LET'S ROCK
ROLE-PLAY

Use the **Focus** Success Skill to do a rock experiment.

Career Cluster
Farming and Nature

Success Skill
Focus

Estimated Activity Time
45–60 mins

Group Size
Individuals, pairs, or group

Materials

- Rocks of various sizes, colors, and shapes (1 rock per child or pair)
- Pencils (1 per child or pair and educator)
- **Rock with Scratch Reference** (projection or printout)
- **Rock with Color Reference** (projection or printout)
- **Scratch Experiment** (1 handout per child or pair and educator)
- 3 small plastic or paper cups
- Cotton swabs (5–10 per cup)
- Chalk or crayons (5–10 per cup)
- Pennies (5–10 per cup)
- Paper towels, tissues, or wipes (1 per child or pair)
- 3 Large, recyclable paper (such as newspaper)
- Magnifier or magnifying glass (optional)

Prepare Ahead of Time

Note: We recommend kindergarteners do this activity in pairs. First and second graders may do this activity individually. If you are providing rocks to children, skip steps 6 and 7 of this activity. Make sure to clean off the rocks to remove any dirt.

- Print materials.
- Set up three stations in the room, either on the ground or on tables.
    - At each station, place a large sheet of recyclable paper, such as newspaper, on the ground for any rock dust.
    - Place a cup in the middle of each recyclable paper.
        - Place cotton swabs in the first cup.
        - Place pennies in the second cup.
        - Place chalk or crayons in the third cup.

Focus Definition

Pay attention to something, even when distractions happen around you.

10 MIN: INTRODUCTION

1. **Say**, *"Would you like to become a Geoscientist today? A Geoscientist is someone who works outside or in a laboratory studying and testing soil, rocks, and liquids. They study these materials to learn more about the earth. Discovering how rocks are different or the same is one part of what they do. For example, they check how hard rocks are. Some rocks are harder than other rocks. In this activity, you will get to practice being a Geoscientist and do your own rock experiment."*

2. Ask children to share what they know about rocks.

   Ask:
   - *"Where do you see rocks?"*
   - *"What colors are the rocks you see?"*
   - *"What do you think Geoscientists do to learn more about rocks?"*
   - *"Why do you think Geoscientists check how hard a rock is?"*

   Note: Explain to children that Geoscientists want to see how hard a rock is because it can help them learn what the rock is made of: different types of minerals all lumped together. Minerals are in lots of things around us, including microwaves and televisions. They're even in our water!

3. **Say**, *"Before we start on this activity, I want to tell you that there are important skills we all use in our life. We call these Success Skills. **Focus** is a skill that is important as a child and as an adult. It's important to **Focus** on things such as instructions your teacher just gave you or listening to what your friend is telling you about what they did last weekend.*

   *"The Success Skill you'll be using today is **Focus**. Geoscientists need to **Focus** to do their job well. Do you think a Geoscientist could learn a lot about rocks if they looked at five rocks for one second each? No! They have to spend a long time looking and observing just a few rocks at a time so they can slowly and carefully gather information."*

20 MIN: ROLE-PLAY

4. Display the rock you are using as an example.

   Say, *"Geoscientists use the **Focus** Success Skill to study rocks in many ways. They search for rocks; pay attention to their color, size, and texture; and write down what they discover."*

5. Display the **Scratch Experiment**.

   Say, *"You will be a Geoscientist today and study your own rocks. Each of you will **Focus** on how hard a rock is by doing a scratch experiment. You will use items such as chalk and pennies, to see if you can scratch the surface, or the outside, of a rock. Not all rocks have the same reaction: some items will scratch the rocks, and some*

won't leave a mark. Like a Geoscientist, you will ***Focus*** *on the reaction your rocks have and keep testing out different items."*

6. (Optional) Explain to children that they will spend some time outside searching for a rock to use for this experiment. Gather children and take them outside to hunt for rocks. Be mindful of any rocks that children may want to dig out and how long that will take. Ask children to **Focus** on the type of rock they need to find. Set any rules needed for children when collecting their rocks:
    - Children are not to throw any rocks.
    - Children can only collect one rock.
    - The rock should be no bigger than the palm of their hand.

