

CLIL

Content and Language Integrated Learning

CLIL TIMES

by PINHEIRO



VOLCANOS AND EARTHQUAKES



LESSON PLAN

Class: 3° A, B and C

General aims: enhance the following skills:

- Communicative competence in English (in particular with regard to talk about past events and give advices)
- Mathematical, scientific, geographical competence
- Digital competence
- Learning to learn
- Social competence
- Spirit of initiative and entrepreneurship

Learning outcomes:

- To learn about volcanos and earthquakes
- To learn about some catastrophic events of the past due to volcanic eruptions and earthquakes
- To reflect on the causes and consequences to identify the critical issues of human behavior
- To draw up a series of rules to prevent catastrophic events such as the one analyzed
- Present a brief summary of the analyzed event and the rules identified for the class

Time: 6 hours (6 lessons)

Materials:

- ✓ Lexical enhancement material provided by the teacher
- ✓ Informative texts on catastrophic events of the past
- ✓ General instructions on the correct behavior to take in case of catastrophic events
- ✓ Computer
- ✓ Dictionary
- ✓ Internet
- ✓ LIM

Assessment: Self-assessment questionnaire (“My contribution to teamwork”), teacher’s observation, oral report

Teaching methods: brainstorming, working group, cooperative learning

1° LESSON

Brainstorming to introduce the topic, recall pre-knowledge and form groups

1. Show students a Power Point presentation to provide students with the specific vocabulary and general information on the subject.
2. Divide the class into six groups using prior knowledge of the students about the topic and their competence in English (heterogeneous level groups to carry out tutoring activities).
3. Assign to each group the task of identifying a catastrophic event related to volcanoes and earthquakes to be analyzed.

Form 6 groups

GROUPS	VOLCANOS	EARTHQUAKES
1		
2		
3		
4		
5		
6		

2° LESSON

Developing skills strategies (5 min.)

Before starting the activity, the teachers provides the students some skills strategies:

1. To ask for help when you do not understand
2. Check that you have understood it right
3. Check that the other person has understood what you mean

WRITE ON THE BOARD SOME USEFUL SENTENCES LIKE:

1

- ✓ *Can you say that again, please?*
- ✓ *Can you repeat, please?*
- ✓ *What do you mean?*

3

- ✓ *Do you understand what I mean?*
- ✓ *Is it clear?*
- ✓ *Made myself clear?*

2

- ✓ *Do you mean that...?*
- ✓ *(Summarized briefly what the other person has just said to get a confirmation)*
- ✓ *(Reword in other words what the other person has just said)*

2° LESSON

SCAFFOLDING (ORGANIZE INFORMATION)

WORKING GROUP – COOPERATIVE LEARNING

TASK: Draw up a series of instructions relating to the correct behavior to take to prevent damage resulting from specific catastrophic events

- ❖ Each group sets out the roles within it (group management, reader, writer, appointee to the dictionary, to the computer, reporters...) (5 min.)
- ❖ Each group identifies a catastrophic event related to volcanoes and earthquakes to be analyzed (15 min.)
- ❖ Each group examines the material provided by the teacher: lexical enhancement, informative texts on catastrophic events of the past, general rules in case of... (30 min.)
- ❖ Each group decides about the next step and useful tasks for carrying on the work (5 min.)

INFORMATION PROVIDED BY THE TEACHER

- Basic elements on plate tectonics
- How and why an earthquake occurs
- How to measure the power and consequences of an earthquake
- The volcano: structure and relative lexicon
- Relationship between earthquakes and volcanic eruptions
- The ring of fire
- How to prevent disasters resulting from earthquakes and volcanic eruptions

