

The roll and rock board game

Learning objectives

- 1 Identify sedimentary, metamorphic and igneous rocks.
- 2 Link the physical processes that occur in the rock cycle with the formation of different rock types.
- 3 Recognise that the rock cycle has multiple different pathways.

Introduction

The Earth's rocks do not stay the same forever. Processes such as weathering, erosion and large earth movements cause them to continually change between different forms. These changes are shown in the rock cycle. There are many paths through the rock cycle, find out more in this board game.

Instructions

The aim of the game is to move around the rock cycle and collect samples of rock. The winner is the first person to collect a sample of each of the three rock types: sedimentary, igneous and metamorphic.

Number of players: 3

To play the game you will need:

- 1 game board
- 16 rock sample cards
- 1 dice
- 3 rock sample collection record cards (one for each player)
- 3 counters (one for each player)

Set-up

- Place the metamorphic, sedimentary and igneous rock sample cards face-up in the relevant collection zones.
- Write your name on your collection record card.
- Choose one of the three rock zones to start in and place your counter there.
- Each number on the dice represents a different process in the rock cycle, apart from 6 which means 'roll again'.

- The processes are labelled along with their corresponding numbers on the game board, but make a note of which process each number relates to:

1 = compaction and cementation	4 = melting
2 = weathering and erosion	5 = cooling
3 = heat and pressure	6 = roll again

Playing rules

1. Players take it in turns to roll the dice.

If you roll a number that relates to a physical process that is possible from your position on the board, move along the corresponding arrow to the next stage of the cycle. You must move if a move is possible.

For example, if your counter is on 'igneous rock zone', you must roll a 2, 3 or 4 to move forwards. If you rolled a 2, you would move your counter along the 'weathering and erosion' arrow to the 'Sediments' zone. If you rolled a 1 or a 5, you would stay where you are. If you rolled a 6, you would get to roll again.

2. If you can move, move your counter along the arrow of the corresponding physical process and place your counter in the next zone.
3. If you land on a rock zone, collect a card from the appropriate collection pile and record the name of the rock you have collected on your collection record card. If you land on sediments or magma, do not collect a card.
4. The winner is the first person to complete their record by collecting a sample of each of the three rock types (sedimentary, igneous and metamorphic).