

## **Vocabulary**

area: the measure, in square units, of the interior region of a 2-dimensional figure or the surface of a 3-dimensional figure

basin: a depression in Earth's surface

condensation: the changing of a gas into a liquid

drought: a prolonged period of little or no rainfall

evaporation: the changing of a liquid into a gas

fresh water: water that is not salty

irrigation: how farmers bring water to plants when rain is not enough

lake: a body of water surrounded by land

precipitation: rain, snow, sleet, and hail

rain: liquid precipitation

volume: the number of cubic units it takes to fill a figure

water cycle: the circular journey of the Earth's water from sea to the air and back again

Diagram of the Water Cycle

Name \_\_\_\_\_

## Lake Chad Data Sheet

Lake Chad is located on the southern edge of the Sahara. It borders the countries of Chad, Niger, Nigeria, and Cameroon.

In the 1960s Lake Chad was larger than the state of Vermont. Vermont is 24,900 sq. km. (9,614 sq. mi.).

In 1963 Lake Chad was 25,000 sq. km.

In 2003 Lake Chad was only 1/20 the size it was in 1963 and has continued to decrease.

From 1966-1975 there has been a 30% decrease in size, only 5% was due to irrigation. The rest was due to drier weather conditions.

From 1983-1994 irrigation accounted for 50% of decrease in area of the lake. This shows a direct cause and effect. Drier conditions result in a need for more irrigation to water crops.

Recent data states that Lake Chad has shrunk to about 500 km<sup>2</sup> and is very shallow (1.5m deep).

How are people, animals, and plants affected by the shrinking of Lake Chad?

The effect on people:

- 1.
- 2.
- 3.

The effect on animals:

- 1.
- 2.
- 3.

The effect on plants:

- 1.
- 2.
- 3.

Draw a picture showing one of these effects.

Use the Lake Chad Basin 1963-1997 (4 maps) to determine how Lake Chad has been shrinking.

Year	Number of Cells in Lake Chad	Area in Sq. Kilometers (cells x 10)	Change from Previous Map (Sq. Kilometers )	Rate of Change from Previous Map (Decimal)	Rate of Change from Previous Map (Percent)
1963			-----	-----	-----
1973					
1987					
1997					

When counting the cells, be sure to estimate. Some cells will be 1/2 or 1/4 of a cell. Add these together to get a total of whole cells.

Math Practice **Answer Key**

Use the Lake Chad Basin 1963-1997 (4 maps) to determine how Lake Chad has been shrinking.

Year	Number of Cells in Lake Chad	Area in Sq. Kilometers (cells x 10)	Change from Previous Map (Sq. Kilometers )	Rate of Change from Previous Map (Decimal)	Rate of Change from Previous Map (Percent)
1963	237.75	2377.5	-----	-----	-----
1973	96.5	965	1412.5	.59	59%
1987	20.25	202.5	762.5	.79	79%
1997	17.75	177.5	25	.12	12%