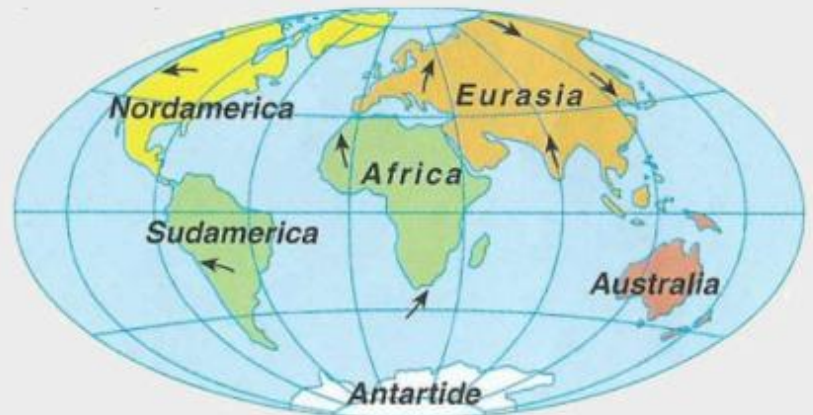
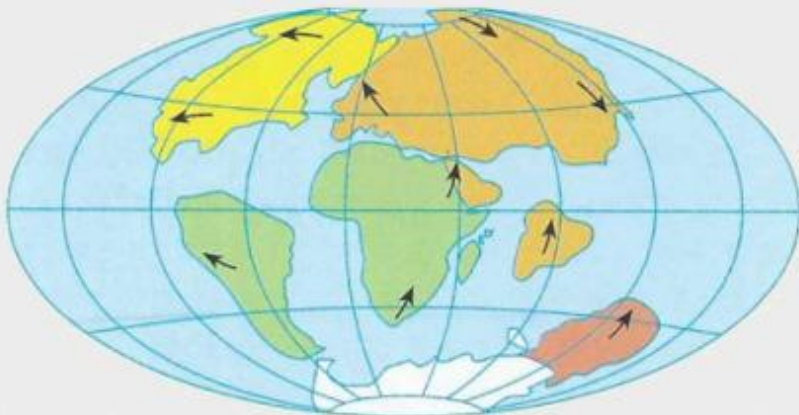
WHAT IS IT?



This is the PANGEA



In the beginning
all the continents
were joined
together.



Then the continents slowly started to separate and continue to move today.