7. (Optional) Every child should have one rock by the end of the hunt. Return to the classroom and have the children set their rocks aside.

8. Display the **Scratch Experiment**. Point to each of the items.

    Say, *"Here, we have pictures of chalk, a fingernail, a penny, and a cotton swab. We will test out each of these items to see whether they leave a scratch mark on our rocks."*

9. Show children the columns that say Light Scratch and Hard Scratch, and point to the feather and the bricks under Rocks 1 and 2. Explain to children that the feather is used to signify a "light scratch" and the bricks are used to signify a hard scratch. The first rock they test is Rock 1, while the second rock they test is Rock 2. For step 18, they will swap rocks with another child.

10. Explain to children that they will use the items in each station to test their rocks. They will use a light scratch first and then a hard scratch, applying more pressure for each scratch.

    Say, *"With each item, you will try a light scratch on your rock first. If there's a scratch mark on the rock with a light scratch, you will draw a big check mark on the first box for Rock 1. The check mark means there is a scratch in your rock. But if it doesn't leave a scratch mark on the rock, you can draw a large* X*. Then you will try a hard scratch with the same rock. You will need to apply more pressure for a hard scratch. Before you try it, let's try an example as a group."*

11. Display a piece of chalk and a rock. Use the chalk to scratch the surface of the rock, using light pressure (light scratch).
12. Check to see whether your rock has a scratch from the chalk with a light scratch. Have a brief discussion with children about what you observe about your rock. Try it more than once. Explain to children the importance of double-checking their results to make sure they are accurate. Walk around the room and show your rock to give children a chance to see whether there is a scratch. If the rock has a scratch, draw a large check mark in the box under Rock 1 Light Scratch. If not, draw a large *X*.

13. Use the chalk again to scratch the surface of the rock, this time applying more pressure (hard scratch). If the rock has a scratch, draw a large check mark in the box under Rock 1 Hard Scratch. If not, draw a large *X*.

    Note: Explain to children that they can check to see whether a mark was made by wiping the area with their finger to see whether the item made a scratch or if it is just powder or color that rubs off. For example, chalk will leave some residue on all of the rocks, and the color of a penny may transfer to the rock. Children can wipe the rock to see if there's still a visible scratch.

    Say, *"If your items make a scratch on the rock, it means your rock is softer than the item you used. If your item doesn't scratch the rock, it means your rock is harder than the item you used."*

14. Pass out a **Scratch Experiment** handout to each child. Explain to children they will do their own scratch experiment to test their rocks, just like Geoscientists.

15. Have children rotate around the room, with a small group of 3—5 children at each station. After a couple of minutes of testing their rocks, the children can move to another station. On the handout, children should mark whether they could mark the rock with a light scratch or a hard scratch (if at all). If magnifiers are available, have children use them to closely observe whether the items were scratched by the rock.
16. Share with children how they are using the **Focus** Success Skill.

    Say, *"You can't tell by just looking at a rock whether it will be scratched by an item or not. So, you have to test it out to see what happens. Geoscientists do experiments like these all the time so they can learn new information. They use the **Focus** Success Skill when they test different items on rocks, even if the results don't seem to change. Not all rocks will react the same way, and that's okay. You were all using the **Focus** Success Skill when you double-checked your results to see whether your rock was scratched.*

17. Ask children open-ended questions about whether the items have made a scratch on their rock. Have children share out loud.

    Ask:
    - *"Can you scratch your rock with any of the items? Did you notice any differences when you used a light scratch versus a hard scratch?"*
    - *"Is the chalk showing up on your rock?"*
    - *"Is your rock breaking off when you rub it with a cotton swab?"*

18. Have children swap rocks with another child. Repeat step 15 for Rock 2.

19. Have children share what differences they found between the rocks.

    Ask:
    - *"Did one rock seem harder than the other?"*
    - *"What items made it scratch? Are these items softer or harder than your rock?"*

20. Ask children whether they were able to stay **Focused** during the activity. Have children share out loud.

    Say, *"While you were testing out different items, did you get distracted or lose interest? Geoscientists have to do the same thing over and over, and it's easy to get distracted! They use the **Focus** Success Skill when they keep testing out their items on their rocks, even when they are tired of doing the same thing."*

21. (Optional) Allow children time to experiment with other items around their area if they are interested. For example, they can use another rock, pencil, paper clip, etc. They may record their results in the blank last row on the **Scratch Experiment** handout.
22. If possible, children may also go outside to see if their rock can be used to draw streaks or lines on the sidewalk. Set any rules needed for children when drawing lines outside with rocks, such as making sure they only do it in a certain area.

