



LANDFORMS

AND SCALE

Рельеф и размеры

1. Glacier



2. Canyon



3. Ocean



3. Cave





1. Glacier



2. Canyon



3. Ocean



4. Cave

Aletsch Glacier

- The **Aletsch Glacier** is the largest glacier in the Alps. It has a length of about **24 km**.
- a) How long is the glacier in centimeters on the map scale 1: 1 000 000?
- b) Due to melting the glacier gets smaller. How long was it in 2009 (in reality) in kilometers if on a map scale 1: 000 000 it was 27cm?

The Grand Canyon

- **The Grand Canyon** made by Colorado River in the state of Arizona in the United States is **446 kilometers long**.
 - a) How long is the Canyon in centimeters if the map scale **1: 10 000 000**?
 - b) How wide is the Canyon in meters in reality if on the map scale is **1: 100 000** it is only **1,5 cm**?

Rupal Face

- The highest cliff in the world, is Rupal Face, which rises approximately **4,500 meters**.
- a) How high in centimeters is the cliff on a map scale 1: 100 000?
- b) On one part of the map scale 1: 10 000 the height of the cliff is 30cm.
How high in kilometers is the cliff in reality?

Mammoth Cave

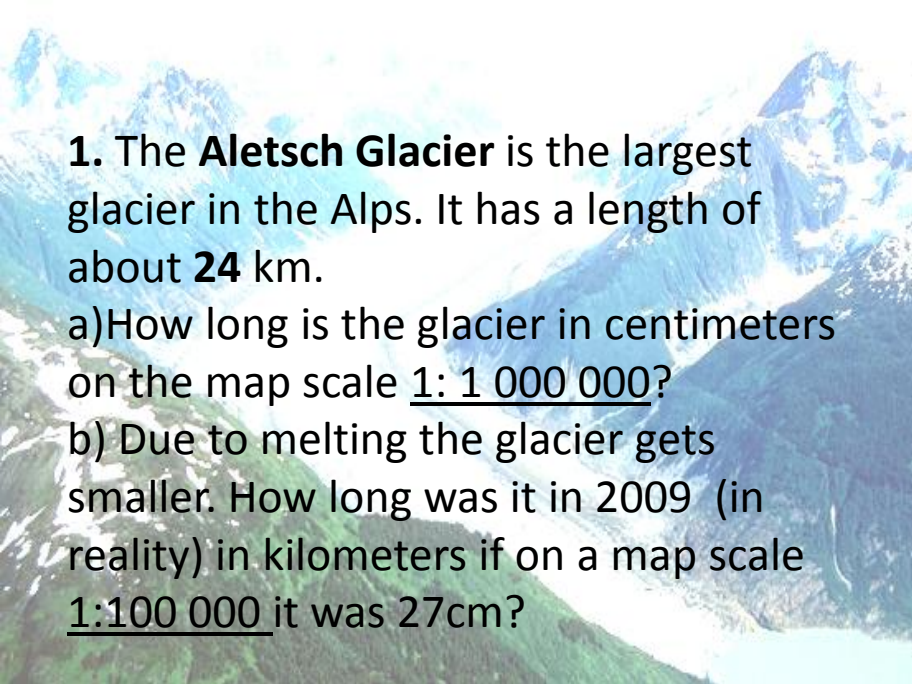


Mammoth Cave National Park

Mammoth Cave National Park is a U.S. national park in central Kentucky with the longest cave system known in the world.

a) How long is the cave system in centimeters if on the map scale 1: 10 000 000 the halls of the cave are 640 kilometers?

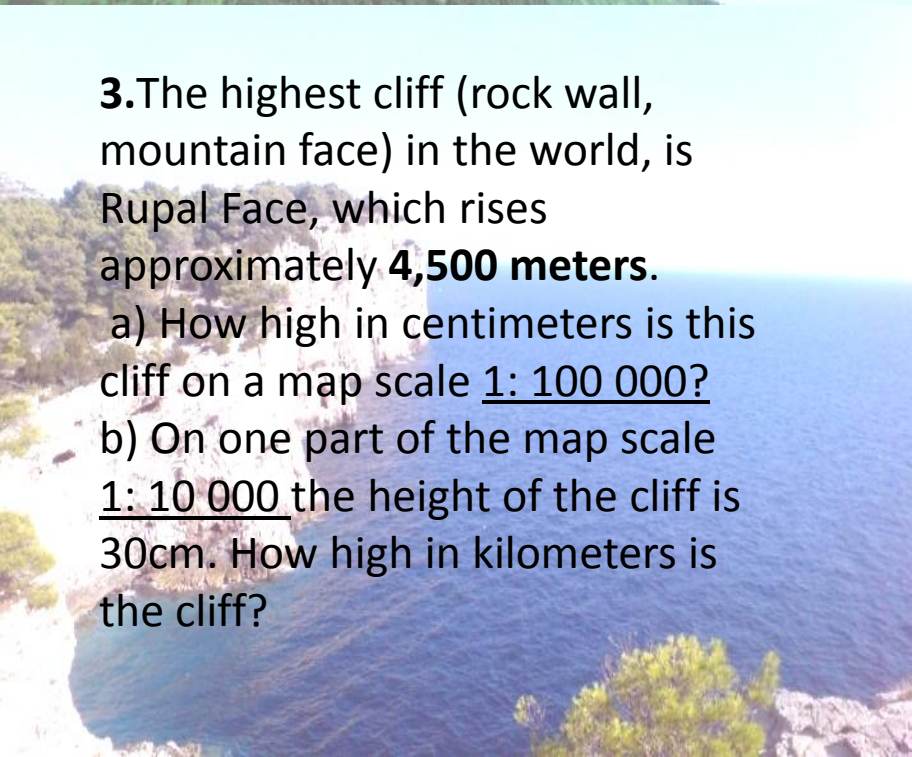
b) In 1961, not all the halls were explored and the known walls were 14 centimeters on the map scale 1: 1000 000. How long were those halls?



