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# my Periodic Table

Atomic Number: 35

Melting Point °C: -7.10

Atomic Weight: 79.904

Boiling Point °C: 59.25

Symbol: Br

Electronegativity: 2.8

Density: 3.12

Electron Configuration:  $[Ar]3d^{10}4s^24p^5$

Name: Bromine

Oxidation State: +/-1,5

Blue Background: Liquid

Atomic Number	35
Melting Point °C	-7.10
Atomic Weight	79.904
Boiling Point °C	59.25
Symbol	Br
Electronegativity	2.8
Density	3.12
Electron Configuration	$[Ar]3d^{10}4s^24p^5$
Name	Bromine
Oxidation State	+/-1,5

# my Periodic Table

The diagram shows a red rectangular card for the element Krypton (Kr). The card contains the following information: Atomic Number (36), Boiling Point (°C) (-157.22), Melting Point (°C) (-153.2), Symbol (Kr), Atomic Weight (83.80), Name (Krypton), Electron Configuration ( $[Ar]3d^{10}4s^24p^6$ ), and Density (3.71). Callout boxes with lines pointing to the card identify each of these values. A separate box at the bottom right notes that the red background indicates the element is a gas.

Atomic Number	36
Boiling Point °C	-157.22
Melting Point °C	-153.2
Symbol	Kr
Atomic Weight	83.80
Name	Krypton
Electron Configuration	$[Ar]3d^{10}4s^24p^6$
Density	3.71

Red Background: Gas

# my Periodic Table

The diagram shows a central box representing the element Rubidium (Rb). The box contains the following information: Atomic Number (37), Boiling Point (688 °C), Melting Point (39.64 °C), Symbol (Rb), Atomic Weight (85.468), Name (Rubidium), Electron Configuration ([Kr]5s), Density (1.532), Electronegativity (0.9), and Oxidation State (1). The element is highlighted with a white background and is a solid. Lines connect callout boxes to these specific values.

Atomic Number	37
Boiling Point °C	688
Melting Point °C	39.64
Symbol	Rb
Atomic Weight	85.468
Name	Rubidium
Electron Configuration	[Kr]5s
Density	1.532
Electronegativity	0.9
Oxidation State	1

White Background:  
Solid

# my Periodic Table

Atomic Number: 38

Melting Point °C: 768

Atomic Weight: 87.62

Boiling Point °C: 1377

Symbol: Sr

Electronegativity: 1.0

Density: 2.54

Electron Configuration: [Kr]5s<sup>2</sup>

Name: Strontium

Oxidation State: 2

White Background: Solid

# Understanding Numbers

<b>Periodic Table</b>	A tabular arrangement of the elements according to their atomic numbers so that elements with similar properties are in the same column.
<b>Atomic Number</b>	The number of protons in an atomic nucleus.
<b>Atomic Weight</b>	The average mass of an atom of an element, usually expressed relative to the mass of carbon 12, which is assigned 12 atomic mass units.
<b>Boiling Point</b>	The temperature at which a liquid boils at a fixed pressure, especially under standard atmospheric conditions.
<b>Melting Point</b>	The temperature at which a solid becomes a liquid at standard atmospheric pressure.
<b>Period</b>	A sequence of elements arranged in order of increasing atomic number and forming one of the horizontal rows in the periodic table.

## Quiz:

(Look at the diagram on Pages 4 - 7 to find the answers for each element)

1. What is the name of the element shown in the diagram \_\_\_\_\_ ?
2. What is the symbol for the element \_\_\_\_\_ ?
3. What is the atomic weight \_\_\_\_\_ ?
4. What is the melting point of \_\_\_\_\_ ?
5. What is the boiling point of \_\_\_\_\_ ?
6. Is the element a liquid, a gas, a solid or artificially prepared  
\_\_\_\_\_ ?

## Bonus Question:

7. Is the element in our atmosphere \_\_\_\_\_ ?

# History of the United States

The United States of America is located in the middle of the North American continent, with Canada to the north and the United Mexican States to the south. The United States ranges from the Atlantic Ocean on the nation's east coast to the Pacific Ocean bordering the west, and also includes the state of Hawaii, a series of islands located in the Pacific Ocean, the state of Alaska located in the northwestern part of the continent above the Yukon, and numerous other holdings and territories.[1]

The first known inhabitants of the area now known as the United States are believed to have arrived over a period of several thousand years beginning sometime prior to 15,000 years ago by crossing the Bering land bridge into Alaska. Solid evidence of these cultures settling in what would become the US is dated to at least 14,000 years ago.[2]

