

Answers

Theme 1: Why Do We Need Land?

Lesson-2: Force and Energy

Main Coursebook

Re-KAP

Kinaesthetic:

Accept all relevant responses.

Auditory:

1. Muscular force is applied by our muscles when we push or pull an object.
2. Buoyant force is applied by liquids on an object.

Pictorial



Pull



Push



Push



Pull

Interacting better: Accept all relevant responses.

Understanding better (Page 15)

1. Muscular force
2. Contact force

Understanding better (Page 16)

1. True
2. True

Learning better:

- A. 1. b 2. a 3. b 4. a 5. a
- B. 1. True 2. False 3. True
4. True 5. True
- C. 1. A force is a push or pull, which, when applied on any object, tends to change the state, speed, direction and shape of the object.
2. Suzy pulls the drawer to open it whereas she pushes the drawer to close it. Suzy applies the force twice to the drawer.
3. When chemical energy changes into electrical energy, or electrical energy to chemical energy

it is called electrochemical energy.

- D. 1. **Gravitational force:** When two bodies with some mass come close to each other, they pull or attract each other. This force is called gravitational force.

Buoyant force: When any object floating on water is pushed down, the water exerts an upward push on the object. This upward push is called the buoyant force or upthrust.

2. **Mechanical energy:** It is the energy attained by an object due to its motion and position. For example, a body or an object has mechanical energy when it is stationary.

Solar energy: It is the form of energy obtained from the Sun. For example, solar cooking.

Geothermal energy: It is the energy that is derived from the Earth. The Earth's crust has energy stored in the form of heat. This energy is called geothermal energy. For example, the hot water and steam generated within the Earth are used to produce electricity.

Creating better: Accept all relevant responses.

Thinking better:

If I were designing a roller coaster, I would use forces and energy to make it both exciting and safe for riders. These are gravity, speed, safety first, comfort and fun.

Choosing better:

2. He should pick up the banana peel and throw it in a nearby dustbin.

Students' Worksheets

Worksheet 1

- A. 1. force 2. Muscular
3. contact 4. gravitational
5. attractive
- B. 1. False 2. False 3. True
4. False 5. True
- C. 1. → b 2. → e 3. → c 4. → d 5. → a

Worksheet 2

- A. 1. Frictional 2. mechanical
3. buoyant 4. Energy
5. Work
- B. 1. MUSCULAR 2. GRAVITATIONAL
3. FRICTIONAL 4. MECHANICAL
5. UPTHURST
- C. 1. → e 2. → a 3. → b 4. → c 5. → d

Worksheet 3

- A. 1. It is the force that comes into play when we use muscles of our body to push or pull something.
2. It is the force of attraction between every two objects in the universe.
3. It is the force that opposes the motion of an object moving on a surface.
4. It is a contact force that acts between two bodies.
5. It is an upward push exerted by water on any object when it is pushed down in water.
- B. 1. gravitational force
2. muscular force
3. buoyant force
4. frictional force
5. mechanical force
- C. 1. True 2. False 3. True 4. False 5. True

Book of Holistic Teaching

Developing better

A. English:

1. pulls

2. artwork

B. **Maths:**

5, 10, 15, 20, 25 and 30.

C. **Social studies:**

The difference between a plain and a mountain is that plains are flat or gently sloping areas of land, while mountains are elevated landforms with steep slopes.

Book of Project Ideas

Making better

Accept all relevant responses.

Answers

Theme 1: Why Do We Need Land?

Lesson-1: Rocks and Minerals

Main Coursebook

Re-KAP

Kinaesthetic:

Accept all relevant responses.

Auditory:

1. Minerals are solid substances that have a specific chemical structure, like quartz or diamond.
2. Sandstone is a rock which is soft in nature.

Pictorial:

1. ALKCH _____ CHALK

2. ALCO _____ COAL

3. PPERCO _____ COPPER

4. VERSIL _____ SILVER

5. MONDDIA _____ DIAMOND

6. LDGO _____ GOLD

Interacting better:

Pumice stone (Accept all relevant responses).

Understanding better (Page 9)

1. Sedimentary rocks
2. Metamorphic rocks

Understanding better (Page 9)

1. Gold
2. Ores

Learning better:

- A. 1. b 2. a 3. c
 4. b 5. a
- B. 1. True 2. False 3. False
 4. True 5. False

- C. 1. Minerals are natural non-living substances present in different quantities, qualities and arrangements within rocks.

2. Diamond
3. The minerals from which metals can be profitably obtained are called ores.

D.

Igneous rocks	Sedimentary rocks	Metamorphic rocks
Igneous rocks are formed by the cooling and hardening of hot liquid rock material, called magma.	Sedimentary rocks are formed from pebbles, sand, mud or clay, deposited in the ocean and brought to the shore by flowing water or floating ice.	Metamorphic rocks are formed by the transformation of already existing rocks through a process called metamorphism.

Igneous rocks	Sedimentary rocks	Metamorphic rocks
These are found at the base of all landforms, such as plains, mountains, plateaus and ocean beds.	Sedimentary rocks cover the major portion of the Earth's surface.	Most metamorphic rocks were once either igneous or sedimentary rocks.
For example, granite, pumice, etc.	For example, sandstone, shale, etc.	For example, marble, quartzite, etc.

Creating better: Accept all relevant responses.

Thinking better:

Rocks are hard and strong because they are made up of minerals, which are solid materials that form deep inside the Earth.

On the other hand, sand and soil are different because they are made of tiny pieces of rocks and other materials. Sand is made of small grains of rock that are smooth and loose, while soil is made of even smaller particles and also has bits of dead plants and animals mixed in. Since these tiny pieces aren't packed together tightly like in rocks, they are soft and not as strong.

Choosing better:

2. They should consider buying an electric vehicle.

Students' Worksheets

Worksheet 1

- A. 1. minerals 2. non-living 3. landforms
4. Igneous 5. magma
- B. 1. → b 2. → c 3. → d
4. → a 5. → e
- C. 1. False 2. False 3. True
4. True 5. True

Worksheet 2

- A. 1. Limestone 2. Sedimentary
3. Conglomerate 4. shells
5. pile up
- B. 1. GRANITE 2. IGNEOUS
3. OBSIDIAN 4. SEDIMENTARY
5. METAMORPHIC
- C. 1. True 2. True 3. False
4. True 5. True

Worksheet 3

- A. 1. Rocks are made up of minerals.
These may be made up of one or more minerals.
2. Magma is a hot liquid rock material that hardens and cools to form igneous rocks.

3. Minerals are natural non-living substances present in different quantities, qualities and arrangements within rocks.
4. Igneous rocks, sedimentary rocks and metamorphic rocks.
5. Metamorphic rocks form by transformation of already existing rocks through a process called metamorphism.

- B. 1. → c 2. → a 3. → e
4. → b 5. → d
- C. 1. False 2. True 3. True
4. True 5. True

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Developing better

- A. **English:**
1. work 2. silver fork
- B. **Maths:** DCCXVII
- C. **Social Studies:** Plateaus

Book of Project Ideas

Making better

Accept all relevant responses.