| **Scenario Card 1: Igneous Rock Formation****Scenario:**You are a geologist studying a volcanic eruption that occurred several years ago. Near the volcano, you find rocks that are dark in color, glassy, and have small crystals. Some rocks even have tiny gas bubbles trapped inside.**Question:*** What type of rock do you think this is?
* How did this rock form?
* What environmental conditions allowed the rock to form?
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| **Scenario Card 2: Sedimentary Rock Formation****Scenario:**At the bottom of a riverbed, you notice layers of rocks that are soft and have visible grains of sand, pebbles, and even some fossils. These rocks appear to be formed from pieces of other rocks and organic materials.**Question:*** What type of rock is this?
* How did it form over time?
* What does the presence of fossils tell you about this area?
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| **Scenario Card 3: Metamorphic Rock Formation****Scenario:**You are hiking through a mountain range and discover a shiny, hard rock with wavy layers. You know that this region has experienced intense pressure due to tectonic plate movement over millions of years.**Question:*** What type of rock is this?
* How do you think it was formed?
* What conditions were necessary for this rock to change?
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| **Scenario Card 4: Soil and Plant Growth in Qatar’s Desert Environment****Scenario:**In the desert regions of Qatar, farmers are trying to grow crops to support local agriculture. However, the soil is mostly sandy, with very little organic material. After irrigation, the water drains quickly, and the plants do not seem to be thriving.**Question:*** What type of soil is most common in this area of Qatar?
* How does the soil's composition affect plant growth?
* What strategies could farmers in Qatar use to improve soil quality and increase crop production?
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| **Scenario Card 5: Clay Soil and Water Retention****Scenario:**A gardener is frustrated because, after heavy rainfall, her garden soil becomes waterlogged and stays soggy for days. When she digs into the soil, it feels thick, sticky, and hard to work with.**Question:*** What type of soil is this?
* How does its composition affect water retention?
* What can the gardener do to improve drainage and plant growth?
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| **Scenario Card 6: Organic-Rich Soil and Plant Growth****Scenario:**In a dense forest, you find soil that is dark and crumbly, filled with decaying leaves, twigs, and other organic matter. The plants in the area are lush and healthy.Question:What type of soil is this?How does the soil’s organic content affect plant growth?Why do plants grow so well in this environment? |
| **Scenario Card 7: Soil Erosion and Plant Growth****Scenario:**You visit a hillside where heavy rain has washed away the top layer of soil. The remaining soil is rocky, dry, and poor in nutrients. The plants in this area are struggling to survive.Question:What has happened to the soil on this hillside?How does this affect plant growth?What could be done to prevent further soil erosion? |
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