There are about **twenty plates** along the surface of the Earth.

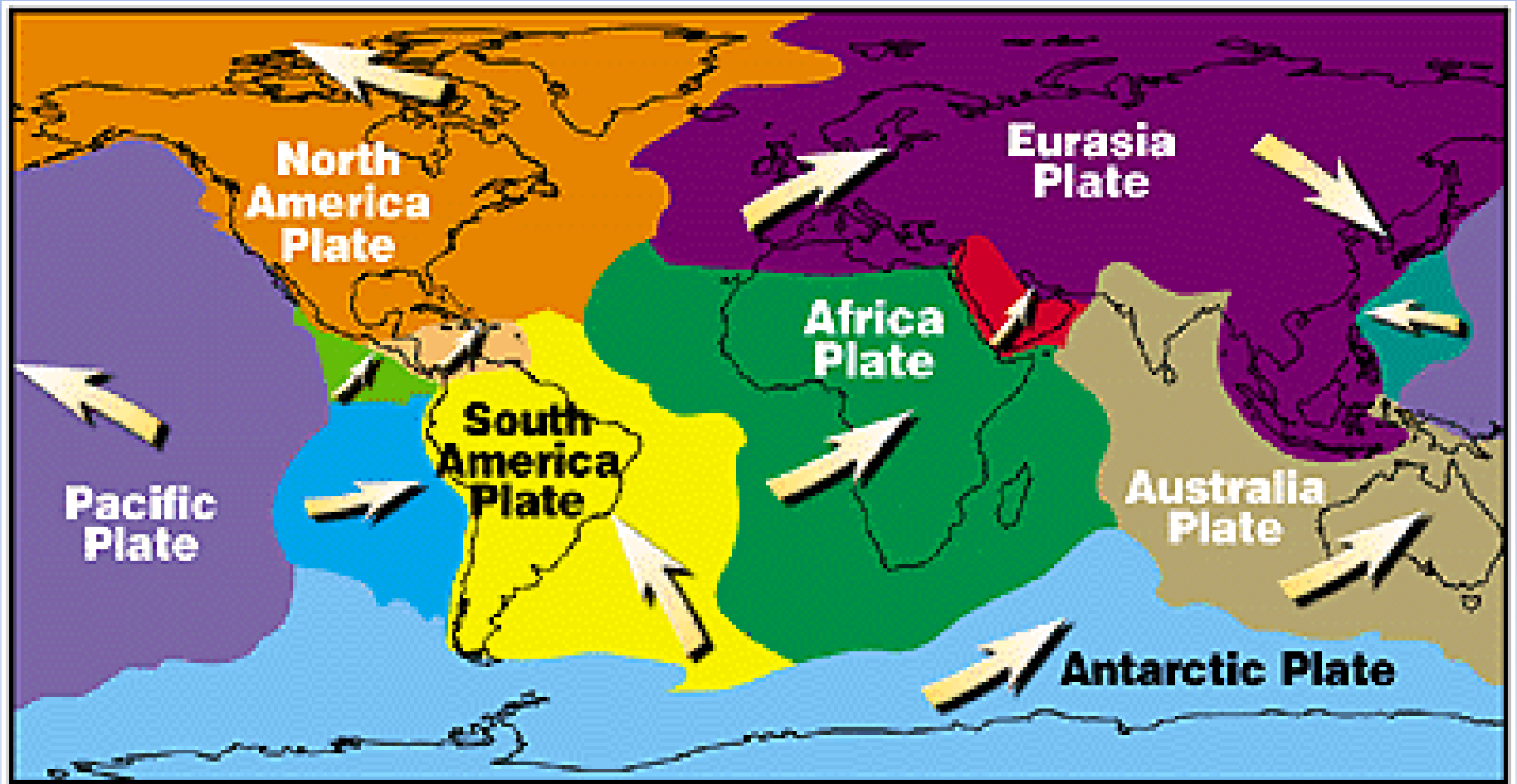
They are **huge pieces of rock** like pieces of a puzzle, **which make up the Earth's crust.**

