

Stones: The Bones of the Garden

Grades: 3-5

Portland Japanese Garden
Lesson Plans for the Classroom





Introductory Information for Teachers

The Sand and Stone Garden (*Karesansui*)

The Japanese garden is a living reflection of the geography, history and traditional culture of Japan. Much of the landscape of Japan, an island nation, consists of mountains and oceans. These ever-present mountains and oceans are reduced to two of the primary and enduring components of the Japanese Garden — rocks and water.

This is distilled to its most basic form in the Sand and Stone Garden, properly called *karesansui* (pronounced “kah-ray-sahn-soo-ee”), which literally means dry mountain water” or “dry landscape.” This refers to the garden’s composition, an abstracted scene of the Japanese landscape, with mountains represented by upright boulders and the sea by an expanse of coarse white sand. Buddhist priests in the 12th-14th centuries created this new type of contemplative garden, inspired by the popular Chinese Sung Dynasty ink-wash landscape paintings and the emphasis on simplicity, frugality and austerity of Zen Buddhism. These gardens embody the aesthetic of *yohaku-no-bi*, one of the guiding principles of the time. It means literally “the beauty of extra white” or the “beauty of blank space” and focuses on the void or what is left out. Prof. Takuma Tono, the designer of the Portland Japanese Garden, said that “True beauty can be discovered only by one who mentally completes the incomplete.”

For believers in Shinto, the native religion of Japan, all of nature is believed to be the abode of powerful spiritual forces or gods (*kami*). Natural elements with particularly powerful features – including the sun, moon, mountains, particular trees and stones – are often designated as the abode of *kami*, and, therefore, as sites of deep spiritual significance. From diverse religious and philosophical traditions, several forms of artistic expression based on the aesthetics of stones developed. An 11th-century garden manual called the *Sakuteiki* describes in minute detail the characteristics of stones and their proper positioning, warning that a stone incorrectly placed — such as a naturally upright stone set horizontally—will disturb the spirit of the stone and may bring misfortune to the owner. At the time the *Sakuteiki* was written, the proper placement of stones was perceived as the primary act of gardening. The natural asymmetry of a Japanese garden is achieved through the use of the scalene triangle, an element of design that can be found in stone placement, as well as in other Japanese art forms such as *ikebana* (pronounced “ee-kay-bah-nah”), the traditional art of flower arrangement, in which each point in the triangle can represent heaven, earth and man, and the relationship among them.

The primary natural elements used to create a Japanese garden are: stone, the ‘bones’ of the landscape; water, the life-giving force; and plants, the tapestry of the four seasons. In the Sand and Stone Garden style, sand and stone are the principle design elements, with water represented by the “waves” of sand” and only limited (if any) use of plants, beyond the moss that naturally accumulates. But stones are an integral element in all Japanese garden styles, not only the Sand and Stone Garden style. In the Portland Japanese Garden you will find stones used in all of the five garden styles in symbolic, functional and sculptural ways, but they are always an integral part of the aesthetic composition with great consideration of and respect for the attributes of each stone: its color, shape, texture, its face, its motion. The designer arranges rocks in groups and arranges groups in relationship to one another, using fundamental Japanese design techniques of asymmetry to provide visual balance and stability between the flat planes of sand, walls, fences and the volumes of the stones, earth and plants--all with the aim of creating a visual harmony that provides the viewer with a sense of tranquility.

Lesson Plan

Introduction to the Lesson

The following Lesson Plan and Activity introduce students to the uses of stones in a Japanese Garden. One of the three primary natural elements in a Japanese Garden (along with plants and water), stones are said to be “the bones of the garden,” so important are they in the design and structure of the Garden. Stones serve symbolic, functional and aesthetic purposes, as well as being the natural material for many man-made artifacts. The Sand and Stone Garden (the *karesansui*) is well known for its spare and focused use of stones.

Lesson Overview

In this lesson, students will take a guided tour of the Portland Japanese Garden, focusing attention on the use of stones as an important garden element. They will design and create a miniature Sand and Stone Garden, incorporating the concepts of asymmetry, simplicity and the beauty of blank space. They will produce a piece of creative writing about stones in a Japanese Garden.

