BrishLab

ES05A Earth's Fresh Water

Name:

Date: / / Period Room

Did you know?

1 Water covers more than 70 percent of Earth's surface.

2 If you think of fresh water on Earth's surface, lakes and rivers might come to mind. But most of Earth's fresh water is frozen (See Fig. 1).

3 Wetlands, rivers and lakes provide not only homes to wild life, but are important recreational areas.

4 Twenty times more of Earth's liquid fresh water is found below the surface than on the surface. It is stored under the ground.

Figure 1 – Portage Glacier in Alaska

So, why is it important to me?

5 Most of Earth's water is salt water in the oceans. Only three percent (3%) of Earth's water is fresh. Of that three percent, only a small portion is available to drink.

6 Without protecting the fresh water, we will not have safe drinking water (See Fig. 2). We need clean water for growing food and for activities like swimming and fishing.

Figure 2 – We need safe drinking water

What are the big ideas I need to know?

7 Fresh water is water that contains little or no dissolved salt. Most fresh water is frozen in ice caps and glaciers. Glaciers cover the peaks of some tall mountains.

8 Liquid fresh water flows over Earth's surface in streams and rivers. It also forms ponds, lakes, and wetlands. People use fresh water for drinking, washing, and industry. They also use it for fun (See Fig. 3).

9 A stream is a body of fresh water that flows downhill in a channel. The channel of a stream has a bottom, or bed, and sides called banks. Any size body of flowing water can be called a stream. Usually, a large stream is called a river.

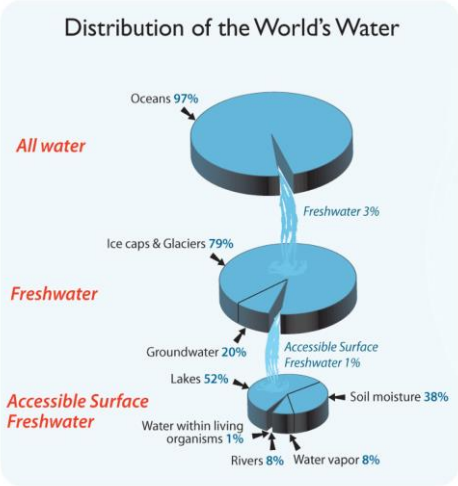

Figure 3 – Only a small part of the 3% of the fresh water is available to drink.

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10 The place where a stream or river starts is its source. The source might be a spring, where water flows out of the ground. Or the source might be water from melting snow on a mountain top. A single stream may have multiple sources.

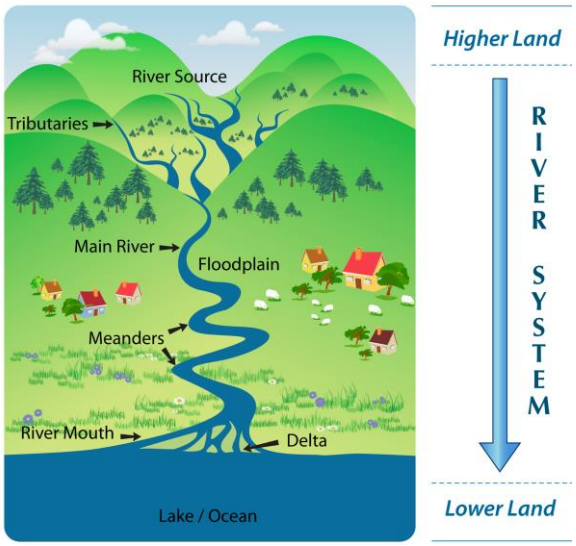

Figure 4 – Parts of a typical river.

11 A stream or river probably ends when it flows into a body of water, such as a lake or an ocean. A stream ends at its mouth. As a river flows into the larger body of water, it slows down and deposits the sediment, or load, it was carrying. The sediment may build up to form a delta.

12 Small streams often flow into bigger streams or rivers. The small streams that add to the other streams are called tributaries. A river and all its tributaries make up a river system (See Fig. 4).

13 At certain times of year, a stream or river may overflow its banks. The flat land that is flooded is called the floodplain.

14 A river flowing over a floodplain may wear away broad curves. These curves are called meanders. The amount of material like rocks and soil that is carried downstream is known as mass movement.

15 All of the land drained by a river system is called its watershed. One river system's watershed is separated from another watershed by a divide like a mountain range. The divide is created by the highest points between the two watersheds. Precipitation that falls within a watershed always flows toward that river. Precipitation that falls on the other side of the divide flows toward a different river and a different watershed.

Figure 5 – Different types of wetlands

16 Some fresh water is found in wetlands. A wetland is an area that is covered with water, or at least has very soggy soil, during all or part of the year. Certain species of plants live in wetlands, and they are rich ecosystems. Fresh water wetlands are usually found at the edges of streams, rivers, ponds, or lakes and separate the water from the dry land (See Fig. 5).

17 Wetlands improve water quality by slowing water that is racing downhill, filtering sediments, trapping nutrients, breaking down pollutants, and recharging groundwater. Wetlands are also home to many plants and animals.

What about?

18 A flood occurs when so much water enters a stream or river that it overflows its banks and dumps into the flood plain. A hurricane, large rainstorms, or winter snow melt can cause flooding. Floods are a part of the natural river building process, but create problems for cities built close to rivers.

19 An estuary is an area of a river where fresh water and salt water mix together. Some animals and plants can only live in this small balanced area. Many organisms have their nurseries in an estuary. We can record the quality of the water by measuring if the water is acid or base (pH), the temperature, how much salt is dissolved, how much Oxygen is dissolved, how clear it is, and also how many organisms are living in it.