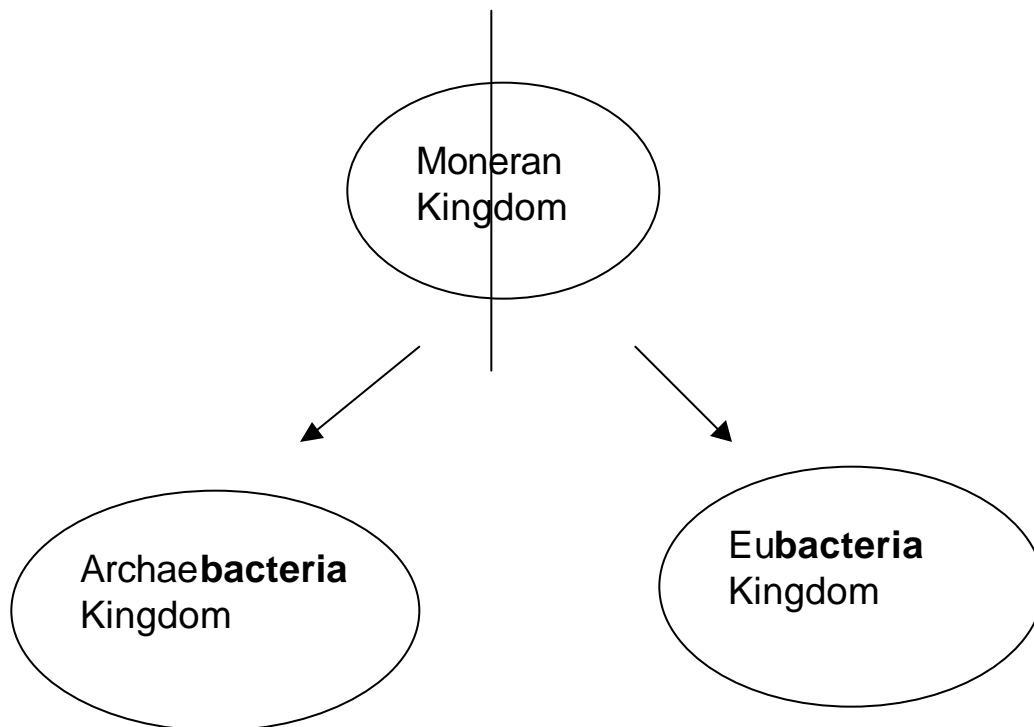


## Archaeobacteria Kingdom... Where Are You?

This kingdom used to be a part of a bigger kingdom – Moneran. Now scientists feel this kingdom, which is the oldest of the kingdoms, should really be divided into two kingdoms – the **Archaeobacteria** Kingdom and the **Eubacteria** Kingdom.



These are two very big words – and hard to pronounce! If you look closely, you will see the smaller word, **bacteria** in the bigger words. That's the key concept to remember – these two kingdoms are made up of bacteria. Bacteria have only one cell. Scientists think these were the first kinds of organisms on Earth.

All of the organisms in the Archaeobacteria Kingdom live without oxygen – gasp, gasp! This means they are anerobic. That's the name scientists give to organisms that don't need oxygen. To find

these anaerobic organisms you'd have to go to some strange places! Below is the text from an imaginary tour brochure showing where you will find the organisms that make up the three phyla in the Archaeobacteria Kingdom. (Phyla is the Latin plural of phylum.)

## **The Archaeobacteria Kingdom Tour!**

Your first stop will be the Great Salt Lake in Utah or the Dead Sea in the Middle East. Here you'll find bacteria from the phylum, Halophiles. This kind of bacteria only lives in places where there is a high concentration of salt. Both of these large bodies of water are very salty!

You'll continue your tour with a visit to a sulfur spring. These hot, acidic waters are home to bacteria from the phylum, Thermoacidophiles. These bacteria thrive in water as hot as 80 degrees Celsius!

You may not want to visit the last stop on our tour. You would have to visit a sewage treatment plant to see bacteria from this phylum, methanogen at work. These bacteria help break down waste material. Can you guess where they are found besides a sewage plant? Where else is waste material broken down? If you said in our bodies, you are right! These bacteria also live in the intestines of animals such as cows and humans! They help break down an animal's food. The bacteria produce methane gas during this process. Did you know that methane is a greenhouse gas? So, these tiny bacteria, from their home inside intestines, can have an impact on our atmosphere!

## **Design It!**

Use the information above and design your own silly tour brochure of the Archaeobacteria Kingdom. Draw the places where the bacteria of the three phyla live. Find out more about what each type of bacteria does. Include as much information as possible.