ANSWER KEY

Exercise: 1

Instructions: Answer the questions below.

Snake River Plain (SRP) Aquifer:

1. In general, where does the water in Snake River Plain aquifer come from? Where does it go?

Water which falls as snow in the mountains north and east of the Snake River Plain gets absorbed into basalt in many places. Waters of the Big and Little Lost Rivers and Birch Creek sink into the lava plateau. The direction of groundwater flow is generally from east-northeast to west-southwest. Humans use much of this water. A lot of it comes to the surface at 1000 Springs.

2. How long can the residence time of groundwater in Southeast Idaho be?

Residence time can vary from just a few weeks to thousands of years. Under Pocatello it can move as fast as 40 feet per day.

Agriculture & Irrigation:

3. The extensive irrigation system on the agricultural fields of the Snake River Plain is the primary reason that Idaho has the highest per capita water consumption in the U.S. What effect does irrigation have on the rivers and the aquifer?

Irrigation basically recycles the water, water is drawn out of the Snake River and it is returned to the Snake River or aquifer downstream. Not all the water goes directly back to the aquifer, plants absorb some and a lot of it evaporates. The Snake River Plain Aquifer is large and has residence times that can be hundreds of years. It contains radioactive waste. It is dropping lower in places where there is heavy pumping.

4. What happens to chemical fertilizers and pesticides that the farmers use?

Pesticides and fertilizers can drain off the land and get absorbed into the ground. These chemicals eventually work their way into the Snake River or the Snake River Plain aquifer. These chemicals can pollute the water in the aquifer.

5. What other sources of possible water pollution exist?

Another source of pollution in the Snake River Plain aquifer comes from the Idaho National Engineering and Environmental Laboratory. Years ago, many hazardous wastes were put into the ground and got incorporated into the aquifer. However, today their disposal methods are much better and cleanup of old dumps has begun.

Hot Springs:

6. There are numerous hot springs in southern Idaho. What produces these hot springs?

Hot springs are made from water that is naturally heated within the earth's crust and is available at the surface, through wells or springs.