

# SpaceOLÉ • Discovery Challenge Cards

## SpaceOLÉ Discovery Geologist

### Challenge Question

What are the most abundant mineral compounds on the planet/moon?

### Keywords

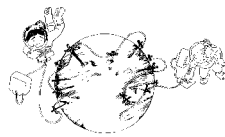
planet/moon name, minerals

### National Science Education Standards

*D2: Geochemical cycles*

*D4: Origin and evolution of the universe*

*F3: Natural resources*



## SpaceOLÉ Discovery Geologist

### Challenge Question

Is the planet/moon capable of providing materials of use to humans?

### Keywords

planet/moon name, minerals, human habitation

### National Science Education Standards

*D2: Geochemical cycles*

*D4: Origin and evolution of the universe*

*E1: Abilities of technological design*

*F3: Natural resources*



## SpaceOLÉ Discovery Geologist

### Challenge Question

Does your planet/moon experience tectonic plate movement?

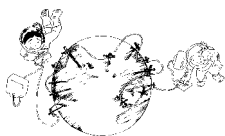
### Keywords

planet/moon name, geology

### National Science Education Standards

*D1: Energy in the earth system*

*D4: Origin and evolution of the universe*



## SpaceOLÉ Discovery Geologist

### Challenge Question

Why is tectonic plate movement important to the temperature of the planet/moon?

### Keywords

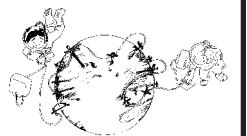
planet/moon name, plate tectonics

### National Science Education Standards

*D1: Energy in the earth system*

*D4: Origin and evolution of the universe*

*E1: Abilities of technological design*



# SpaceOLÉ • Discovery Challenge Cards

## SpaceOLÉ Discovery Geologist

### Challenge Question

Is there any recent seismic or volcanic activity detected in the planet or moon?

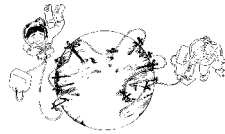
### Keywords

planet/moon name, geology

### National Science Education Standards

*D1: Energy in the earth system*

*D4: Origin and evolution of the universe*



## SpaceOLÉ Discovery Geologist

### Challenge Question

What evidence of erosion is present on your planet/moon?  
What might have caused the erosion (wind, water, etc.)?

### Keywords

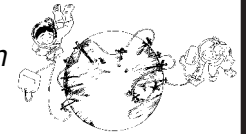
planet/moon name, weathering, erosion

### National Science Education Standards

*D1: Energy in the earth system*

*D3: Origin and evolution of the earth system*

*D4: Origin and evolution of the universe*



## SpaceOLÉ Discovery Geologist

### Challenge Question

Describe and illustrate the surface conditions of the planet/moon (sandy, rocky, mountainous, cratered, etc.).

### Keywords

planet/moon name, topology, surface features

### National Science Education Standards

*D1: Energy in the earth system*

*D3: Origin and evolution of the earth system*

*D4: Origin and evolution of the universe*

*E1: Abilities of technological design*



## SpaceOLÉ Discovery Geologist

### Challenge Question

Is there a place on Earth that has similar geology to your planet/moon?

### Keywords

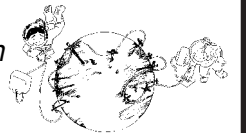
planet/moon name, topology, surface features

### National Science Education Standards

*D1: Energy in the earth system*

*D3: Origin and evolution of the earth system*

*D4: Origin and evolution of the universe*



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### Challenge Question

What major geological changes, if any, are occurring on the planet/moon right now?

### Keywords

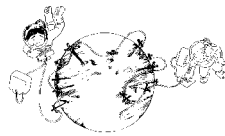
planet/moon name, geology

### National Science Education Standards

*D1: Energy in the earth system*

*D2: Geochemical cycles*

*D4: Origin and evolution of the universe*



## SpaceOLÉ Discovery Geologist

### Challenge Question

What is the composition of the core of your planet/moon?

### Keywords

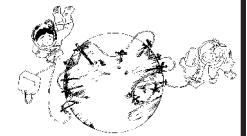
planet/moon name, geology, crust, core, mantle

### National Science Education Standards

*D1: Energy in the earth system*

*D2: Geochemical cycles*

*D4: Origin and evolution of the universe*



## SpaceOLÉ Discovery Geologist

### Challenge Question

Is your planet/moon stable enough to provide a base for operations?

### Keywords

planet/moon name, geology

### National Science Education Standards

*D1: Energy in the earth system*

*D2: Geochemical cycles*

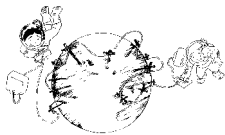
*D4: Origin and evolution of the universe*

*E1: Abilities of technological design*

*F4: Environmental quality*

*F5: Natural and human-induced hazards*

*F6: Science and technology in local, national, and global challenges*



## SpaceOLÉ Discovery Geologist

### Challenge Question

### Keywords

### National Science Education Standards

