

Lesson #1: Rocks Really ROCK!
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Lesson Components	Description
Identification of the Class	Subject: Earth Science Grade: 9 Number of Students: 25 per class
Virginia Standards of Learning & National Educational Technology Standards (Students)	Virginia SOL: <ul style="list-style-type: none"> • ES.5 The student will investigate and understand the rock cycle as it relates to the origin and transformation of rock types and how to identify common rock types based on mineral composition and textures. Key concepts include a) igneous rocks; b) sedimentary rocks; and c) metamorphic rocks NETS-S: <ul style="list-style-type: none"> • ISTE.3 Students apply digital tools to gather, evaluate, and use information. A. Plan strategies to guide inquiry B. Locate, organize, evaluate, synthesize, and ethically use information from a variety of sources and media C. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks D. Process data and report results
Lesson Objectives	<ul style="list-style-type: none"> • The students will investigate igneous, sedimentary, and metamorphic rock types using technology. • The students will locate one additional source for each type of rock and synthesize information. • The students will report information on each rock type in a final report and use technology to list sources.
Materials	<ul style="list-style-type: none"> • Phones • Example Rocks • QR codes • Pen and Paper • Computers
Procedures	<ol style="list-style-type: none"> 1. Set up three stations around the room – one for igneous, sedimentary and metamorphic rocks. 2. At each station put a variety of rock samples for the specific type. Attached to each rock should be a respective QR code. 3. Have students sit in their desks. 4. Ask students what they already know about the three rock types. 5. Show the students each type of rock, but do not give

	<p>a lot of information because they will be finding it on their own.</p> <ol style="list-style-type: none"> 6. Show students the three rock stations around the room that each include different rocks that fit into the three types. 7. Explain that the students will have a partner (everyone may not have a phone) and will research one rock in each type around the room. Students will do group research using the QR codes found with each rock. 8. Explain that each student will be assessed by a two page final report explaining each rock type and including information found at each station and on a chosen reliable Internet resource. The student will site this resource by making a QR code using www.visualead.com. 9. Answer any questions about the activity. 10. Put students into pairs and have them begin making rotations. 11. After the investigation, individually, have students return to their desk or a comfortable location in the room to investigate each rock type further and find one reliable source online. 12. Each student will synthesize information into a two page final report including each rock type. 13. The final report will include at least one reliable source that the student found. This source will be listed using a QR code.
Assessment & Evaluation	<p>The student will be evaluated on their</p> <ul style="list-style-type: none"> • Explanation of each rock type including how it originates, transforms over time, and where it can be found. • Proper use of at least one reliable Internet resource. • Referencing the source properly using a QR code.