# Annotation

Development of geography lesson for grade 7 on "Volcanoes

Indonesia "covers in more detail the topic" the Structure of the earth's crust.

Volcanoes." Secured the knowledge of students on issues of lithosphere plates and their movements, volcanism and its causes.

## **Explanatory note**

the Choice of this topic is due to the relevance of the problem of availability of active volcanoes in the densely populated countries of Asia, as well as more and more growing tourist interest in Asian states'. In the educational process, this topic takes an important place, as it helps to concretize the knowledge gained by students of 6<sup>th</sup> and 7<sup>th</sup> classes in the study of such topics as "the Structure of the earth's crust", " Volcanoes and geyser", "the Countries of Asia. Indonesia"," geographic coordinates."

# The content of methodological development

# Theme: VOLCANOES of INDONESIA

**Objective**: to create conditions for the presentation, assimilation and understanding of new information on the topic "Volcanoes of Indonesia"

# Planned result:

Personal:

1. Manifestation of educational and cognitive interest in the topic of the lesson.

2. Development of communication skills with adults and classmates in different social situations, the ability not to create conflicts and to find ways out of disputes.

3. Development of motives of educational activity and formation of personal meaning of teaching.

## **Object:**

1. To use the terms "crust", "lithosphere" for the solution of educational problems.

2. Identify and explain the essential features of volcanoes.

3. Conduct an independent search for geographical information about volcanoes and their location.

#### Interdisciplinary:

Regulatory universal educational actions:

- define and formulate the theme of the lesson, the purpose of the lesson, to put the educational and cognitive task and keep it until the end of learning activities;

- plan in cooperation the classmates actions in accordance with the educational and practical tasks;

 evaluate the results of solving the tasks, find errors and ways to eliminate them

Cognitive OOD:

- to search for the necessary information from the materials of the textbook, texts and illustrations;

- understand educational information and classify it as basic and secondary;

Communicative UUD:

- build a speech statement in oral and written form, answer questions, justify their point of view;

- enter into educational cooperation with the teacher and classmates;

- allow the possibility of people of different points of view, to show a friendly attitude to classmates.

**Type of lesson** : lesson of the "discovery" of new knowledge.

Forms of work of students: frontal, individual, group.

**Lesson equipment**: textbook, workbook, Atlas, computer, multimedia, presentation for the lesson, video "volcanic Eruption", "Physical map of the world".

#### The lesson

Question on the board: determine which object has the coordinates 6 ° s. w. 105° w.l

Students use a physical map in the Atlas and determine the object-volcano Krakatoa, one student shows the volcano on the wall map.

What country is this volcano in?

Students use the political map of the world in the Atlas and answer that the country is called Indonesia.

The teacher shows a video fragment of "the eruption of Krakatoa in September 2018." Based on the film and previous task, make a conclusion what topic we will study in class.

**Options for students**: the earth's crust, volcanoes, tectonic plates, Indonesia, volcanoes of Indonesia.

So, what are volcanoes and where they can be found most often? - work with the map "structure of the earth's crust" - volcanoes are found in places of collision of lithospheric plates. Which lit. plates collide where the state of Indonesia is located? Students answer teacher's questions using the map " Structure of the earth's crust."

Indonesia is a state that, as we have already understood, is located in the so-called "ring of fire" of the Pacific ocean. This country is located in an area where a lot of active volcanoes exist, one of which is already known to us as Krakatoa. Today you will learn more about no less interesting active volcanoes in Indonesia.

The class is divided into 5 groups of 5 people.

Each group receives a text and an image of one of the volcanoes in Indonesia.

In 7 minutes the team should prepare a speech about" their " volcano and present the information so that the rest of the team could fill in the table:

The table is drawn by all students in notebooks before the teacher divides the class into teams.

When all the students are ready and the tables are drawn, the teacher gives the materials and marks the time.

After 7 minutes, each team make a speech in front of the class and provides information about "their" volcano, the performance lasts no more than 3 minutes, the other teams record the data in the table.

After the information is processed, the teacher offers students to draw conclusions on the completed table.

Options for students: Indonesia has a lot of volcanoes, because it is in the zone of collision of lithospheric plates, all volcanoes are high enough, basically all volcanoes are located on the island of Java, etc.

As the consolidation, the teacher asks students to name the brightest one memorable fact.

