The practical effect of water environmental education using groundwater flow model

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It is essential to understand groundwater flow and material cycle accompanying it to understand the hydrological cycle/material cycle on land. Unfortunately, directly confirming the flow of groundwater is impossible because groundwater flows under the ground where we cannot observe it. Therefore, there are several things that are difficult for people to understand regarding groundwater, which results in incorrect interpretations or the incorrect image of it in many cases. In particular, for students who have grown up in recently urbanized areas, tap water is recognized as domestic and commercial water, which means that they recognize that water comes out when the faucet is turned on. In fact, there are many students who have never seen a well as a domestic and commercial water.

Making these students understand groundwater flow and the material cycle accompanying it is extremely difficult. This is because making someone understand a phenomenon that they have never seen before is complicated.

Making students understand groundwater flow is a very important theme. If they do not understand groundwater flow, it is impossible for them to understand the material cycle accompanying it and the contamination process. Primarily, making the students understand the concept of water as a courier of various materials is considered to be a very important theme for future water environmental education and environmental conservation.

Accordingly, in this AP program, a Groundwater Flow Model (GFM) is used as an educational tool wherein the flow of groundwater is visualized and after conducting classes to make the students understand groundwater flow and the material cycle accompanying it, the results are reported here.

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