Relatively little is known of these early settlers compared to the Europeans who colonized the area after the first voyage of navigator Christopher Columbus in 1492 for Spain.[1] Columbus' men were also the first documented Old Worlders to land in the territory of the United States when they arrived in Puerto Rico during their second voyage in 1493.[3] John Cabot, in 1497, became the first European to reach modern-day U.S. territory when he landed at what is now known as New England. He was followed by Juan Ponce de León, who arrived in Florida in 1513[4],

The United States fought off the British colonists in the 1770s in the American Revolutionary War, issuing its Declaration of Independence in 1776. It was officially recognized as an independent country by the 1783 Treaty of Paris.[5] In its beginnings, the United States consisted only of the Thirteen Colonies, states occupying the same lands as when they were British colonies. In the 19th century, westward expansion of United States territory began, upon the belief of Manifest Destiny, in which the United States would occupy all the North American land east to west, from the Atlantic to Pacific Oceans. By 1912, with the admission of Arizona to the Union, the U.S. reached that goal. The outlying states of Alaska and Hawaii were both admitted in 1959.

Social progresses during this time included the abolition of slavery in 1865 through the Thirteenth Amendment to the United States Constitution and the Civil Rights Act of 1964 that outlawed racial segregation in public places.

## Notes

1. United States". *The Columbia Encyclopedia* (6th). (2007).
2. Wilford, John Noble. "Evidence Supports Earlier Date for People in North America", *The New York Times*, 2008-04-04.
3. "Columbus, Christopher". *The Columbia Encyclopedia* (6th). (2007).
4. "Ponce de Leon, Juan". *The Columbia Encyclopedia* (6th). (2007).
5. Chapter 3: The Road to Independence. *Outline of U.S. History*. America.gov (November 2005). Retrieved on 2008-04-21.

# Pacific Ocean

The Pacific Ocean is the largest of the Earth's oceanic divisions. It extends from the Arctic in the north to Antarctica in the south, bounded by Asia and Australia on the west and the Americas on the east. At 169.2 million square kilometers (65.3 million square miles) in area, this largest division of the World Ocean – and, in turn, the hydrosphere – covers about 46% of the Earth's water surface and about 32% of its total surface area, making it larger than all of the Earth's land area combined.[1] The equator subdivides it into the North Pacific Ocean and South Pacific Ocean. The Mariana Trench in the western North Pacific is the deepest point in the Pacific and the world, reaching a depth of 10,911 metres (35,798 ft).[2]

The ocean encompasses almost a third of the Earth's surface, having an area of 179.7 million square kilometres (69.4 million sq mi and 161 million cubic mi) –significantly larger than Earth's entire landmass, with room for another Africa to spare. Extending approximately 15,500 kilometres (9,600 mi) from the Bering Sea in the Arctic to the icy margins of Antarctica's Ross Sea in the south (although the Antarctic regions of the Pacific are sometimes described as part of the circumpolar Southern Ocean), the Pacific reaches its greatest east-west width at about 5°N latitude, where it stretches approximately 19,800 kilometres (12,300 mi) from Indonesia to the coast of Colombia and Peru - halfway across the world, and more than five times the diameter of the Moon. The western limit of the ocean is often placed at the Strait of Malacca. The lowest point on earth—the Mariana Trench—lies 10,911 metres (35,797 ft) below sea level. Its average depth is 4,280 metres (14,000 ft)[1].

The Pacific contains about 25,000 islands (more than the total number in the rest of the world's oceans combined), the majority of which are found south of the equator.

The Pacific Ocean is currently shrinking from plate tectonics, while the Atlantic Ocean is increasing in size.



1. "Pacific Ocean". *Britannica Concise*. 2006. Chicago: Encyclopædia Britannica, Inc.

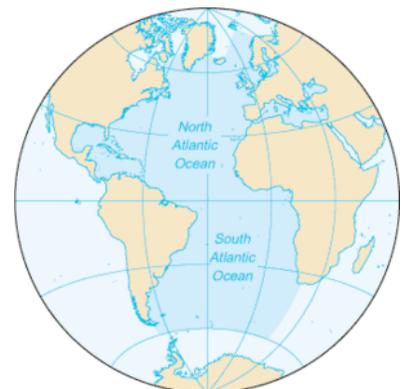
# Atlantic Ocean

The Atlantic Ocean is the second-largest of the world's oceanic divisions; with a total area of about 106.4 million square kilometres (41.1 million square miles). It covers approximately one-fifth of the Earth's surface. The first part of its name refers to the Atlas of Greek mythology, making the Atlantic the "Sea of Atlas". The oldest known mention of this name is contained in *The Histories* of Herodotus around 450 BC (I 202); see also: *Atlas Mountains*. Before Europeans discovered other oceans, the term "ocean" was synonymous with the waters beyond Western Europe that we now know as the Atlantic and which the Greeks had believed to be a gigantic river encircling the world; see Oceanus.

