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Lake Baikal



In Russia, near the Mongolian border, lies Lake Baikal, the largest lake in the world. Lake Baikal holds 20% of the Earth's freshwater. Imagine taking all the water in the Canadian/US Great Lakes (Superior, Michigan, Huron, Erie and Ontario) and putting it together into one lake. That is how big Lake Baikal is! Lake Baikal is about 640 km long, and 80 km wide, and at 1,620 meters, it is the world's deepest lake as well. There are more than thirty rocky islands in Lake Baikal, and the largest of these is called Olkhon Island. According to local legend, the Mongolian warlord Genghis Khan was born on this island. Over 300 rivers and streams flow into Lake Baikal! The six main rivers that flow into the lake are: Selenga, Chikoy, Khiloh, Uda, Barguzin, and the Upper Angara, but only the Angara River flows out of the lake. Few lakes are older than 10,000 years, but Lake Baikal is an amazing 25-30 million years old! Scientists believe that movement of the earth during the *Paleozoic*, *Mesozoic* and *Cenozoic* periods created the mountains and valleys in the region, as well as the deep basin of Lake Baikal. Over the next few million years, rivers, meltwater and rain filled the basin and created Lake Baikal.

In addition to being the largest lake, Lake Baikal is special because unlike other lakes, even the bottom layer (hypolimnion) contains life. There are *thermal springs* that release hot water containing oxygen into the bottom of the lake. Water from deep in the earth is very hot, and as it rises up, it mixes with the two horizontal currents and several vertical currents in the lake. Because of the movement of water, oxygen is distributed everywhere in the lake, and this explains why there are no "dead zones". Dead zones are areas where animals cannot live. In Lake Baikal, animals can live everywhere. The water in Lake Baikal is incredibly clear, and it is not unusual to be able to see down to a depth of 50 meters! But even though the water is clear, and there is plenty of life in the lake, it is probably not a good place to swim. Lake Baikal is cold: Even in the summer, temperatures along the shore only range from about 14 to 16°C. In winter, the entire lake freezes, and the ice is about one meter thick in most places on the lake.

Lake Baikal and the surrounding area are home to about 3700 species of animals, and 1000 species of plants. About 80% of these species are endemic. *Endemic* means that they are found nowhere else in the world. Mammals such as brown bear, elk, moose, deer and the Siberian chipmunk live along the shore, and there is even a freshwater seal, the Nerpa, that lives in the lake. The Nerpa is the world's only freshwater seal. Many kinds of fish live in the water of Lake Baikal. About 50 species, including salmon, sturgeon, oilfish and bullhead are good for eating, and occur frequently in many local dishes. Lake Baikal is also home to some strange fish that are not good to eat. Among these fish is the golomyanka, one of only a few *viviparous* fish in the world. Viviparous means that it doesn't lay eggs, but gives birth to live young. Another interesting little fish called the gobi also lives in Lake Baikal. Members of the gobi family live all over the world. Twenty-seven of the gobi species in Lake Baikal are endemic. There is a tiny shrimp-like animal called the epishura that eats waterweeds, bacteria and other things that cloud the water. The epishura are like the caretakers of the lake, and it is because of these little creatures that the lake is so very clear.

Lake Baikal is truly a spectacular place. Surrounded by mountains, forests and wilderness, it is home to many animals, and even a few people. It has been called the "Pearl of Russia", and this is indeed a well-deserved name!

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Answer the following questions about Lake Baikal

1. Where is Lake Baikal?

2. How big is Lake Baikal?

3. How much of the world's freshwater does Lake Baikal hold?

4. According to legend, what happened on Olkhon Island?

5. Why can animals live in the entire lake?

6. What kinds of animals live in and around Lake Baikal?

7. What does endemic mean?

8. What is the Nerpa, and why is it special?

9. What is special about the golomyanka? What does viviparous mean?

10. Why are 27 of the gobi species in Lake Baikal special?

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Answers to Lake Baikal

1. Lake Baikal is located in Russia, near the Mongolian border.
2. Lake Baikal is the biggest lake in the world. It is about 640 km long, and 80 km wide. It is also the deepest lake, at 1,620 meters.
3. Lake Baikal holds 20% of the world's freshwater.
4. According to local legend, Genghis Khan was born on Olkhon Island.
5. Animals can live in the entire lake because there is oxygen everywhere. Thermal springs release hot oxygenated water into the lake. The hot water rises up, and mixed with horizontal and vertical currents, causes oxygen to be distributed everywhere.
6. Animals that live around Lake Baikal include bears, moose, elk, deer and Siberian chipmunks. Many fish live in Lake Baikal, as well as the Nerpa.
7. Endemic means that the animals only occur in this area, and not anywhere else in the world.
8. The Nerpa is special because it is the only freshwater seal in the world.
9. The golomyanka is one of only a few viviparous fish in the world. Viviparous means that it doesn't lay eggs, but gives birth to live young.
10. Twenty-seven of the gobi species in Lake Baikal are special because they are endemic to the lake.