

Hands On Earth Science Activity No. 1 Crystal Garden

This activity can be used to help teach the following Topics and Content Statements for the Ohio Revised Science Standards (2018) and Model Curriculum (2019):

Grade	Content Standard	Topic	Content Statement/Subtopic
Grade 1	Physical Science	Motion and Materials	1.PS.1: Properties of objects and materials change.
Grade 4	Physical Science	Electricity, Heat & Matter	4.PS.1: When objects break into smaller pieces, dissolve, or change state, the total amount of matter is conserved.
Grades 9–12	Physical Science	Study of Matter	PS.M.1: Classification of Matter PS.M.5: Reactions of Matter
Grades 9–12	Physical Geology	Minerals	PG.M.3: Crystallinity
Grades 9–12	Chemistry	Interactions of Matter	C.IM.1: Chemical reactions



Division Of Geological Survey

HANDS ON

EARTH SCIENCE

No. 1

CRYSTAL GARDEN

by Sherry L. Weisgarber

This often used project provides wonder and excitement as the crystals grow.

Materials:

- 6-7 barbecue charcoals or stones (1 to 2 inches across)
- shallow bowl (aluminum pie pan works fine)
- 4-6 tablespoons table salt
- 4-6 tablespoons liquid laundry bluing (see NOTE below)
- 4-6 tablespoons water
- 1 tablespoon ammonia (be careful using ammonia around children)
- food coloring

Collect several small pieces of limestone, brick, coal, or barbecue charcoal. You may want to try a bowl of each to determine which material grows the best crystals. Place the charcoal or stones clustered together in the bowl. Mix all of the ingredients together, except the food coloring, in the order listed using the same amount of salt, bluing, and water for each batch made. Pour the mixture very slowly over the stones with a spoon. The mixture may not be dissolved depending on the number of tablespoons of ingredients used. You may want to make different batches using different amounts of ingredients to see which works best. Drop food coloring over the coated stones. Using different colors produces a variegated crystal garden. Crystals should begin to form in about 20 minutes and continue growing for a day or two. Adding any excess mixture to the bottom of the bowl over the next few days may keep the garden growing longer. This creation will crumble very easily, so don't move it around too much.

NOTE: Laundry bluing comes in a small blue bottle and generally can be found in the laundry section of a grocery store next to the starch and bleach products.

SOURCE: *Kids create!*, Laurie Carlson; and Nevada Mining Association, Lois K. Ports.