#### Active volcano Ijen on the island of Java in Indonesia

Volcano Ijen (Gunung Agung) is considered one of the most famous in Indonesia, in addition, the rating of its popularity is quite high, it is visited by a large number of tourists from around the world.

It is called Kawah Ijen is a synonym of the name of the sulphur lake, Kawah Ijen or just Kawah. It is an active stratovolcano located on the island of Java. its height is 2386 m, and it is used for mining, in particular sulfur.

Sulfur is mined on the shore of the black lake, which is the uniqueness of this volcano. The lake is located in the crater of the volcano, it is extremely beautiful, the water in it is emerald green, but this beauty is dangerous – the lake is filled with millions of tons of a mixture of sulfuric and hydrochloric acids. It is the largest acid lake in the world.

## Bromo volcano in the East of the Indonesian island of Java

In the East of the Indonesian island of Java, on the territory of the Bromo Tengger Semeru national Park, surrounded by sand dunes, against the background of an unusual alien landscape, a formidable volcano Bromo is standing (indon.Gunung Bromo).

Indeed, we can see a breathtaking view - in the valley strewn with black volcanic sand rise cone-shaped slopes, which are lava roads and trails, in some places small bushes grow and air is covered in smoke.

This is one of the most active volcanoes in the world, located on the Caldera of the volcanic complex Tender (indon. Tengger). The height of the volcano is only 2392 m, its 600-meter crater constantly smokes and produces gases. By the way, there are 4 smaller volcanoes in the crater.

# The most powerful supervolkano Toba on the Indonesian island of Sumatra

Indonesian Toba volcano (Toba) is considered to be the most powerful volcano on the planet. Location-Sumatra island, Indonesia, the height is 2157 m. it was Formed during the Holocene, now it is an extinct volcano.

Mega colossal eruption of this volcano, which occurred about 74 thousand years ago, was the largest disaster on Earth and allegedly changed the course of human evolution.

According to geological data, millions of tons of ash were ejected from the bowels of the earth and about 3,000 cubic meters of magma were poured out. According to scientists, the erupted ash of the volcano could cover an area equal to the area of modern Russia with a meter layer. The release of such a huge amount of ash material as they say, eclipsed the Sun, its rays could not penetrate to the surface of our planet, which led to the start of volcanic winter.

## Merbabu volcano in the Central part of the Indonesian island of Java

Merbabu volcano or Gunung Merbabu (Merbabu) is located in the Central part of Java island, Indonesia. Translation of the name sounds like "mountain of ash" or "mountain of cinder". The height of the giant is 3144 m.

This stratovolcano is considered to be asleep. There are 2 historical eruptions of this volcano. For the first time the volcano erupted in 1560 or according to unconfirmed reports in 1570. The second and last eruption occurred in 1797. According to the indicators of volcanic explosiveness (scale of volcanic eruptions), this eruption was estimated by the indicator "2". But do not forget about the volcano because there are many examples in history of the awakening of volcanoes that have slept for centuries.

#### Indonesian stratovolcano Rinjani on the island of Lombok

This volcano is considered by many to be one of the most beautiful in the world – its picturesque surroundings really delight and surprise everyone who was able to visit and conquer it. We are talking about the Indonesian volcano Rinjani. It is located on the island of Lombok and is its famous landmark.

Rigani, is an active stratovolcano and the second highest volcano in Indonesia (3726 height).

It is a kind of mountain massif with three sub craters and an oval Caldera. The oldest of the craters was formed about 48 thousand years ago, where in 1847 there was the largest eruption. The second was formed about 3400 years ago, there is a fumarole activity seen. The third crater was formed in 1944. The last eruption occurred in 2010.

### Introspection

This development allows you to consolidate the knowledge gained by students of 6 and 7 classes in the study of topics such as" geographical coordinates"," Structure of the earth's crust"," Lithosphere"," Volcanoes and geysers", " Asian Countries. Indonesia."

An important element of this development is the use of a video fragment, which clearly shows the eruption of Krakatoa volcano (2018).

It should also be noted the use of group technology, which allows to continue to form students ' communication skills, teamwork.

#### List of used literature

1. Fiona Watt. Encyclopedia of the world "Earthquakes and volcanoes". M. : "ROSMAN", 1998

2. Olga Bochkova. "Land." - - M.: WORD/SLOVO, 2001

3. Jenny Tyler. School and home. "World geography". - M.: "ROSMAN", 1999