The Atlantic Ocean occupies an elongated, S-shaped basin extending longitudinally between the Americas to the west, and Eurasia and Africa to the east. A component of the all-encompassing World Ocean, it is connected in the north to the Arctic Ocean (which is sometimes considered a sea of the Atlantic), to the Pacific Ocean in the southwest, the Indian Ocean in the southeast, and the Southern Ocean in the south. (Alternatively, in lieu of it connecting to the Southern Ocean, the Atlantic may be reckoned to extend southward to Antarctica.) The equator subdivides it into the North Atlantic Ocean and South Atlantic Ocean.

Covering approximately 22% of Earth's surface, the Atlantic Ocean is second only to the Pacific Ocean in size. With its adjacent seas it occupies an area of about 106,400,000 square kilometers (41,100,000 sq mi); without them, it has an area of 82,400,000 square kilometres (31,800,000 sq mi). The land area that drains into the Atlantic is four times that of either the Pacific or Indian oceans. The volume of the Atlantic Ocean with its adjacent seas is 354,700,000 cubic kilometers (85,100,000 cu mi) and without them 323,600,000 cubic kilometres (77,640,000 cu mi).

The average depths of the Atlantic, with its adjacent seas, is 3,339 meters (10,936 ft); without them it is 3,926 metres (12,881 ft). The greatest depth, 8,605 metres (28,232 ft), is in the Puerto Rico Trench. The width of the Atlantic varies from 2,848 kilometers (1,770 mi) between Brazil and Sierra Leone to over 4,000 mi in the south.



# Indian Ocean

The **Indian Ocean** is the third largest of the world's oceanic divisions, covering about 20% of the water on the Earth's surface. It is bounded on the north by Asia (including the Indian subcontinent, after which it is named); on the west by Africa; on the east by Indochina, the Sunda Islands, and Australia; and on the south by the Southern Ocean (or, traditionally, by Antarctica). One component of the all-encompassing World Ocean, the Indian Ocean is delineated from the Atlantic Ocean by the 20° east meridian running south from Cape Agulhas,[1] and from the Pacific by the 147° east meridian. The northernmost extent of the Indian Ocean is approximately 30° north latitude in the Persian Gulf and, thus, has asymmetric ocean circulation. This ocean is nearly 10,000 kilometres (6,200 mi) wide at the southern tips of Africa and Australia; its area is 73,556,000 square kilometres (28,400,000 mi<sup>2</sup>), including the Red Sea and the Persian Gulf.

The ocean's volume is estimated to be 292,131,000 cubic kilometers (70,086,000 mi<sup>3</sup>). Small islands dot the continental rims. Island nations within the ocean are Madagascar (formerly Malagasy Republic), the world's fourth largest island; Comoros; Seychelles; Maldives; Mauritius; and Sri Lanka. Indonesia borders it on the east. The ocean's importance as a transit route between Asia and Africa has made it a scene of conflict. Because of its size, however, no nation had successfully dominated most of it until the early 1800s when the United Kingdom controlled much of the surrounding land. After the decline of the British Empire, the ocean has been dominated by India and Australia.

The African, Indian, and Antarctic crustal plates converge in the Indian Ocean. Their junctures are marked by branches of the Mid-Oceanic Ridge forming an inverted Y, with the stem running south from the edge of the continental shelf near Mumbai, India. The eastern, western, and southern basins thus formed are subdivided into smaller basins by ridges. The ocean's continental shelves are narrow, averaging 200 kilometres (125 mi) in width. An exception is found off Australia's western coast, where the shelf width exceeds 1,000 kilometres (600 mi). The average depth of the ocean is 3,890 metres (12,760 ft). Its deepest point, is in the Diamantina Deep close to the coast of south west Western Australia. North of 50° south latitude, 86% of the main basin is covered by pelagic sediments, of which more than half is globigerina ooze. The remaining 14% is layered with terrigenous sediments. Glacial outwash dominates the extreme southern latitudes.



# Arctic Ocean

The Arctic Ocean, located in the northern hemisphere and mostly in the Arctic north polar region, is the smallest of the world's five major oceanic divisions and the shallowest.[1] The International Hydrographic Organization (IHO) recognizes it as an ocean, although some oceanographers may call it the *Arctic Mediterranean Sea* or simply the *Arctic Sea*, classifying it as one of the mediterranean seas of the Atlantic Ocean[2]. Alternatively, the Arctic Ocean can be seen as the northernmost lobe of the all-encompassing World Ocean.

