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## Chesapeake County Groundwater Problem Hands on Simulation

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#### Chesapeake County Groundwater Problem

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Teaching students the impact of groundwater pollution and its effect on humans

This activity was modified from an activity from the Math Science Center in Richmond, Virginia. Students construct models using six paper models of a hypothetical situation where a farmer and lighthouse keeper are having well water issues. The students are acting as a hydrogeologist and are consulting the farmer and lighthouse keeper. This scenario is being played out on the banks of the Chesapeake Bay in Virginia. The farmer is having trouble with his house well running dry, while his well at his barn is always supplying water. The lighthouse keeper and his wife are wondering why their water is undrinkable, and their house plants are dying. The lighthouse keeper claims the farmer is responsible for the undrinkable water. The outcome is the farmer's house well is dug too shallow, while his barn well is also close to a manure pile and livestock yard. The lighthouse keeper's well is too close to the saltwater of the Chesapeake Bay, and the intrusion of salt is making the water undrinkable. This activity has students problem-solving water pollution issues, and this activity has them figure out the root cause of water pollution. Students are then asked to apply this knowledge to a newly discovered planet with the same water pollution issues.