observing two (or more) things and thinking about how they're different

Classify: to sort objects into groups based on properties. Sort is a synonym of classify.



Discussion Questions

What is this thing in front of me? How can I describe it? The program focuses on nonliving solids, in this case rocks and minerals. What are their properties? Is it rough or smooth? Soft or hard? Heavy or light? Shiny or dull? Big or small? What color is it? What other words do I know to describe this object? Young students are ready to stretch their vocabulary and use increasingly more precise words to describe any given object. To help students prepare for this program, it will be useful to practice comparing and contrasting objects, noting similarities and differences, identifying opposites, and increasing their vocabulary of descriptive adjectives. Students who have this background knowledge will be able to proceed quickly through identifying properties and have sufficient time to make their own museum exhibit.

Pre-Visit Activities

1. Take a rock walk

This will allow students to practice their observation skills. Take the class on an outdoor field trip to a school yard or park in the area and look for evidence of rocks and minerals. You can give students a defined sampling area and have them collect different rocks they can see. Before returning to the classroom, look for very large rocks that cannot be moved and have the class observe them together. What does it look like? What does it feel like? Back in the classroom, use the collected rock samples to make statements about the rocks. If you have access to magnifying glasses or two pan balances, use these to make more detailed observation. The rocks can be a teaching tool for sorting, opposites (light and dark, hard and soft, rough and smooth) or comparison (this rock is harder than that rock). Students can also try to start guessing whether an object is a mineral (the same all the way through) or a rock (which can be a mix of different minerals).

2. Sorting Buttons

You can do this activity with buttons, toys, paper clips, etc. Do the first round together as a class and then have students practice on their own. Ask students to pick something visible or feel-able to use to sort the buttons. For example, you might pick the color red. Sort all the buttons that are red to one side and all the buttons that are not red to the other side. Then, say (when pointing to the correct pile), "These buttons are red. These buttons are not red." The challenge comes next; ask students for a new way to sort the same buttons. Mix the buttons all back together and try size next. Sort all the large buttons to one side and the small to the other. Say, "These buttons are large. These buttons are small." Once students have seen a demonstration, have them practice with a partner.

Extend the Learning

1. Museum in a Shoebox

Have students extend their work as curators by designing their own museum exhibits. This can be an extension of another topic you are studying in school. If your current science unit is animals, for example, each student can make a shoebox exhibit about a given animal. Have them pick three objects or images that represent the exhibit and then write a label for each. Have them place the objects inside the shoebox (use the lid in front if the objects don't fit) and the shoebox will be the case just like in a museum.

2. What's My Object?

This works as a guessing game with students. Continuing the work in *Sorting Buttons* above and the work done during the workshop, have students pick a common object and hide it behind their backs. Working with a partner, have the student describe the object. The second student listens and guesses. When the second student guesses correctly, they trade roles. After playing this game for a while, make it harder. Start by allowing students to describe the object for as long as necessary. Then, to increase specificity of language, reduce the number of clues allowed. Try with only 10 clues, then only 8, then only 6 and see if students can still guess.

3. What Property Did I Pick?

Have a large number of objects available for students to pick from. Explain that students will pick 3 objects that have something in common (they might all be blue, or all be hard, or all be dark, or all be heavy). They will then present those three objects to a partner who will have to guess how they grouped the objects. A great starting answer would be "they're all smooth!" Then, to challenge the students further, ask them to name the property. E.g. rather than saying smooth or rough, students would say the property used to group them was texture. Rather than saying they're all green, students would say the property used was color.



ADDITIONAL READINGS

For Teachers

Geology: The Active Earth (Ranger Rick's Nature Scope)
National Wildlife Federation
McGraw Hill 1997

Geology Rocks! 50 Hands-On Activities to Explore the Earth
Cindy Blobaum
Williamson 1999

For Students

Rocks and Minerals
Jack Challoner
Anness 2000

The Rock Factory: The Story about the Rock Cycle
Jacqui Bailey
Picture Window Books 2006

Let's Go Rock Collecting
Roma Gans
Collins 1997

Rocks: Hard, Soft, Smooth, and Rough
Natalie M. Rosinsky
Picture Window Books 2004

Volcanic Rocks
Connor Dayton
Powerkids Press 2007

PORTABLE COLLECTION SUITCASES (Rented from BCM)

- **Fossils:** What was the world like millions of years ago? With this case, students play paleontologist and examine a real dinosaur footprint, a piece of petrified wood, a trilobite, and other fossils. The case includes authentic fossils, teacher's guide, books, and a geologic time chart.
- **Rocks and Minerals in Our Lives:** Along with learning about geology by studying 31 rock and mineral samples, students have a chance to compare them with a variety of objects made from those materials. The case includes specimens, teacher's guide, and books.
- **Volcanoes!** Your students will be erupting with excitement! Volcanic rocks, cinders, dust, ash, and other specimens help students learn about geology and understand what happens when a volcano erupts. The case includes specimens, teacher's guide, books, and a DVD.
- **Crystals:** Students are fascinated by the exotic shapes and colors of the 20 crystal specimens in this case. The teacher's guide provides activities for students, such as how to grow crystals in the classroom. The case includes specimens, teacher's guide, and books.

Rental fee: \$100.00 for two weeks. Please contact Group Reservations at (718) 735-4400, extension 118.