

TOPIC 7: THE SOLID PART OF THE EARTH



CONTENTS:

- 1.- Definition of geosphere.
- 2.- Minerals and rocks.
 - 2.1- Properties of minerals.
 - 2.2.- Importance of minerals.
- 3.- Rocks.
 - 3.1.- Types of rocks.
- 4.- Rocks in Andalusia
- 5.- Webgraphy



Full name:

Date:

Class:

School:

Teacher:

Vocabulary



A

B

Basin: cuenca
Better than: mejor que

C

Calcareous: calcáreo
Can(verb): poder
Can (noun): lata
Chemical formula: fórmula química.
Clay: barro, arcilla
Coins: monedas

D

Defined: definido/a
Diamond: diamante

Due to: debido a

E

F

Fluorite: fluorita
Found: encontrado

G

Gold: oro
Graphite: grafito
Granites: granito

H

Hard: duro
Heavy: pesado
Heat: calor

I

J

Jewellery: joyería

K

Kinds: clases, tipos

L

Light (adjective): ligero
Light (noun): luz
Limestone: caliza
Lustre: brillo

M

Malachite: malaquita
(green mineral)
Marble: mármol

N

O

P

Pipes: canalones, tubos
Powder: polvo
Pressure: presión

Q

Quartz: cuarzo

R

S

Shale: pizarra
Siliceous: silíceo
Silver: plata
Slate: pizarra
Some: algunos/as
Soft: blando/a/os/as
Sphere: esfera

T

Type: tipo, clase

U

V

W

X

Y

Z

1.- Definition of geosphere.

By geosphere we understand the solid sphere of our planet. It is made up of different materials. The most important ones are minerals and rocks.

2.- Minerals

Minerals are solid substances. They have a defined composition. The main elements that form the composition of minerals are oxygen, silicon, aluminium, iron, calcium, sodium, potassium and magnesium.

We can express minerals with a chemical formula. Gold, silver, malachite, fluorite, quartz, graphite and diamond are types of minerals.



gold



silver



quartz



diamond

2.1.- Properties of minerals

Minerals can have different properties. They can vary in:

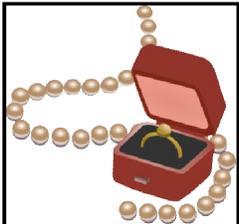
<u>-Colour:</u>	<u>-Lustre:</u>	<u>-Hardness:</u>	<u>-Specific gravity:</u>	<u>Transparency:</u>	<u>-Special properties:</u>
sulphur is yellow, fluorite is blue and malachite is green.	some minerals are metallic but others are non-metallic.	some minerals are soft but others are hard.	some minerals are light but others are heavy.	some minerals can transmit light better than others.	-magnetism -fluorescence -conductivity



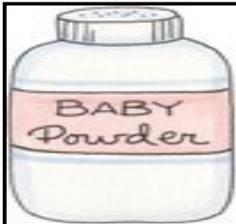
We can find a lot of minerals in our daily life.

- Gold, silver and diamond is found in jewellery.
- Graphite is found in pencils.
- Copper is found in electric cables, pipes and coins.
- Aluminium is found in cans, cars and planes.
- Talc is found in talcum powder.

Activity one: fill in the gaps with appropriate minerals.



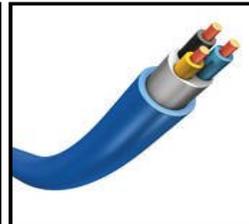
You can find
.....
.....
.....
in jewellery.



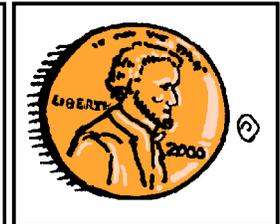
You can find
.....
.....
.....in talcum
powder.



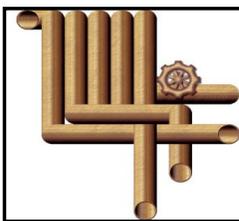
You can find
.....
.....
.....
in cans.



You can find
.....
..... in
electric
cables.



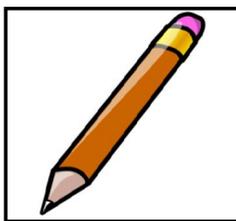
You can find
.....
.....
..... in
some coins.



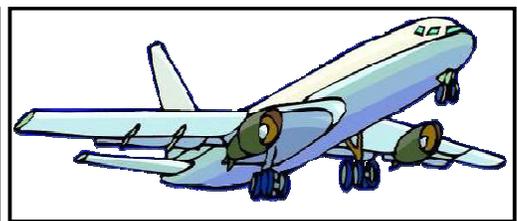
You can find
.....
.....in
many pipes.



You can find
.....
.....
.....in vehicles
like cars.