Objectives

Students will be able to:

- Classify stones by natural characteristics: size/texture/color/shape
- Observe a natural space with a focus on the various uses of stones.
- Classify the uses of stones in the Japanese Garden: natural/symbolic/functional/man-made artifacts
- Recognize and articulate the elements of the traditional Sand and Stone Garden
- Design, plan and create a miniature Sand and Stone Garden
- Express feelings in a piece of creative writing



Oregon Department of Education

Common Curriculum Goals

Language Arts:

- Use a variety of written forms to express ideas appropriate to audience and purpose across subject area
- Increase word knowledge through systematic vocabulary development; use new words accurately across the subject areas
- Pre-write, draft, revise, edit and publish across the subject areas
- Reflect upon and evaluate own writing

The Arts:

- Express ideas, moods and feelings through the arts and evaluate how well a work of art expresses one's intent
- Evaluate one's own work, orally and in writing
- Understand how the arts can reflect the environment and personal experiences within a society or culture

Science:

- Make observations about the natural world
- Examine characteristics and physical properties of Earth materials
- Identify properties, uses and availability of Earth materials

Math:

- Describe shapes and space
- Compare and order objects by attributes

Social Studies:

- Understand how people and the environment are interrelated
- Compare and analyze physical and human characteristics of places and regions

Classroom Preparation

Begin classroom preparation sufficiently far enough in advance that the children will have had adequate time to look for stones in their environment, to collect a good assortment for a group collection to be used later for creating the miniature Sand and Stone gardens, and to examine and sort the stones.

In preparation for your trip to the Portland Japanese Garden (detailed information follows):

1. Ask the students to look for stones used in their environment.
2. Have every student bring several stones to school.
3. Have students sort the stones into sets.
4. Read *One Leaf Rides the Wind* by Celeste Davidson Mannis (see resources).
5. Explain the purpose of the visit to the Portland Japanese Garden.
6. Show digital images of the Sand and Stone Garden in your classroom, if a Garden visit is not possible (see below).

1. Ask the students to look for stones used in their environment such as in architecture, road paving, design, gravel paths and decorations. Draw their attention to the fact that some stones are cut and some are natural.
2. Have every student bring several small stones to school. Encourage them to bring stones of varying sizes, shapes, textures, colors. Aim for about 5 stones per student. These stones will later be used to make the miniature Sand and Stone tray gardens so be sure that you have small stones. If stones are not readily available to the students, you might have to purchase them from a nursery or home building store. Put all of the stones together; this is a group collection.
3. Have students sort the stones into sets by various characteristics: size, texture, color, shape. Encourage discussion about how to handle set intersection (large and smooth; small and white, etc.) Encourage the students to notice if a stone has a “face” i.e. one distinctive side. Put the sets aside for later use in making the Sand and Stone Gardens.
4. Read *One Leaf Rides the Wind* by Celeste Davidson Mannis (see Resources) paying particular attention to the stone items: carved temple dogs, pagoda and lanterns.
5. Explain the purpose of the visit to the Portland Japanese Garden. During a guided tour of the Garden, the students will be introduced to various concepts about the use of stones that will later be incorporated into a project creating a miniature Sand and Stone Garden at school. Explain that stones are “the bones of a Japanese Garden.” Tell them that they will see stones that are used in a natural way, a symbolic way, a functional way, and as the material for artifacts. In addition they will observe stones used as “mitate” (pronounced “mee-tah-tay”) elements (old items that are used in a new way; see Mitate Lesson Plan for more detailed information on this concept)
6. If a visit to the Portland Japanese Garden is not possible, order a free CD from the School Lesson Plans page on the Garden’s web site and download images of the Garden for use in the classroom.

The Activity after the Visit to the Garden

1. Make a class list of the stones the students saw at the Portland Japanese Garden (or on the Garden CD), including symbolic, functional, natural, artifact and *mitate* elements.
2. Review the aesthetic design elements of a Japanese Garden and the characteristics of a Sand and Stone Garden (see page 1).
3. Assemble the materials (see materials list below).
4. Have each student create a miniature Sand and Stone Garden in a shoe box lid or similar container.