    Ask, *"Can your rock be used to draw? If so, are the streak colors the same color as your rock, or the chalk you rubbed on it?"*

5 MIN: REFLECTION

23. Have a brief discussion with children about the activity.

    Ask:
    - *"What Success Skill did you use today?"*
    - *"Why is it important for a Geoscientist to **Focus**?"*
    - *"It's important to **Focus** in a lot of careers. What is another career that also uses the **Focus** Success Skill?"*

The contents of this program were funded and developed under a grant from the U.S. Department of Education (S295A200002). However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.

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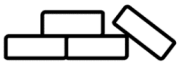
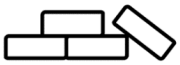
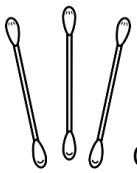
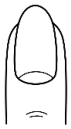
ROCK WITH SCRATCH REFERENCE

ROCK WITH COLOR REFERENCE

SCRATCH EXPERIMENT

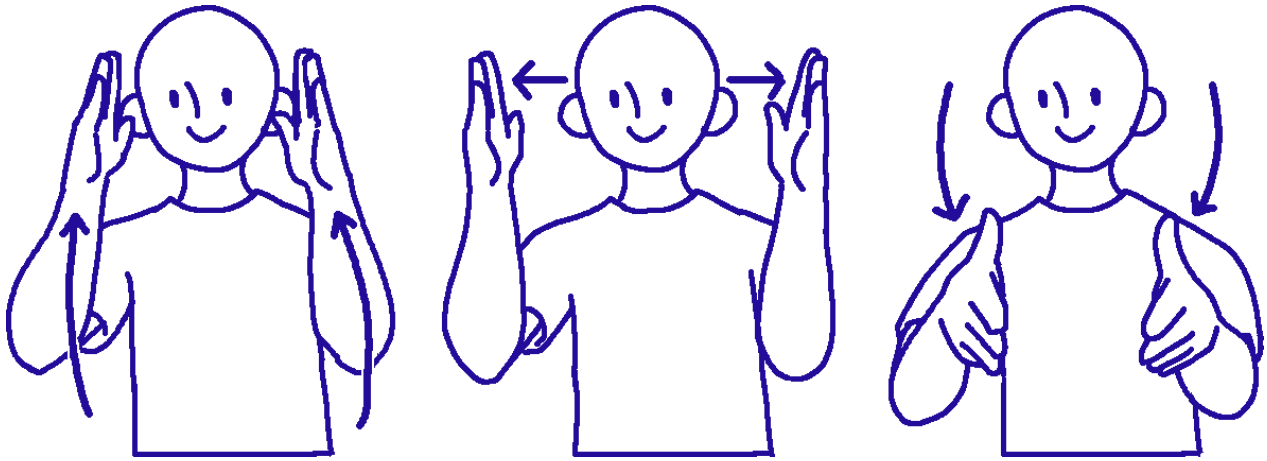
Name _____

Draw a check mark in the box if the item leaves a scratch. Draw an *X* in the box if the item does not leave a scratch.

Items	**Rock 1** Light  Scratch	**Rock 1** Hard  Scratch	**Rock 2** Light  Scratch	**Rock 2** Hard  Scratch
 Cotton Swab				
 Chalk or Crayon				
 Fingernail				
 Penny				

FOCUS ASL SIGN

To help children learn the Success Skill, use the ASL sign each time you say "**Focus**."



1. Bring both hands up to your face with the palms facing each other. Keep your hands flat with the fingers pointed upward.

2. Move your hands outward, still facing each other, toward your shoulders.

3. Then bring your hands forward, with the fingertips pointing away from you, gradually moving them closer together but not touching.

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