## GEOLOGY

### Projects & Materials

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<th>Youth Materials:</th>
<th>Requirements</th>
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| Geology, Level 1 (#PU 4-H-985) | In the member’s current project Manual:  
  - Complete a minimum of (6) six required activities and/or journal corners each year.  
  - Have your project volunteer date (month and year) and initial each activity when it is complete.  
  - Give an oral presentation (speech, demonstration or illustrated talk) related to this project.  
| Geology, Level 2 (#PU 4-H-986) | Complete the following:  
  - 4-H Involvement Report (#91910)  
  - 4-H Project Record Book (#91950)  
  - Any supplemental forms required at the county level. |
| Geology, Level 3 (#PU 4-H-987) |  
| 4-H Involvement Report (#91910) |  
| 4-H Project Record Book (#91950) |  
| Volunteer Materials: |  
| Geology, Helper’s Guide (#PU 4H-988-W) |  

See page 48 for information to obtain Support Materials.

### Exhibit Requirements

- 4-H Project Record Book (#91950)
- 4-H Involvement Report (#91910)
- Display a poster or exhibit box based on one of the following activities:  
  **Level 1:**  
  - The Rock Cycle – explain the rock cycle in both pictures and words.  
  - Rock Types – display rocks from the three major types: igneous, sedimentary, and metamorphic.  
  - Earth Processes – color and display the picture in your book or draw and color your own on your poster. Briefly describe the earth processes that are shown.  
  - Rock Artwork – display your rock artwork and the story that you created.  
  - Collections – display & identify 6 rocks.  
  - Making Crystal Models – display the crystal forms characteristic of most minerals (cubic, tetragonal, hexagonal, orthorhombic, monoclinic, triclinic) in a display box with their name and mineral in this form. You may paint, color or use markers on your crystal models.  
  - Molds and Casts – display three molds and/or casts in a display box. Describe the steps that you followed to create a mold or cast.  
  - Other suitable exhibit approved by your County Extension Office.
Level 2:

- Rocks with Different Textures – identify and display six rocks with three different textures (two rocks of each general type). Include three grades of sandpaper and show how the differences in sandpaper are similar to the differences in rock texture.

- Mineral Properties and Tests – explain the characteristics: crystal form, cleavage, hardness, appearance and streak. Explain tests used in identifying specimens. Examples you might include are streak, acid, hardness, chemical analysis, and specific gravity.

- How We Use Minerals – Show 10 common products that contain minerals. Explain the minerals that are contained in these products and the characteristics that make them useful.

- Geologic Time – Create a display to show the major geologic eras. Indicate the names, specific features, and approximately length of each.

- Field Trip – Describe a geology field trip that you took. Describe where you went and what you learned. Include photographs (if possible) or sketch what you saw.

- Collections – Display and identify one of the following: 8-16 minerals, fossils, or 4-8 of each (half minerals and half fossils). You may exhibit a new collection in subsequent years, but not one you have already exhibited.

- Other suitable exhibit approved by your County Extension Office.
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<td>• Geology Research: Prepare a display to teach others about the topic you studied. Include an appropriate title, abstract (brief description of your topic) and photographs, drawings, charts, or graphs to help explain your topic. This activity may be repeated if a new topic is chosen in subsequent years.</td>
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<td>• Lapidary and Jewelry – Show how stones and minerals are turned into polished stones and jewelry. Show and explain the steps involved.</td>
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<td>• Miniatures – Display five miniatures in a display box and explain the benefits of collecting miniatures and how they are prepared.</td>
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<td>• Idaho’s State Parks and Forests – Create a matching game of Idaho’s State Parks or Forests and a brief description.</td>
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<td>• Idaho, U.S. or World Geology – Teach others about one Idaho, U.S. or World Geology topic through a poster.</td>
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<td>• Career Exploration – Prepare a display that explains your interview with someone who needs an understanding of geology to do their job.</td>
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<td>• Other suitable exhibit approved by your County Extension Office.</td>
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**County Requirements:**
Check with your County Extension office for details.

**Support Materials:**
Idaho 4-H Geology page at [https://www.uidaho.edu/extension/4h/projects/geology](https://www.uidaho.edu/extension/4h/projects/geology)
To purchase Purdue University Extension manuals and download the Helper’s guide visit: [https://mdc.itap.purdue.edu/subcategory.asp?subCatID=362&CatID=16](https://mdc.itap.purdue.edu/subcategory.asp?subCatID=362&CatID=16)
Further project information visit: [https://mdc.itap.purdue.edu/subcategory.asp?subCatID=362&CatID=16](https://mdc.itap.purdue.edu/subcategory.asp?subCatID=362&CatID=16)

**Optional Supporting Materials:**
- [Websites for Geology Project tipsheet at https://www.uidaho.edu/extension/4h/projects/geology](https://www.uidaho.edu/extension/4h/projects/geology)