The plates **move continuously** and slowly colliding and rubbing against each other.

They move in **different directions and at different speeds.**

Sometimes the plates crash together, push or move past each other.

When this happens, the results commonly are **earthquakes.**



This map shows the major tectonic plates that make up the Earth's crust and the directions in which they are moving-

What is an earthquake?

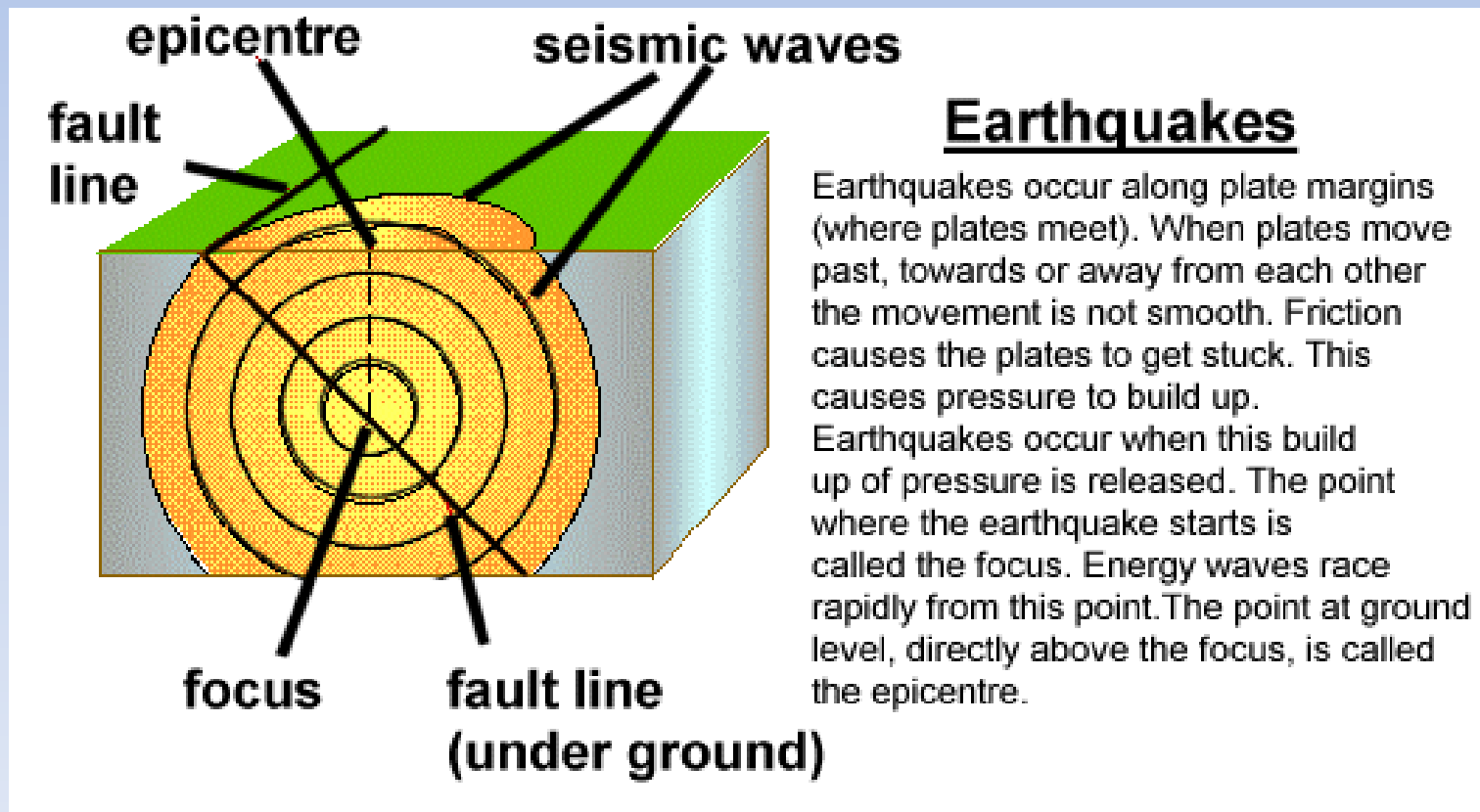
It's a sudden shock, shaking or rolling of the Earth's surface.

An earthquake (also known as a *quake* or *tremor*) is the result of a sudden release of energy in the Earth's crust that creates seismic waves.

Hypocentre and Epicentre

An earthquake's point of initial rupture is called its focus or hypocentre.

The epicentre is the point at ground level directly above the hypocentre.



Effects of earthquakes

1-Shaking and ground rupture

Damaged
buildings
in [Port-au-Prince, Haiti](#),
January
2010.



2- Fires

Fires of the [1906 San Francisco earthquake](#)





