

I chose geography for my project. Topic which I decided to do is: "Story of searching oceans and what limits us from exploring them?". I picked it because I'm interested in the story of the oceans and their explorations. In the project I wrote about people who were at the deepest area of the oceans. Also about what we know about the ocean and about the main part which presents factors which prevent us from exploring them. The topic I raised is related to knowledge about the oceans - oceanography. Information I included:

- story of Don Walsh and Jacques Piccard's ocean expedition, James Cameron's journey to the bottom of the ocean, Victor Vescovo and his mission "Five Deeps Expedition"
- what we know about oceans and main factors which prevent us from exploring oceans
- recapitulation whole topic and my opinion

### **Presentation**

In the first three slides:

I put the story of Don Walsh and Jacques Piccard's expedition. At the beginning I wrote about when this immersion took place and what equipment they used. I also pasted a photo which presents a bathyscaphe which they took advantage of.

I located information about exploration made by James Cameron. The same as in the previous one I inserted an illustration of a diving chamber. I added fun facts about what was discovered after this and what depth he descended.

I put information about who Victor Vescovo is. I referred to the mission which he came up with. I also wrote about the world record which he broke. I pasted photographs which illustrate this man and his bathyscaphe.

In the next slide I wrote about facts which we know about the oceans. There is really little information about this so it was hard to find information about it. I located animation about changing the division of the oceans. I also placed names of each of them.

In the few following slides:

I wrote about factors which prevent us from exploring oceans. First of them is very high pressure. At the start I put information on why this stopped us from exploring. I insert a chart with an average pressure on air compared to this at the bottom. Next obstacle which I describe is cold temperature. I also added a graph which presents temperature comparison.

In the ending slides I located recapitulation about this topic and my small opinion.

### **Final product**

For my final product I did an illustration which presents the ocean basin. I chose this because it shows us what the surface looks like underwater. It also shows how deep the ocean trench is compared to the land surface. This relates to my topic because I mentioned the deepest ocean trench many times and now it is seen what it looks like. I drew and signed

the elements on it. During doing my final product I used illustrations from the textbook and the Internet.

**This work schedule is showing how I worked on my project.**

beginning of October	our teacher presented and familiarized me and my class with the principles of the project and starting thinking about topic
ending of October	coming up with the topic of the project (“Story of searching oceans and what limits us from exploring the?”) and discussing it with the geography teacher
November and December	<ul style="list-style-type: none"> <li>● starting looking for and collecting some information about it</li> <li>● writing down the most important things that I wanted to mention in the presentation</li> <li>● starting doing presentation</li> </ul>
January	<ul style="list-style-type: none"> <li>● conversation with the teacher about the final product</li> <li>● starting writing report</li> </ul>
February	<ul style="list-style-type: none"> <li>● finishing the presentation (adding photos, charts)</li> <li>● adding work schedule to my report</li> <li>● sketching the final product, which is a drawing of “ocean basin”</li> <li>● signing all elements of my product</li> </ul>

People who managed to reach the Mariana Trench:

Don Walsh and Jacques Piccard were two first people there. Their submarine was the Trieste, which was designed and built in 1953-1954 by Jacques and his father - Auguste Piccard. These two men 26th January 1960 immersed themselves to a depth of about 10 916 meters. Descent to this depth took them 5 hours. When they were there it was hard to see anything. But when the water mud rose they saw fish and strange crabs. After returning to the land, information that there exists life was so shocking to the people.

James Cameron - film director and ocean exploration enthusiast also dreamed about descending to Mariana Trench. He made it happen in March 2012. First he designed his own bathyscaphe which was named Deepsea Challenger. By using it James immersed to a depth approximately 10 898 meters under the water. During his stay at the bottom Cameron collected samples, took photographs and filmed the surrounding environment. The data he collected was very important because it expanded knowledge about the depths.

Underwater explorer and investor Victor Vescovo came up with the mission „Five Deeps Expedition”. Primary objective was to dive to the deepest point in each of the five oceans. First deep which he visited was Puerto Rican Trench on the Atlantic Ocean but last Molloy Deep on Arctic Ocean. Mariana Trench was before the last and most difficult depth to visit.

28th April 2019 after several immersion Victor broke the world record by descending to a depth of 10,928 meters underwater. This man was used for an expedition bathyscaphe DSV Limiting Factor.

What do we know about the oceans?

So far our knowledge of oceans is small. We explore only 5-10% of the whole oceans. Until recently scientists talked about the existence of only four oceans but nowadays we know about five. All of these create a large one which is called the World Ocean. They occupy a huge area because as many as 70% of Earth's surface. The biggest one is the Pacific Ocean which is located between Asia and North America.

Factors which prevent us from exploring:

Exploring the ocean is an important but difficult thing. There are many factors that prevent us from doing this.

- One of them is very high pressure at the bottom. The deeper in the water, the higher it is. Pressure on the deep water is over a thousand times larger than on land. It definitely makes work at depths difficult because submarines must be resistant to high pressure.
- Another factor is cold temperatures. At the bottom of the oceans temperatures can be very cold, especially at the poles. They can even reach values close to 0 degrees Celsius. Compared to the average temperature on Earth, which is 15 degrees, this is really little.
- Important obstacle is no sunlight and poor visibility. Sunlight reaches only a small amount to 1000 meters underwater and deeper is completely darkness.

In conclusion, exploring the oceans is a difficult thing. Only a few people managed to descend to the Mariana Trench. Exploring and studying the oceans is very meaningful for the future of Earth. Through this we can understand elements of various global ecological and climatic processes. I think in the future technology and science will develop enough to make searching them an everyday thing. I hope we will learn all the secrets that the ocean hides.

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