

Nature Activities— April

Rocks rock!

There are lots of organisations with really superb geology resources, including lesson plans, posters, things to make, experiments etc. Have a look at:

- <https://www.geolsoc.org.uk/SupportingMaterials>
- <https://www.bgs.ac.uk/discoveringGeology/home.html?src=topNav>
- <https://www.usgs.gov/science-support/osqi/yes/resources-teachers/>
- <https://earthscience.org.uk/resources/>
- <http://www.oum.ox.ac.uk/thezone/rocks/index.htm>
- <https://www.earthlearningidea.com/index.html>
- <https://www.stem.org.uk/resources/elibrary/resource/26719/rocks-rocks-and-fossils>

A fun way to teach about rocks includes a rock song (we will rock you!): <http://beakersandbumblebees.blogspot.com/2009/12/rock-cycle.html>

The most fun and engaging ways we have seen include hands on making your own rocks, such as making a rock in a cup: <https://www.education.com/science-fair/article/making-a-rock-in-a-cup/>

Or make a rock with your class: <https://www.fantasticfunandlearning.com/how-to-make-a-rock-with-kids.html>



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Edible rock!

Almost everything there is to know about geology can be learnt through the medium of cake!

- Make layer cake to show how layers of rock build up through time. Think about relative dating (the law of superposition)—which layer went down first? Was it the one at the bottom or the one at the top?
- Take lots of ‘sediments’ (I’d suggest sweets, marshmallows, rice crispies....) and bind them together in a matrix of chocolate to show how sedimentary rocks are made.
- Use Swiss Roll to look at folding in rocks https://www.earthlearningidea.com/PDF/251_Swiss_roll_surgery.pdf
- Core down through a layer cake using an apple corer to see how geologists can find out about the rocks under our feet when they can’t see them from the side!
- Just go with chocolate to understand the rock cycle: <https://www.geolsoc.org.uk/Education-and-Careers/Resources/Lesson-Plans/The-Chocolate-Rock-Cycle>
- You could make a rock buffet to teach about rocks and minerals: <http://www.elementaryshenanigans.com/2013/04/the-rock-buffet.html>



Every year, the Geological Society of London hold a Great Geobakeoff. Submissions are on-line, so why not enter—or just hold your own version: <https://blog.geolsoc.org.uk/tag/geobakeoff/>



Nature Activities— April

Grow crystals

Growing crystals can take several days, but this super-easy recipe gives you a cup full of needle-like epsom salt crystals in just a few hours!



<https://learning-center.homesciencetools.com/article/make-fast-growing-crystals/>



The above recipe and others can be found here:

<https://learning-center.homesciencetools.com/article/crystal-growing-science/>

You can also look at why rock crystals form in different sizes if you are working with older students:

https://www.earthlearningidea.com/PDF/94_Salol.pdf

You can even make edible crystal geodes with sugar: <https://www.instructables.com/id/Geode-candy/>



Nature Activities— April

Explore your local geology

You can find geology maps for the whole UK from the British Geological Survey at <https://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>. Use the Geological Society of London's Great Geosites map to find excellent rocks near you: <https://www.geolsoc.org.uk/Policy-and-Media/100-Great-Geosites/Interactive-Map>

Download an app

iGeology is a free app from the British Geological Survey that detects your location and shows you the rocks beneath your feet. You can also then swipe around to look at other place. Find it at <https://www.bgs.ac.uk/igeology/>

Fossil Explorer is a free app from the Natural History Museum which builds on the BGS information. It detects where you are and gives you a field guide to the fossils you are most likely to find there <http://www.nhm.ac.uk/take-part/identify-nature/fossil-explorer-app.html>

Geology Guides

The North Pennines is a UNESCO Global Geopark and you can find lots of great resources which also apply to other parts of the region at <http://www.northpennines.org.uk/exploring/special-qualities/geology-and-landscape/>

Northumberland National park has geology information at <https://www.northumberlandnationalpark.org.uk/things-to-do/enjoy-nature/geology/>



Nature Activities— April

Explore our local geology—going to the seaside!

Rocks at the coast are often well exposed and you can see the geology on the beach and in the cliffs

Find guides and trails for the rocks

You can download walking guides for different sites eg

Howick: http://www.northumberlandcoastaonb.org/files/Downloads/Howick_North.pdf

Bamburgh: <http://www.northumberlandcoastaonb.org/files/Downloads/Bamburgh%20Rock%20Walk.pdf>

South Shields, Sunderland and Seaham : http://www.limestonelandscapes.info/media/12354/Cliffs-Caves-and-Curious-Rocks-A3/pdf/CliffsCavesCurious_RocksA3.pdf

East Durham Coast: <http://www.durhamheritagecoast.org/wp-content/uploads/sites/6/2017/11/An-Adventure-in-Time.pdf>

Redcar and Cleveland: <https://www.redcar-cleveland.gov.uk/countryside/walkingroutes/The%20Geology%20of%20Eston%20Hills.pdf>

The Northumberland Coast Rocks project produced primary and middle school lesson plans and activities for the area around Seahouses which you can find at: <https://www.northumbrianearth.co.uk/northumberland-coast-rocks>



Book a school trip

St Marys Lighthouse and Visitor Centre in Whitley Bay runs fossil events for the public or schools, email stmaryslighthouse@northtyneside.gov.uk to find out more.