3- Tsunami

December
23rd, 2018

Strait of the
Sunda, which
separates the
Indonesian
islands of Java
and Sumatra

4 - Geysers

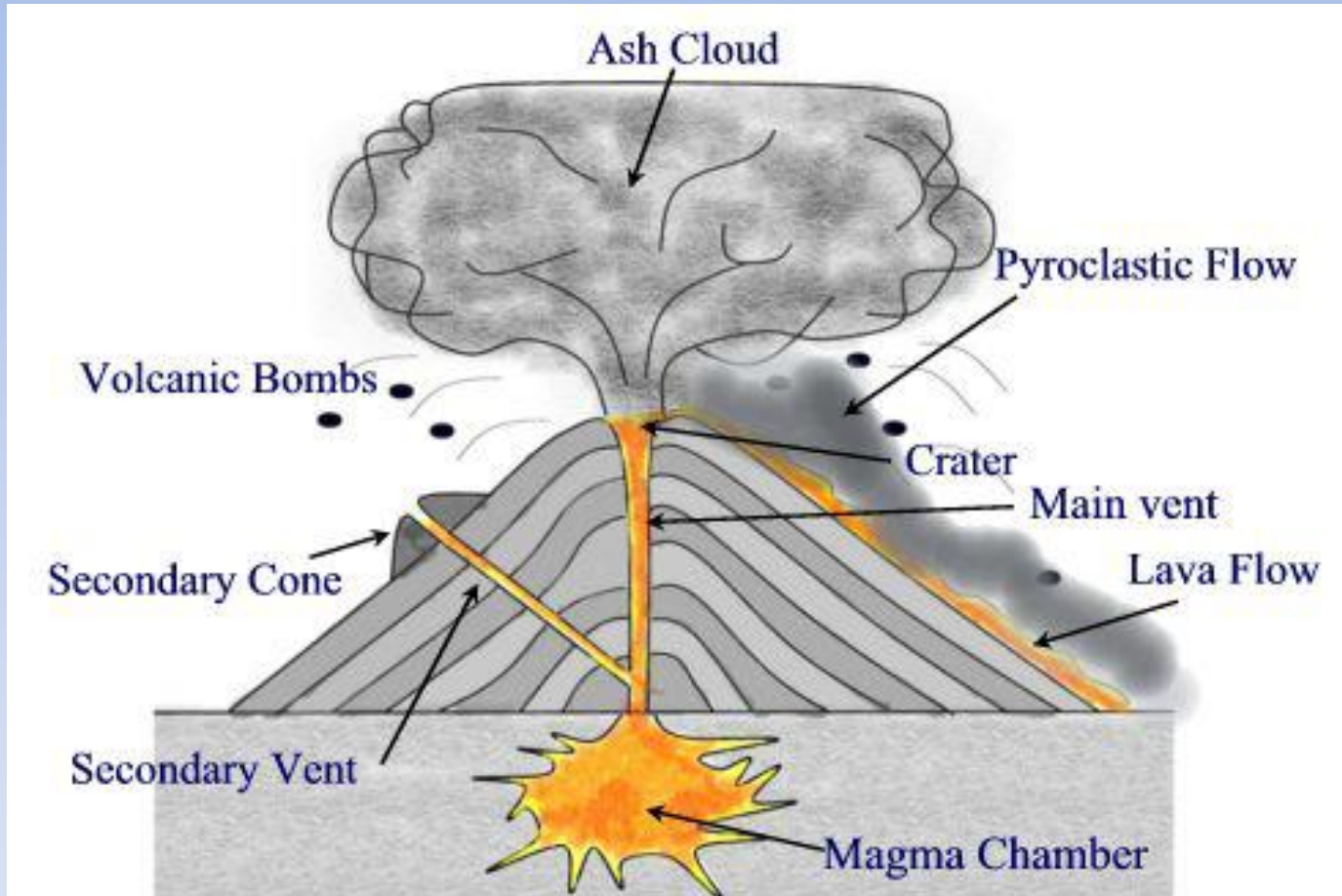
They are springs that throw boiling water into the air, phenomena of secondary volcanism.



Earthquakes can also trigger...
volcanic activity



Earthquakes often occur in volcanic regions and are caused, both by tectonic faults and the movement of magma in volcanoes.



Main Features of a Volcano

What is a volcano?

A volcano is a rupture of the Earth's crust where the magma comes out from the **magma chamber**, changing into lava. The lava cools off and makes origin to the volcanic edifice. At the surface it erupts to form lava flows and ash deposits, gases and rock shoot up through the opening and spill over or fill the air with lava fragments. Over time, as the volcano continues erupting, it will get bigger and bigger.

How many volcanoes are there in the world?

There are more than 500 active volcanoes on the Earth. We currently know of 80 or more which are under the oceans.

What is the largest active volcano?

The world's largest, active volcano is **Mauna Loa** in **Hawaii**. It is 13,677 feet above sea level. From its base below sea level to its summit, Mauna Loa is taller than Mount Everest. The biggest active volcano in Europe is Etna (Italy).



What is the difference between lava and magma?

Magma is liquid rock inside a volcano.

Lava is liquid rock (magma) that flows out of a volcano.



ETNA

What types of volcanoes are there?

