













## Through Time & Magic An Irish Adventure Book Activities Guide - Geology

Math	Science	Geography	Writing	History	Research	Art	Music	Presenting	Vocabulary	Active	Analysis	Game
									ABC			

### Individual Activities - Geology

A great resource for Geology studies in Ireland

<https://www.gsi.ie/en-ie/geoscience-topics/geology/Pages/Geology-of-Ireland.aspx>

Virtual Unesco World Heritage Geopark Visit



Take a virtual trip through Copper Coast geopark in Ireland. Explore their website then using Google Earth or other street view mapping “drive” along the roads and locations in the park. Take “pictures” along the way and accompany the pictures with what type of rocks are found there. Answer the question: Why are there so many different types of rocks in this one place?

<https://coppercoastgeopark.com/>

Geological Survey Ireland Map Viewing



Go to the website below. Open up their map viewer and find an area of Ireland to explore. After each task, turn off a layer of the map to dive deeper into the rocks of Ireland.

<https://www.gsi.ie/en-ie/education/home-schooling-activities/Pages/Using-our-map-viewer.aspx>



*Individual Activities – Geology, cont.*



### Rock Collection



Using the type of rocks found in Ireland, what rocks are also found locally? Collect sample rocks found in both places either by physically collecting, going to a rock store and taking pictures, or finding samples on the internet. Then create a rock collection presentation to include:

- Samples/pictures
- Name
- Type
- How formed
- Characteristics
- Location found in Ireland
- Any other interesting tidbit

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### Earth Layers



Using clay, playdough, blocks, Legos, construction paper, foam, or other material, create the layers of earth under and making up Ireland. Create a legend for each layer and explain what it is and how it was formed.

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### Bedrock



Research a county in Ireland for the bedrock found there. Next compare the local US state for the same information. What is the same/different?

Options: Write up a paper or give a presentation on what was found.

Recreate using clay, drawing, or other medium

Go visit a local place that has the same bedrock found in Ireland.



Resource: <https://www.gsi.ie/en-ie/geoscience-topics/geology/Pages/Geology-of-Ireland.aspx>



*Individual Activities – Geology, cont.*



Rock Experiment



Using the type of rocks found in Ireland, what rocks are also found locally? Explore outside, or go to a rock store, and collect three to five different rocks found in both places. Experiment and collect the data on the provided sheet:

- Name/Illustration/location found in Ireland/Type
- Experiments:
  - o Type of grain: Course are visible to the naked eye, fine grain usually needs a magnifier
  - o Hardness
    - Hard: scratches glass/metal
    - Soft: scratches a fingernail
    - Very Soft: does not scratch
  - o Nail Scrape: take a nail and scratch the rock. What happens?
  - o Mark: Use the rock to make a mark on asphalt or concrete or even a piece of paper. Does it leave a mark?
  - o Description: Color/Weight/Appearance

Use this resource to help identify rocks

<https://www.thoughtco.com/rock-identification-tables-1441174>

*Supplemental: Worksheet / Instructions*

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Rock Cycles



Using the link below, or other research, create the rock cycle in 3D form.

<https://www.bbc.co.uk/bitesize/guides/zwd2mp3/revision/5>

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*Individual Activities – Geology, cont.*

Geological Timeline



Create a timeline of Ireland Geology starting 450 million years ago to the current day of each of the major events in creating Ireland as we know it. *(The second page of the download below gives a good overview)*

Option: Include illustrations



[https://secure.dccae.gov.ie/GSI\\_DOWNLOAD/Bedrock/Other/GSI\\_BedrockGeologyOfIreland\\_A4.pdf](https://secure.dccae.gov.ie/GSI_DOWNLOAD/Bedrock/Other/GSI_BedrockGeologyOfIreland_A4.pdf)

<http://www.askaboutireland.ie/reading-room/environment-geography/physical-landscape/Irelands-physical-landsca/the-formation-of-the-phys/ireland-and-plate-tectoni/>

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## Small Group Activities - Geology



### Cootie Catcher Rocks Game



Each student creates a “cootie catcher” using the supplemental materials. Once all students’ catchers are complete, students take turns being the “Catcher” and the “Chooser” and must define the types of rocks with descriptions according to which tab they choose. Correct answers receive points. After all students have been a Catcher and Chooser for each catcher, the student with the most points wins.

*Supplementals: Handout with rock definitions, instructions for play, resources*

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### Geology in a Jar



Choose a place in Ireland and research the layers of earth from the magma in the center all the way to the rocks and soil on the surface. Using different colors of felt, playdough, colored clay, or other medium, fill a jar with the different layers. Create a legend for each layer to label what it is. Ensure the top layer is created in a way that the location is recognizable. Each student in the group can fulfill a different role: researcher, artist, documenter, etc.

Resource:

<https://www.pinterest.com/pin/36310340721598927/>

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## Entire Class Activities - Geology



### Geology Virtual Scavenger Hunt



Ancient footprints, glacial erratics, oldest piece of Ireland, blue copper, and more!

Divide the class into groups and give each group the scavenger hunt list. Using computers or tablets each group looks for locations and pictures in Ireland corresponding to the clues on the list. All groups get the same amount of time: can be completed in class or as a homework assignment. Answers to clues are searched for as a group. Presentation of findings are evenly distributed among the students where each student creates a one-page presentation for each clue including pictures and location on a map. Presentation can be physical or digital.



Starting with the item on the list, each group shares what they found including pictures. Continue with the next clue rotating through each group so all have the ability to be first, second, etc.

Option: After each group does their scavenger hunt, do a live virtual hunt in class. Give a clue and one student from each group gets on the computer to find the answer. If enough computer/tablets, groups can go at the same time. All groups receive points based on how quickly finished (completed first get one point, 2<sup>nd</sup> 2 points, etc.). After all clues have been given, group with the lowest points win.



Resources:

<https://outsider.ie/ireland/irelands-geology/>

<https://www.irishtimes.com/news/environment/another-life-from-dinosaurs-to-sea-lilies-the-fossil-windows-into-our-natural-history-1.2434837>

<http://www.habitas.org.uk/fossils/frameset.html>

*Supplemental: handout*



*Entire Class Activities – Geology, cont.*



Geological Timeline



Use a wall in the classroom to create the timeline of Ireland geological history starting 545 million years ago. At random, give each student one of the pages representing a portion of the timeline. Then students get up and put themselves in the order of the timeline on the opposite side of the room or at least away from the timeline wall (but facing the timeline). Once the order is correct, the first student walks to the timeline wall reads their page to the class and places their page on the timeline (either using tape, tack, stapler). Continue until all students have read and placed their page on the wall.

Option: Each student finds / creates a picture to go along with their event and adds to the timeline.

*Supplemental: timeline pages*

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