Literacy Activities— April

Writing and using correct language around rocks and soils for younger children:

<http://pencilsglueandtyingshoes.blogspot.com/2011/05/rockin-good-time.html>

So what are **Interactive Science Word Walls**? They are SO MUCH MORE than traditional word walls. Simply put--they are giant, colorful, engaging, hands-on, student-created graphic organizers! They help students develop a **deep understanding** of key science vocabulary. The word walls are not "front-loaded". In other words, I do not pre-make the word walls ahead of time and put them up at the beginning of my unit. They are made **with my kids** in the context of hands-on, inquiry-based science activities. Vocabulary is introduced as children are having concrete experiences that they can connect all those words to. Think about how the vocabulary fits in to the objectives that you are teaching and create a graphic organizer that supports those objectives. Dr. Jackson has some really good planning documents on her website ([The Science Toolkit](#)) to help with this. When possible, real-objects should be used on the walls. Real rocks, leaves, tools, etc! When not possible, pictures should be used (kind of hard to put the moon on your wall). The kids should help as much as possible when creating these walls. In kindergarten, I start out doing most of the work, because I want the walls to be usable (let's face it--there's a lot of scribbling in the beginning of kinder). But even at the beginning of the year, I let the kids pick out the objects that will go with the words. As the year progresses, and the kids gain more writing and drawing skills, they do more of the work. Taken from <https://www.kindergartenkindergarten.com/science/>

Pebble poem

For older students you can write a pebble poem. Choose lots of flat, smooth pebbles and write one word on each to make your poem.

- Your poem doesn't have to make sense – nonsense is so much fun!
- Try creating a poem with your friends – write it together
- Who can write the silliest poem?

Write a woodland poem or story when you get home. Resources at <https://www.woodlandtrust.org.uk/naturedetectives/activities/2016/09/pebble-poems/>



Maths Activities— April

There are a lot of activities you can do about weighing the mass of your rock and working out the volume of water it displaces:

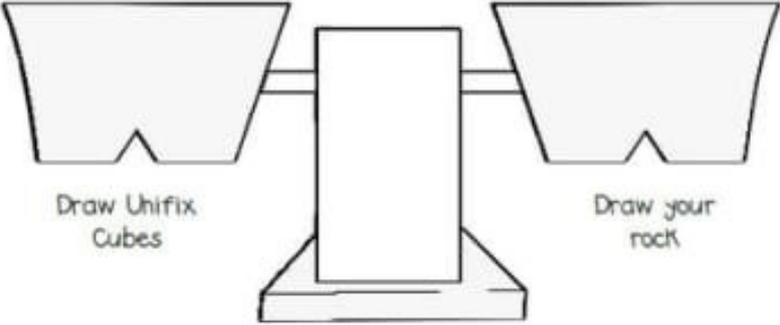
Geologist: _____

Rock Weighing



My prediction: I think it will take _____ unifix cubes to balance my rock.

Actual: It took _____ unifix cubes to balance my rock.



Draw Unifix Cubes

Draw your rock

Write about your findings.

<https://www.teachjunkie.com/sciences/rocks-for-kids-15-fun-activities/>

Geological time is a great way to investigate really large numbers. You can download a timeline from the British Geological Survey eg <https://www.bgs.ac.uk/discoveringGeology/time/spiralTimeline.html?src=topNav> and then use the dates for number partitioning. For older children, you could make your own timeline in the school yard - calculate the distances you need to make the timeline to scale.



Art, Artsmark, Arts Award —

Sand/mud art

Can be done in class (if you don't mind clearing up after)<https://www.earlylearninghq.org.uk/latest-resources/sand-art-craft-activity/>

A great outdoor activity, collect natural materials to make art pictures with— you can extend the learning if you set a particular theme to make the picture into



Fossil rubbing

Make fossil rubbings using real fossils, such as https://www.ebay.co.uk/i/372559366166?rt=nc&_trkparms=aid%3D222007%26algo%3DSIM.MBE%26ao%3D2%26asc%3D20160908110712%26meid%3D6677d7d8decd44b19541870827e85dcf%26pid%3D100677%26rk%3D6%26rkt%3D6%26sd%3D233084840806%26itm%3D372559366166

http://www.geoed.co.uk/index.cgi?cart_id=28.31187&pid=1963

or using templates <https://www.earlyyearsresources.co.uk/science-c32/evolution-c1698/fossil-rubbing-plates-p44550>

School seismology

Get involved in a citizen science project with the British Geological Survey: <https://www.bgs.ac.uk/schoolseismology/schoolSeismology.cfc?method=viewLatestQuake>

Time windmobile

<https://www.bgs.ac.uk/discoveringGeology/time/spiralTimeline.html?src=topNav> From British Geological Survey (lots of great rocks related resources)



Crest Awards —

Crest Awards (<https://www.crestawards.org/>) are run by the British Science Association and support science work and working scientifically. Star level is aimed at KS1; Superstar at KS2 and Discovery at KS3 and all have pre-made downloadable challenges which you can put together to achieve the awards. Beyond that, Bronze, Silver and Gold levels give more scope for individual projects. We are working to produce a Crest accredited challenge for when you visit Dippy at the Great North Museum: Hancock to make up one of these activities on your journey. The awards are cheap to do (£1 per child for Star and Superstar and £3 each for Discovery) and you can record the activities online to get the children's certificates and badges.

Investigating Nature Challenges

Star (<https://www.crestawards.org/crest-star>)

Superstar (<https://www.crestawards.org/crest-superstar>)

Fossil Folly (SS)



Things to look out for

nesting birds



returning migratory birds



Spring butterflies



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bluebells



bats



hedgehogs



blossom



dandelions