A volcano can be:

ACTIVE

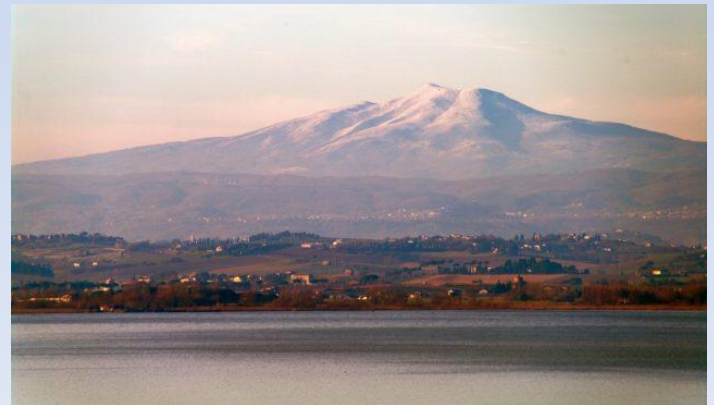
*that erupts regularly
(STROMBOLI)*



DORMANT: *it hasn't erupted for many years but there is still some activity inside
(VESUVIO)*



EXTINCT: *that is no longer active
(MONTE AMIATA)*



There are three basic shapes of volcano:

STRATOVOLCANOES or COMPOSITE VOLCANOES

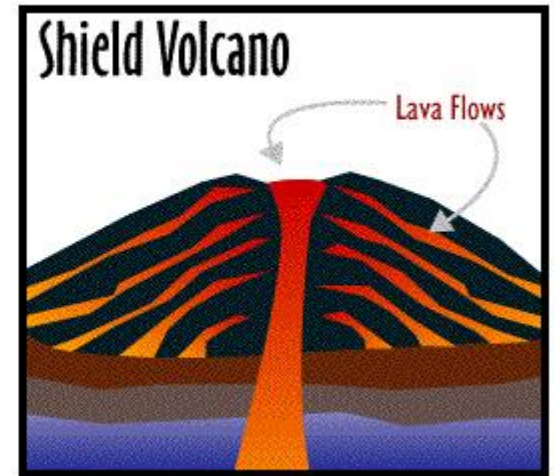
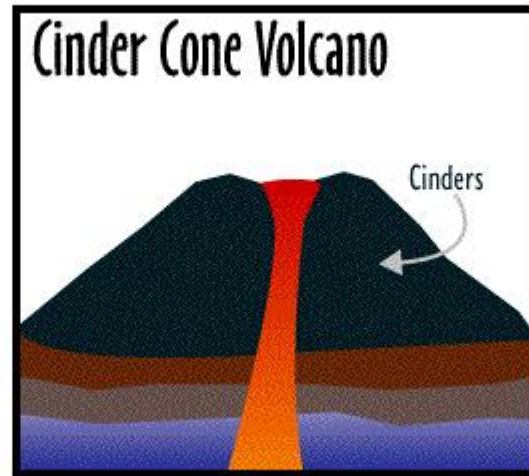
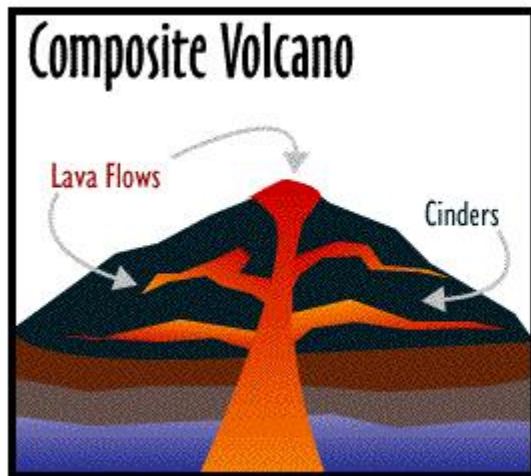
They're circular or oval they're made by explosive eruptions of pyroclastic material. They've got big bases and steep sides (VESUVIO)

CINDER CONE VOLCANOES

They are the simplest type of volcano with a circular or oval cone (MAUNA KEA IN HAWAII)

