

Charcoal Crystals

Overview: In this lesson, we'll discover how rocks are composed of other minerals. This lesson provides a basic visual overview of how a rock is composed from minerals. Be warned: these crystals are very fragile!

What to Learn: As your garden grows, keep track of how the mineral mixture gets left on the surface that you use today as your garden bed. You'll see some crystals in a few hours, but be patient! In two days, you'll see even more. That's what your results help you with as you compare one day's observations with the next.

Materials

- Mixing bowl
- Spoon
- 1 sponge, rag, or sock
- 1 pie tin
- Hand lens
- Pair of goggles
- 50 mL table salt
- 50 mL ammonia (adult supervision required!)
- 50 mL laundry bluing
- 100 mL water

Lab Time

1. Put on the goggles! No exceptions!
2. Move your experiment outdoors. Do not use ammonia indoors without proper ventilation.
3. Add salt, laundry bluing, and water to your bowl. Ask your adult to add the ammonia.
4. Stir the materials up until they are well-mixed. (Be very careful not to splash it on your clothes!)
5. Place the sponge in the pie tin and pour the solution over it.
6. You should pour about half the batch of solution into the pie tin. Put the rest of the unused solution aside.
7. Place the pie tin in a warm location and clean up the rest of the materials from lab.
8. Come back in one hour and record your observations.
9. Be careful! These crystals are fragile! After 3 hours, record your observation on the worksheet.
10. Record the crystals after 1 day, and then after 48 hours.

Crystal Garden Data & Observations

After 1 hour...

3 hours...

24 hours...

48 hours...

Exercises

1. Write down the four ingredients that you're using to build your homemade rock today:
2. Are any of them minerals? Which ones?

Answers to Exercises: Charcoal Crystals

1. Write down the four ingredients that you're using to build the crystals today: (salt, water, laundry bluing, ammonia)
2. Are any of them minerals? Which ones? (salt, laundry bluing)