Almost completely surrounded by Eurasia and North America, the Arctic Ocean is largely covered by sea ice throughout the year. The Arctic Ocean's temperature and salinity vary seasonally as the ice cover melts and freezes[3]; its salinity is the lowest on average of the five major seas, due to low evaporation, heavy freshwater inflow from rivers and streams, and limited connection and outflow to surrounding oceanic waters with higher salinities. The summer shrinking of the icepack has been quoted at 50%.[1]

The Arctic Ocean occupies a roughly circular basin and covers an area of about 14,056,000 km<sup>2</sup> (5,440,000 sq mi), slightly less than 1.5 times the size of the United States.[4] The coastline length is 45,389 kilometers (28,203 mi).[4] Nearly landlocked, it is surrounded by the land masses of Eurasia, North America, Greenland, and several islands. It includes Baffin Bay, Barents Sea, Beaufort Sea, Chukchi Sea, East Siberian Sea, Greenland Sea, Hudson Bay, Hudson Strait, Kara Sea, Laptev Sea, White Sea and other tributary bodies of water. It is connected to the Pacific Ocean by the Bering Strait and to the Atlantic Ocean through the Greenland Sea[1] and Labrador Sea. Its geographic coordinates are: 90°00'N, 0°00'E

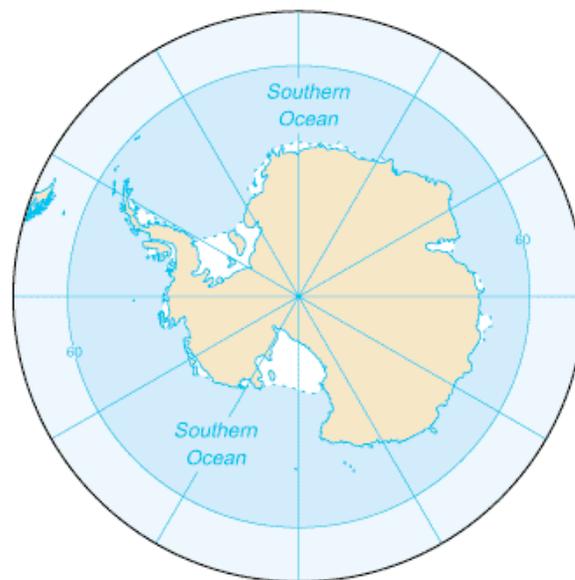


1. Michael Pidwirny (2006). Introduction to the Oceans. *www.physicalgeography.net*. Retrieved on 2006 12-07.
2. Tomczak, Matthias & Godfrey, J. Stuart (2003), *Regional Oceanography: an Introduction* (2 ed.), Delhi: Daya Publishing House, ISBN 81-7035-306-8, <<http://www.es.flinders.edu.au/~mattom/regoc/>>
3. Some Thoughts on the Freezing and Melting of Sea Ice and Their Effects on the Ocean K. Aagaard and R. A. Woodgate, Polar Science Center, Applied Physics Laboratory University of Washington, January 2001. Retrieved 7 December 2006.
4. Wright, John W. (ed.); Editors and reporters of *The New York Times* (2006). *The New York Times Almanac*, 2007, New York, New York: Penguin Books, 455. ISBN 0-14-303820-6.

# Southern Ocean

The Southern Ocean, also known as the Great Southern Ocean, the Antarctic Ocean and the South Polar Ocean, comprises the southernmost waters of the World Ocean south of 60° S latitude. The International Hydrographic Organization has designated the Southern Ocean as an oceanic division encircling Antarctica. Geographers disagree on the Southern Ocean's northern boundary or even its existence (see below), sometimes considering the waters part of the South Pacific, South Atlantic, and Indian Oceans instead. Some scientists consider the Antarctic Convergence, an ocean zone which fluctuates seasonally, as separating the Southern Ocean from other oceans, rather than 60° S.[1] This ocean zone forms from the convergence of two circumpolar currents, one easterly flowing and one westerly flowing.

The International Hydrographic Organization (IHO) regards the Southern Ocean as the fourth-largest of the five principal oceanic divisions and the latest-defined one. The IHO promulgated the decision on its existence in 2000, though many mariners have long regarded the term as traditional. The Southern Ocean appeared in the IHO's *Limits of Oceans and Seas* second edition (1937), disappeared from the third edition (1957), and re-surfaced in the fourth edition (not yet formally adopted due to a number of unresolved disputes). This change reflects the importance placed by oceanographers on ocean currents.



Pyne, Stephen J.; *The Ice: A Journey to Antarctica*. University of Washington Press, 1986. NOTE: Despite the title, Pyne has not published a travel journal here: instead he presents a well-researched study of Antarctica's exploration, earth-sciences, icescape, esthetics, literature, and geopolitics.