



Groundwater Modeling

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Product Task: Groundwater Modeling Problem

Level 1 (Novice)

1. With a partner print 2 of the [blank groundwater modeling blocks](#) and assemble these using scissors and glue.
2. Using a pencil draw on the surface of the blocks these features: a well, a house, a road and a shed. Be sure to position the well and shed at the edge of one of the four blocks
3. Label the shed with a 'C' to indicate chemical storage.
4. Draw the well to a depth of 100 feet and indicate that the well has 25ft of water in it. Each block on your model is 50ft by 50ft.
5. Draw a line for the water table that is 50ft below the surface on the side of every block. As draw the line near the well be sure to include a 'cone of depression' that goes down to 75ft. This is where the water in the well should be located.
6. Write up a report that answers the following questions:
 - a. How far is your well from the shed?
 - b. Could a leak of chemicals in the shed make it into your well water? (assume rock is permeable)
 - c. On your model label the cone of depression, water table, saturated zone and unsaturated zone.

Level 2 (Advanced)

1. With a partner print 4 of the [blank groundwater modeling blocks](#) and assemble these using scissors and glue.
2. Create your own groundwater problem that incorporates the use of the models. Be sure to include a map of the surface and key to indicate the type of rock in the profiles. Use pencil when drawing on the models that way you can erase if something does not make sense.
3. Write up a report that answers the following questions about your groundwater problem:
 - a. What type of story does your model indicate is the groundwater problem?
 - b. Is your groundwater problem dealing impermeable layers?
 - c. Are you able to solve your groundwater problem with just a map of the surface?