

For Teachers

RockCheck

Module 1

Objective: Interactive worksheet Meet RockCheck

Necessities

List of materials/tools



- **Printed interactive worksheet Meet RockCheck – Appendix 3**
- **RockCheck application** (is freely available in the Google Play Store and works on Android devices – mobile phones/tablets) Link:
<https://play.google.com/store/apps/details?id=si.digied.rockcheck&hl=sl&gl=US>
- **Collection of minerals and rocks** (use minerals and rocks that are available in the school collection, put together your own collection or buy rocks for example on this site:
<https://www.geologysuperstore.com/>):
For exercise 1: a rock and minerals that make up this rock and some others for distraction.
 Sample suggestion:
 - marble and calcite + talc and quartz as a distraction
 - pegmatite and quartz, feldspar, muscovite, biotite, tourmaline + calcite, fluorite and galenite for distractionFor exercise 2: six different rocks, one from each subgroup (sedimentary rocks: clastic and chemical/biochemical, igneous rocks: intrusive and extrusive, metamorphic rocks: schistose and granulose structure). Sample suggestion: sandstone, limestone, granite, andesite, gneiss and marble.
For exercise 3: three different rocks, one from each group (sedimentary, igneous, metamorphic rocks) + printed and cut processes for the rock cycle.
- **Geological investigation kit** (in the application RockCheck in School of rock part, there is a description and video of a procedure for each tool and replacement that can be found at home):
 - Magnifier,
 - Metal nail,
 - Glass slide,
 - Diluted hydrochloric acid or alcohol vinegar.

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Procedure

Prepare the worksheet and all other materials (minerals, rocks and processes go to prepared squares on the worksheet).

The process of working with the worksheet can be independent or guided. The worksheet contains all the necessary instructions for students to solve the exercises independently.

First exercise: the students find the minerals that make up the selected rock by observation and experimentation. On the right side there is also table with different rock forming minerals and their properties, that can help students in their decisions. Example: For marble, they can eliminate the talc because of its hardness, since talc is much softer. Then they try to eliminate the second mineral with acid - calcite reacts with acid like marble, but quartz does not.

Second exercise: the students determine names of different rocks with the application RockCheck (rock key). At the end they come to the description of the rock, where they can read in which group, we classify it. They classify all rocks into the correct group.

Third exercise: the students determine the group of the rock (like in exercise two) and then place processes that lead from one group of rocks to another. They can help themselves with the description of the rocks they determined.

Additional Safety Notes



Work with investigation kit:

- Students need to be careful with glass - not to break the glass or cut themselves with it.
- The acid irritates the skin, so that is why we advise that younger users ask for help of an adult or use alcohol vinegar. Be careful that acid is not heated, because then reaction will appear on dolomite also.
- With metal nail students need to scrape with moderate pressure. If they scrape the rock too strong, bigger pieces of rock may break that are not grains.

Conclusions

Some key points that could be reminded to students or discussed with them.

We encounter minerals, rocks and geological processes every day. We see them especially nicely on a trip to the mountains or to the coast because the rocks are more visible/exposed there. Discuss with students where they have already seen something that has to do with rocks and geological processes, introduce them to where in your area or country these processes and environments of the formation of a certain type of rock are visible. You can also briefly mention the national geological map and in which area we find some types of rock.