Making the Garden

- Fill the shoe box lid half way with salt or sand.
- “Plant” the stone. If the stone just sits on top of the sand, it looks like it doesn’t belong.
- Place the stones in groups. Remember to use asymmetry.
- Rake the sand with the fork.

Materials (for each child)

- The lid from a shoe box (or similar size)
- Variety of small stones with interesting shapes and different sizes, ideally collected in advance by the students.
- Coarse salt (kosher or sea) or sand
- A plastic fork for raking
- Small pieces of moss (optional)

5. Have each student write a short story in the first person from the point of view of a stone. The student can choose to write from the point of view of one of the stones in his or her miniature Sand and Stone Garden (“I am the largest mountain in the ocean...”) or of any other stone they saw in the Portland Japanese Garden (“I am a carp, waiting at the bottom of the waterfall...”)

Extended Activity

Rock Tumbling:

If you can borrow or have access to a rock tumbler, a small machine used by hobbyists, a load of rough rocks can be tumbled with water and a succession of increasingly abrasive powders until they emerge as quite beautiful, smooth rocks. While angles and edges add interest to stones used in a garden setting, it is a good observation of the action of erosion that, in nature, creates the somewhat smooth-edged “river rocks” that are used to create a Japanese garden. (See Resources for information on rock tumblers and tumbling.)

Consolidation

Have students share their gardens and their stories with the class. Discuss how well the project met expectations.

Discussion questions:

- How was the Japanese Garden different from gardens that you are used to?
- Were there particular stone items or uses of stones that you especially liked at the Portland Japanese Garden? Which ones?
- Did the 5 different gardens at the Portland Japanese Garden feel different? How? Was one more “beautiful” than another was? Was one more soothing?
- How would the Portland Japanese Garden look without any stones? Try to picture a particular location without its stone elements.
- Is it easier or harder to make a beautiful object with lots of “blank space”?

Additional Resources

Mannis, Celeste Davidson. *One Leaf Rides the Wind*. 2002. Viking. (available through the library or for purchase online at www.japanesegarden.com)

“The Garden Complete” by Robert Connor (for grades 6-8) (included in this packet)

Information on rock polishing and polishers

www.rocktumblinghobby.com

<http://geology.com/rock-tumbler>

Vocabulary

asymmetry: not having the same size, shape or position on opposite sides of a dividing line or point

mitate: (Japanese) literally “to see anew”, a Japanese aesthetic concept of using old things in new ways

kare-san-sui: (Japanese) literally “dry-mountain-water” or “dry landscape” and alludes to the composition of the garden, which includes rocks in a bed of white sand; often called a Sand and Stone Garden

symbolic: representing something else; acting as a symbol

artifact: an object made by a human being, for example a stone lantern

Expansions of this Lesson Plan for Other Levels

Grades K-2

Students in this age group will become familiar with the uses of stones in a Japanese Garden during a visit to the Portland Japanese Garden (or through downloaded images of the Garden available on CD), will make a miniature Sand and Stone Garden and will articulate a description of the garden.

- Have children collect and bring to school small stones of various sizes, shapes, textures and colors. Put all of the stones in one collection. Aim for 5 stones from each child
- After the visit to the Garden, make a class list of the students' favorite stones/gardens.
- Have each child make a simple Sand and Stone Garden in a shoe box lid. (See complete instructions in Grades 3-5 Lesson Plan.)
- Ask each student to "Tell me about your garden." Have them dictate or independently write, as appropriate, a simple description of their Sand and Stone Gardens.