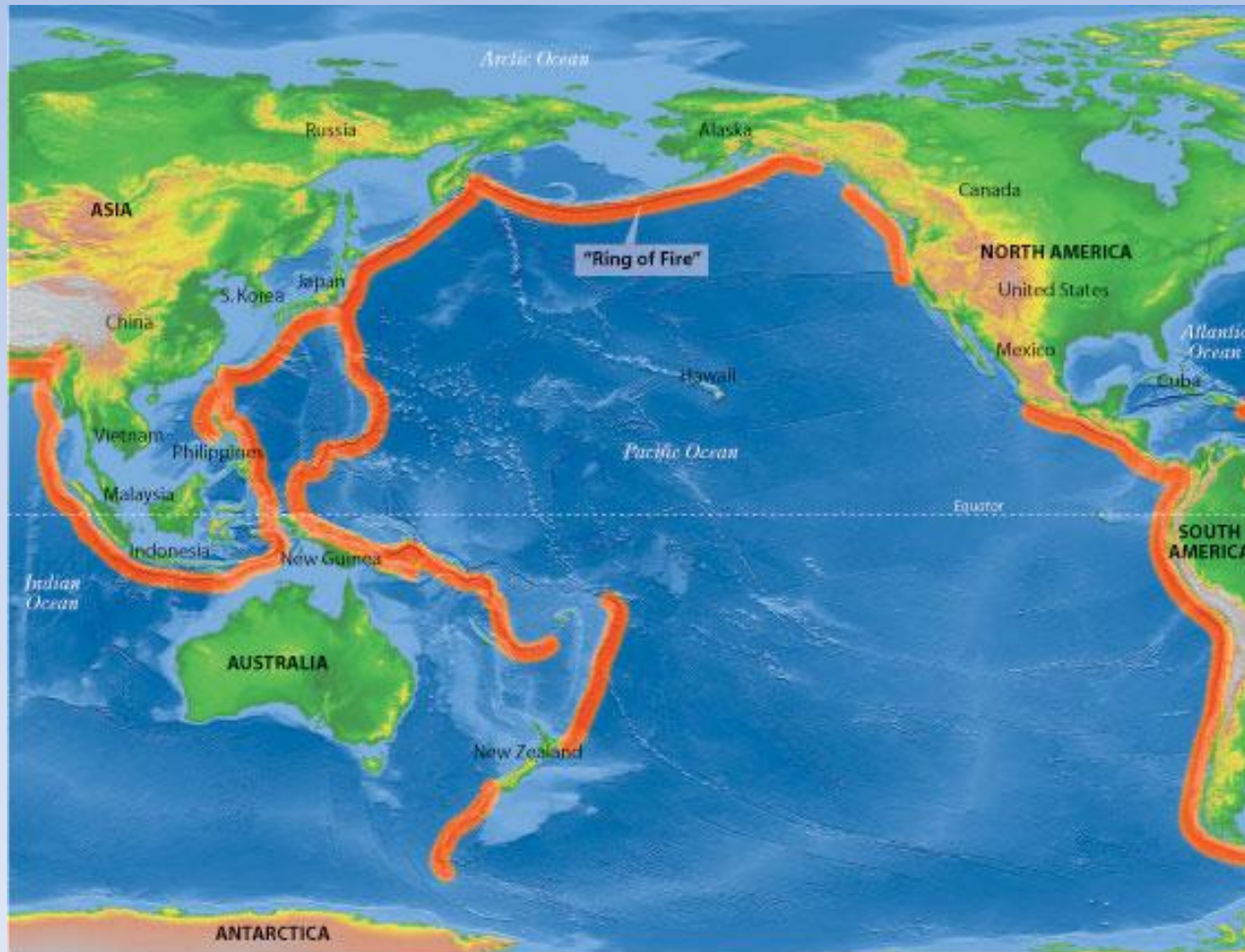
SHIELD VOLCANOES

They're formed by layers of basaltic lava (due to the continual eruptions) without violent explosions, because the lava is very fluid (ETNA).



What is the Ring of Fire?

The Pacific Ring of Fire is an area of frequent earthquakes and volcanic eruptions encircling the basin of the Pacific Ocean. The Ring of Fire has 452 volcanoes and is home to over 50% of the world's active and dormant volcanoes. 90% of the world's earthquakes and 81% of the world's largest earthquakes occur along the Ring of Fire.



THINKING SKILLS

While students are working the teacher provides them with some stimuli using new pictures, questions about what they are planning, what the goal is, what steps they want to follow...

