How is water involved in organisms?

**The importance of water:** Water is necessary for all life on Earth. Our bodies are 50-70% water, depending upon how much muscle and fat we have (muscle cells contain more water than fat cells do). Water is essential for every organ and life process. Because it dissolves other substances, water is able to carry materials to all cells of the body and transport is one of its most important functions. Water is also necessary for digestion, waste removal, regulation of body temperature, and neural transmission among many other roles.

The cytoplasm of cells is mostly made up of water. Cells must have just the right concentration of water inside and around them. Too little water inside or outside a cell and it shrivels and dies. Too much and it overfills and bursts. As a result, our bodies work constantly to maintain the correct balance of water inside and outside our cells.

**Inputs and Outputs of Water:** Organisms obtain water from the food they eat, and by either absorbing or drinking water from the environment. Water can be lost in various ways, but in humans it is primarily lost as sweat, tears, and urine. If we lose an excessive amount of water, for example when we exercise and sweat a lot, our brain senses the lowered levels and makes us feel thirsty so we will drink and restore the lost water. The rule of thumb is that to maintain life, the amount of water an organism takes in daily must equal the amount of water it loses. Humans can go 3 weeks or more without food, but the absolute longest a person can go without water is one week, and that is under ideal conditions (not too hot, etc.).

***SUMMARY***

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| **Paragraph** | **SUMMARY/MAIN IDEAS** |
| **1** |  |
| **2** |  |
| **3** |  |