

## Lesson plan

# Building your own geological model



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## Building Block Models

1. Visit [www.visiblegeology.com](http://www.visiblegeology.com)
2. If you wish to save your model and share it, please start by logging in with a Seequent ID. Select the “Log in” button at the top. If you do not already have a Seequent ID, creating one is quick and free, select ‘Create Seequent ID.’
3. Select “Geology Explorer” once you have logged in.
4. Build a block model with at least three layers and at least three geologic events.
  - a. Select “Layers” from the left menu bar to change the thickness and/or colour(s) of existing layers, and to add or remove layers. Select “Apply” when you are done altering the layers.
  - b. Select “Events” from the left menu bar to add a “Form” (including a tilt, fold, or add an unconformity, a dike, a pluton, a dome and basin) or a “Fault” (including a normal fault, reverse fault, a bend fault, a blind thrust fault, or a horst and graben) to the model.
  - c. After selecting an event, you can adjust the event by moving the colourful arrows or the numbers in the menu on the bottom right. When you are done making adjustments, select “Apply” to go on to the next event.
  - d. To adjust or remove the events, select “History” from the left menu bar.
5. Adjust the topography of your model.
  - a. Select “Topography” from the left menu.
  - b. Choose a prebuilt topography (e.g., flat, cliff, hill) or,
  - c. Create your own by selecting “+New.” The “Terrain Dimensions” tool becomes visible, which will allow you to adjust the size of the block. Once you are done adjusting the dimensions, click “Apply.” The “Terrain Editor” will allow you to raise, lower, flatten, or smooth the surface. Play around with the “Radius” and “Strength” settings while you are creating your terrain. Select “Save & Return” to finish.
6. Take a cross-section of your model.
  - a. Select “xSection” from the left menu.
  - b. Select “+New” from the right menu.
  - c. Move the block model around so you are looking at it from the top.
  - d. Use your mouse to move the arrows around to the location where you want to take a cross-section.
  - e. Move the block model to view it and the cross-section from different angles.
  - f. Once the cross-section selection is placed where you want it, select “Apply.”
  - g. Turn the cross-section off and on by selecting “View Cross-Sections” at the bottom of the right menu.



7. Take a core sample of your model.
  - a. Select “Core” from the left menu.
  - b. Select “+New” from the right menu.
  - c. Move the core selection around until you are satisfied with its location and angle, then select “Apply.”
  - d. Turn the core off and on by selecting “View Core Samples” at the bottom of the right menu.
8. To save your model, select “Menu” from the bottom of the left menu.
9. To share your model, select “Publish.” (Once you publish your model, you will not be able to make any more changes, but you can create a copy and continue editing a new version.)