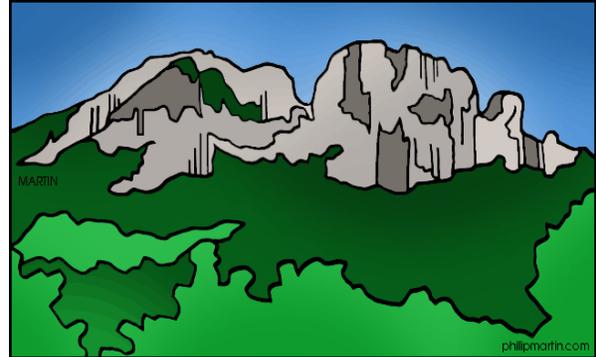
You can find
.....
.....
.....
in pencils.



You can find
.....
planes.

3.- Rocks

Rocks are combinations of many minerals. They are solid substances but they don't have a defined composition. We cannot express minerals with a chemical formula.



3.1.- Types of rocks.

Rocks are solid and hard. They are made up of minerals. There are three main kinds of rocks:

- **Metamorphic:** They are rocks that change their form due to heat and pressure. Slate and marble are examples of metamorphic rocks.
- **Sedimentary:** They come from sediments due to erosion. Shale, clay and limestone are examples of sedimentary rocks.
- **Igneous or magmatic:** igneous is a Greek word. It means fire. They come from lava and magma. Basalt and granite are examples of magmatic rocks.



Activity two: answer these comprehension questions.

- 1.- How many types of rocks are there? What are their names?
- 2.- Mention two qualities of rocks.
- 3.- What is the origin of sedimentary rocks?
- 4.- What is the meaning of "igneous"?
- 5.- Where do magmatic rocks come from?

4.- Rocks in Andalusia

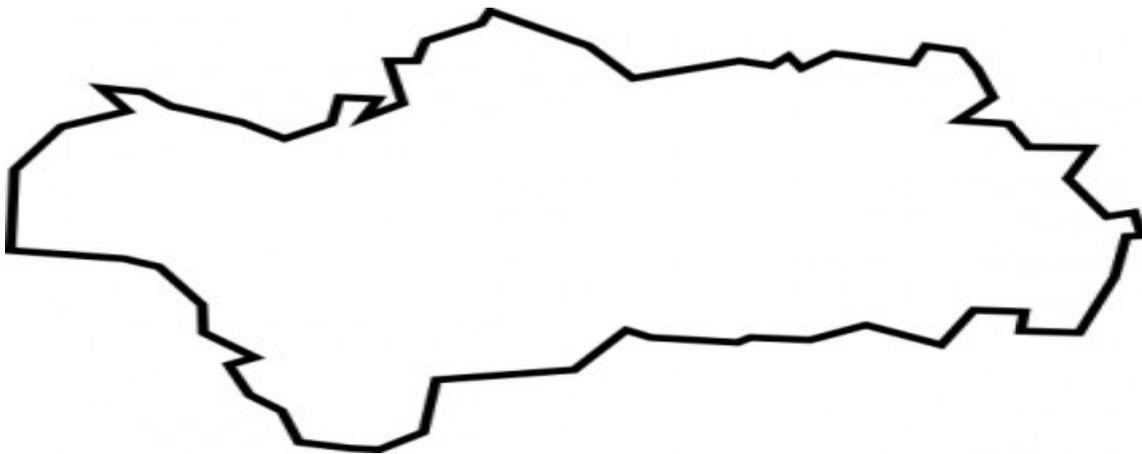
Andalusia has a great variety of rocks. The basin of Guadalquivir divides our region in two different areas:

-Sierra Morena and Sierra of Aracena. They are in the north of Andalusia. They contain the oldest rocks in Andalusia. We can find siliceous rocks of magmatic origin like granites, metamorphic rocks like slate and sedimentary rocks like sandstone.

-Cordilleras Béticas. There are different mountains in the south of our Community. Mountains of Baza and Sierra Nevada have got metamorphic rocks of siliceous and calcareous composition. Mountains of Mágina, Cazorla and Segura have got sedimentary rocks of calcareous composition.

We can find siliceous rocks in the Cabo de Gata. It is a volcanic area. Campo de Gibraltar has got sedimentary rocks.

Activity three: draw the basin of Guadalquivir and the different mountains in Andalusia.



5.-Webgraphy:

<http://www.slideshare.net/lapofedenaturales/unit-10-minerals-and-rocks>
<https://dl.dropbox.com/u/16749648/Bilingue/Unit%205%20y%206.Minerals%20and%20rocks/Unit%205-6%20min%20y%20rocks.jpg>
https://docs.google.com/file/d/0BzRJteJm7m_OGQyZjc2OGMtYzM0OC00DhmLWE4ODUtYzc2NTkZjg4Y2M2/edit?hl=en

Activity 4. Fill in the gaps with the correct word. Be careful, there are some extra words.

sedimentary blue rocks metamorphic minerals soft chemical calcareous
siliceous orange marble graphite

1. - The most important part materials of the geosphere areand.....
2. - Gold, silver and diamond are minerals. We can express them with a formula.
3. - Some minerals can vary in their colour. Malachite is green, sulphur is yellow and fluorite is
4. - Hardness means that some minerals are hard but others are
5. - A pencil is a school object. My teachers say that it contains
6. - Mountains of Mágina and Cazorla have got rocks of composition.

Activity 5. Fill in the diagram about the geosphere.