1. The **Aletsch Glacier** is the largest glacier in the Alps. It has a length of about **24 km**.

a) How long is the glacier in centimeters on the map scale 1: 1 000 000?

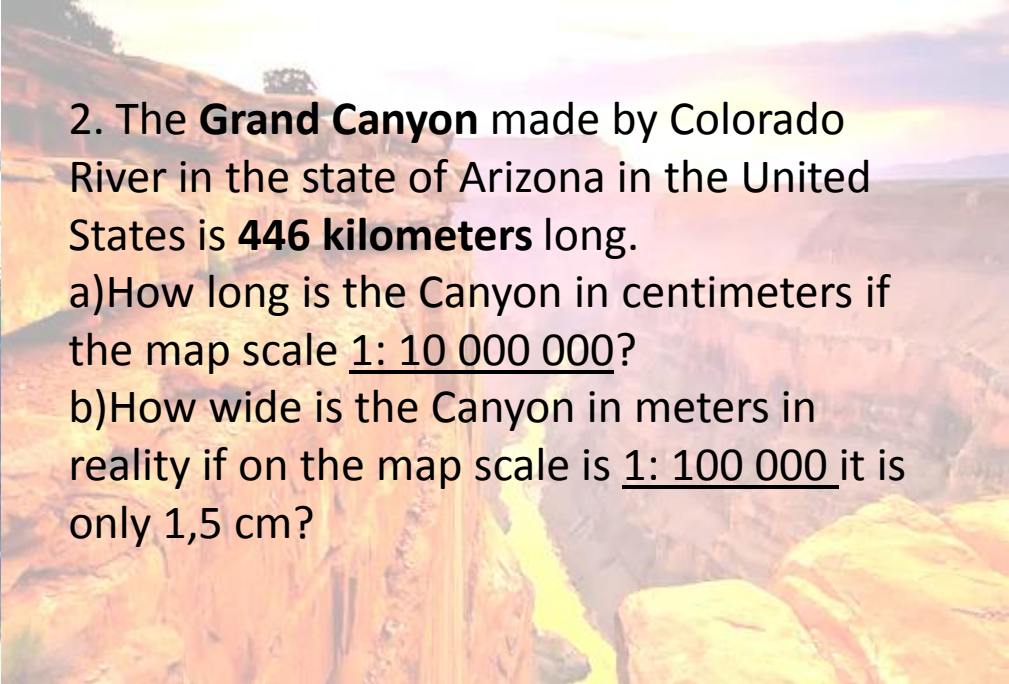
b) Due to melting the glacier gets smaller. How long was it in 2009 (in reality) in kilometers if on a map scale 1:100 000 it was 27cm?



3. The highest cliff (rock wall, mountain face) in the world, is Rupal Face, which rises approximately **4,500 meters**.

a) How high in centimeters is this cliff on a map scale 1: 100 000?