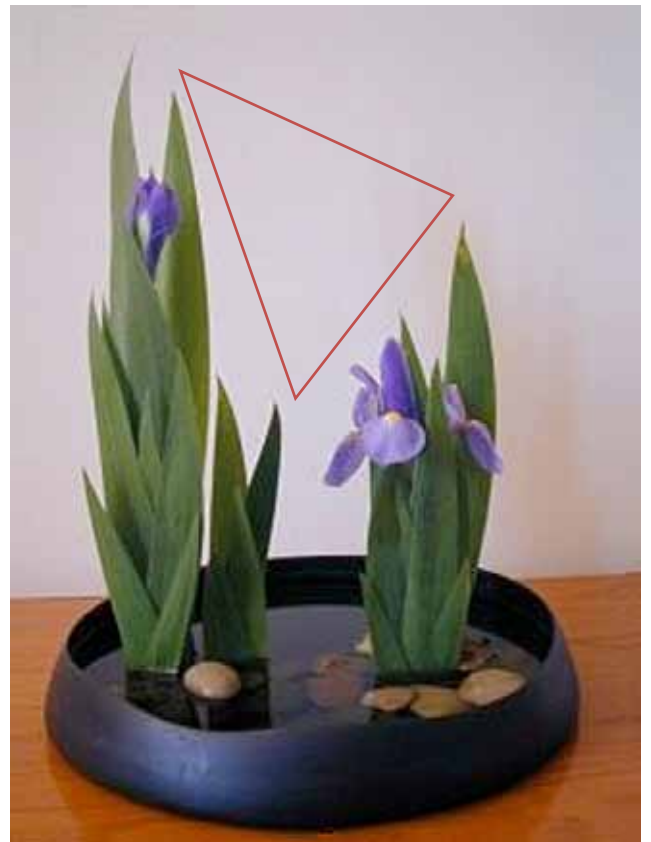
Grades 6-8

Students in this age group will become familiar with the uses of stones in a Japanese Garden during a visit to the Portland Japanese Garden (or through the use of CD images available online) and will use the form of free verse to express the feelings that were invoked by a particular stone composition.

Prior to the visit to the Japanese Garden, discuss with the students the use of asymmetry as a design technique in Japanese art. Without symmetry or a strong center focal point, Japanese garden designers use triangular arrangements and the concept of *ten-chi-jin* to provide visual balance and stability. The idea of *ten-chi-jin* (pronounced "ten-chee-jeen") is to create harmonious shapes and outlines, usually scalene triangles, using three principle design elements: *ten* (heaven, the vertical), *chi* (earth, the more horizontal), and *j-in* (man, a somewhat slanting line which combines with the other two elements). The vertical element adds dynamism to the composition, the horizontal one provides stability, or a balanced base, and the diagonal line makes a connection between the other two—a metaphor for the relationship between man, earth, and heaven.

Indeed, the scalene triangle (a triangle in which each side is a different length) is a major design element in most Japanese art. The art of ikebana flower arrangement, for example, is based on the three points of a scalene triangle. Following the visit, have the students recall and discuss the use of triads or triangles in the Portland Japanese Garden.

(Continued on p. 8)



Grades 6-8 cont.

- If the students will make their own miniature Sand and Stone Gardens, have them sketch the triangular elements of design in their gardens.
- If appropriate for this age group, have the students make a miniature Sand and Stone Garden. They can be made in shoe box lids or in larger trays (such as cookie sheets) if you have access to them. Larger containers, if available, are recommended as they can facilitate cooperative work by 2 students and greater decision making on the use of elements such as asymmetry, rock variation, etc.
- Read to the class the poem “The Garden Complete” by Robert Connor, below. You might decide to read this poem to the class while they are contemplating the Sand and Stone Garden or after they return to class.
- Read or re-read, as appropriate, “The Garden Complete” by Robert Connor. Have each student write a free verse poem about the feelings that were invoked while viewing the Sand and Stone Garden at the Portland Japanese Garden or by their own gardens. Review and revise the poem, then share with the class.

The Garden Complete

by Robert Connor

I see... seven seals swimming to the silent remains of the last lone vestige of what once had been the polar ice cap.	I see... seven kinds of hope Love Forgiveness Peace Understanding Compassion Empathy and Tolerance.
I see... an iceberg single solitary for icebergs are a dying breed.	And I see... One Truth standing clear rising above brilliant and proud.
I see... the slight leftovers of what humankind has yet to devour.	Finally, I see... seven hopes and seven seals swimming to one solitary dream called Truth.