Focus the goal

*To make connections
between new
information and
already acquired
ones*

*To produce
new
information,
meaning or
ideas*

*To examine the
task, its parts
and relationships*

COMMUNICATION

Each group presents to the class the synthetic description of the analyzed seismic or volcanic event with the relevant instructions to prevent and limit damage

- Each group has got 10 min. to expose its work: each student exposes a part of the work
- The reporters can use blackboard, LIM, photos or other media to communicate the results of activity performed by the group.
- The reporter has to use skills strategies.
- At the end of the report the other students of the class can ask for more information and explanations.

REFLECTION ON LEARNING PROCESS : ASSESSMENT

1. SELF-ASSESSMENT: students reflect on their own social skills by a questionnaire (“My contribution to teamwork”) to do at the end of each lesson.
2. TEACHER OBSERVATION: while students are working the teacher observes them and takes some notes in a grid about their language skills, communicative competences, subject knowledge and spirit of entrepreneurship.
3. ORAL REPORT: to do at the end of the module.

SELF-ASSESSMENT: "My contribution to teamwork"

QUESTIONARIO DI AUTOVALUTAZIONE DEL PROPRIO RUOLO

NOME _____ COGNOME _____

GRUPPO _____

DATA _____

1. HO FORNITO SOSTEGNO AL GRUPPO?

sempre qualche volta spesso mai

2. HO INCORAGGIATO LA PARTECIPAZIONE?

sempre qualche volta spesso mai

3. HO ASCOLTATO I MIEI COMPAGNI?

sempre qualche volta spesso mai

4. HO APPROFONDITO LA DISCUSSIONE E L'ARGOMENTO TRATTATO?

sempre qualche volta spesso mai

5. HO COMUNICATO IN MODO EFFICACE CON I COMPAGNI E L'INSEGNANTE?

sempre qualche volta spesso mai

6. HO CONTROLLATO I TONI DI VOCE?

sempre qualche volta spesso mai

7. HO RISPETTATO I TURNI NEGLI INTERVENTI?

sempre qualche volta spesso mai

8. HO CONTROLLATO I TEMPI DI LAVORO?

sempre qualche volta spesso mai

TEACHER'S OBSERVATION

Inserire nelle caselle i nomi degli alunni che manifestano gli atteggiamenti dei descrittori

COMUNICAZIONE	1	2	3	4	5
Assume posture corrette e rilassate					
E' rivolto fisicamente altrove, sbuffa, sbadiglia, giocherella					
Si alza, si muove frequentemente, provoca rumore					
Guarda chi parla, ascolta con attenzione					
Non ascolta, si isola, fa altro					
Richiama l'attenzione dei compagni, si mette in mostra chiacchiera					
Interviene in modo ordinato, non interrompe					
Non interviene					
Interrompe/ impedisce di intervenire					
Propone osservazioni, domande pertinenti, tiene conto degli interventi altrui, li elabora, li parafrasa					
Chiede di uscire					

<i>COLLABORAZIONE</i>	1	2	3	4	5
Fa interventi valorizzanti nei confronti dei compagni					
Non valorizza, né svalorza i compagni, procede individualmente					
Svalorza i compagni, mette in rilievo i successi, entra in competizione, interviene sostituendosi					
Afferma il proprio punto di vista senza mortificare l'interlocutore, è disposto a rivedere il proprio punto di vista					
Si impone, mortifica gli interlocutori					
Si definisce nel gruppo utilizzando prevalentemente comportamenti sociali corretti					
Cerca il consenso trasgredendo					
Assume il ruolo attribuitogli, porta a termine i compiti assegnati, argomenta per far prendere in considerazione le sue idee					
Tende a dimenticare il ruolo attribuitogli					
Non assume il ruolo attribuitogli, non porta a termine i compiti assegnati					
Fa interventi valorizzanti nei confronti dei compagni					

ORAL REPORT

The teacher has to consider and evaluate by a mark:

1. Relevance to the task: ____
2. Content: ____
3. Communicative skills: ____
4. Specific language: ____
5. Digital competence: ____
6. Social skills: ____

Other activities...

- Answer the questions...
- Reflect on the consequences and identify correct rules of behavior...
- Build a volcano...
- Level lines