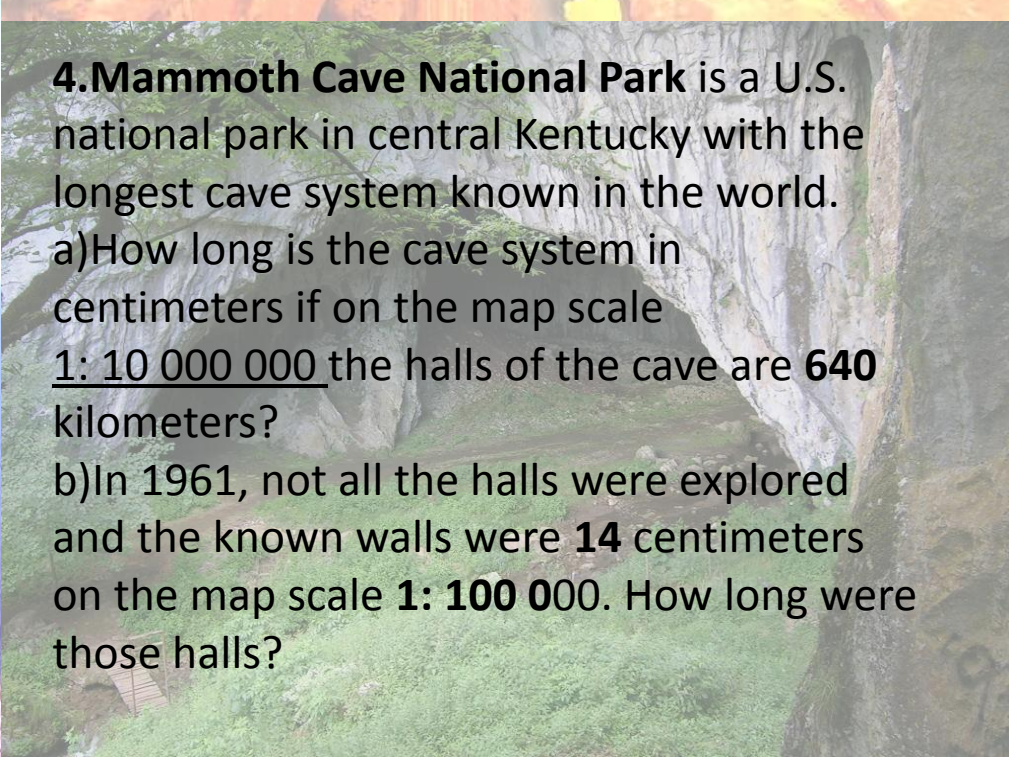
b) On one part of the map scale 1: 10 000 the height of the cliff is 30cm. How high in kilometers is the cliff?



2. The **Grand Canyon** made by Colorado River in the state of Arizona in the United States is **446 kilometers** long.

a) How long is the Canyon in centimeters if the map scale 1: 10 000 000?

b) How wide is the Canyon in meters in reality if on the map scale is 1: 100 000 it is only 1,5 cm?



4. **Mammoth Cave National Park** is a U.S. national park in central Kentucky with the longest cave system known in the world.

a) How long is the cave system in centimeters if on the map scale 1: 10 000 000 the halls of the cave are **640 kilometers**?

b) In 1961, not all the halls were explored and the known walls were **14 centimeters** on the map scale **1: 100 000**. How long were those halls?

Aletsch Glacier - answers

- The **Aletsch Glacier** is the largest glacier in the Alps. It has a length of about 24 km.
- a) How long is the glacier in centimeters on the map scale 1: 1 000 000?
 - $24 \text{ km} = 24\,000\text{m} = 2\,400\,000\text{cm}$
 - $2\,400\,000\text{cm} : 1\,000\,000 = 2,4\text{cm}$
- b) Due to melting the glacier gets smaller. How long was it in 2009 (in reality) in kilometers if on a map scale 1: 000 000 it was 27cm?
 $27\text{cm} \cdot 100\,000 = 2\,700\,000\text{cm} = 27\,000\text{m} = 27\text{km}$

The Grand Canyon-answers

- The Grand Canyon made by Colorado River in the state of Arizona in the United States is **446 kilometers long**.
- a)How long is the Canyon in centimeters if the map scale 1: 10 000 000?
- $446 \text{ km} = 446\,000\text{m} = 44\,600\,000\text{cm}$
- $44\,600\,000\text{cm} : 10\,000\,000 = 4,46\text{cm}$
- b)How wide is the Canyon in meters in reality if on the map scale is 1: 100 000 it is only 1,5 cm?
- $1,5\text{cm} \cdot 100\,000 = 150\,000\text{cm} = 1\,500\text{m}$

Rupal Face

- The highest cliff in the world, is Rupal Face, which rises approximately **4,500 meters**.
- a) How high is this cliff in centimeters on a map scale 1: 100 000?
 - $4500\text{m}=450\ 000\text{cm}$
 - $450\ 000\text{cm}:100\ 000=4,5\text{cm}$
- b) On one part of the map scale 1: 10 000 the height of the cliff is 30cm. How high in kilometers is the cliff in reality?
 $30\text{cm}\cdot 10\ 000= 300\ 000\text{cm}=3000\text{m}=\mathbf{3km}$

Mammoth Cave National Park

- **Mammoth Cave National Park** is a U.S. national park in central Kentucky with the longest cave system known in the world.

a) How long is the cave system in centimeters if on the map scale 1: 10 000 000 the halls of the cave are 640 kilometers?

$$640 \text{ km} = 640\,000\text{m} = 64\,000\,000\text{cm}$$

$$64\,000\,000\text{cm} : 10\,000\,000 = 6,4\text{cm}$$

b) In 1961, not all the halls were explored and the known walls were 14 centimeters on the map scale

1: 1000 000. How long were those halls?

$$14\text{cm} \cdot 1\,000\,000 = 14\,000\,000\text{cm} = 140\,000\text{m} = 140\text{km}$$

THANK
YOU

