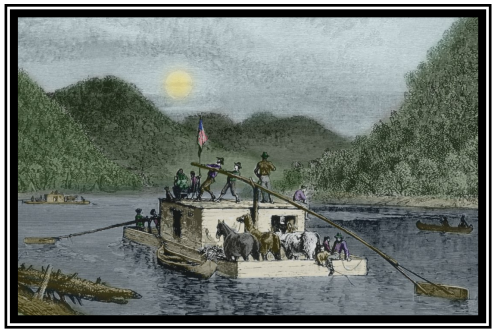
## Water Power…



## Physics Concepts in this lesson

- Potential Energy
- Kinetic Energy
- Mechanical Energy
- Newton's Law of Energy Conservation

## Background:

We can all agree that water is essential to life. Our bodies are made up of almost 70% water and we are losing this water every minute through perspiration, breathing and even blinking our eyes. We replenish it by drinking water through out the day.

But what about water's impressive power. Looking at history, we can find that water's power has also been a essential part of man's ability to travel and do work. With the invention of the wheel man has been able to walk, ride and haul goods over land. However, when the land presented the challenges of difficult terrain over long distances, water became the answer to the need to travel and deliver goods.

Humans have been harnessing water to perform work for thousands of years. The Greeks used water wheels for grinding wheat into flour more than 2,000 years ago. Water is always in motion. Sometimes fast and sometimes slow but its ability to flow keeps it moving, following the landforms seeking a level spot. This kinetic energy can be used to turn wheels that can be made to do many jobs; grinding grains, milling lumber, weaving fabric, and even making electricity. Today, probably every manufactured product uses water during some part of the production process.

Water's ability to do work can be destructive as well as beneficial. It can cause erosion, flooding, sediment, soil slippage, and rock slides on its way to the ocean. Over time this power can alter a landscape irrevocably.

Watch the following videos to see some examples of how water can do work. Then using you observation skills take a walk to see if you can find evidence of water at work. A few things to look for: the point of erosion (sediment detachment), an alluvial fan, point of deposition (delta), a meandering trail made by water, and a deposits of sediment.

## Videos: (links found on our webpage)

- ***"Water Power and the Simple Machine"***
- ***"Water Power and Erosion"***