

Creating a landscape schematic using Microsoft PowerPoint

By Ilissa Ocko

You don't need fancy software like Adobe Illustrator to create a nice science visual. You can create a graphic in basic, accessible software, such as Microsoft PowerPoint.

This tutorial walks you through the creation process from start to finish, with the objective of creating the below landscape schematic using PowerPoint. Learn tools and insider tips along the way!



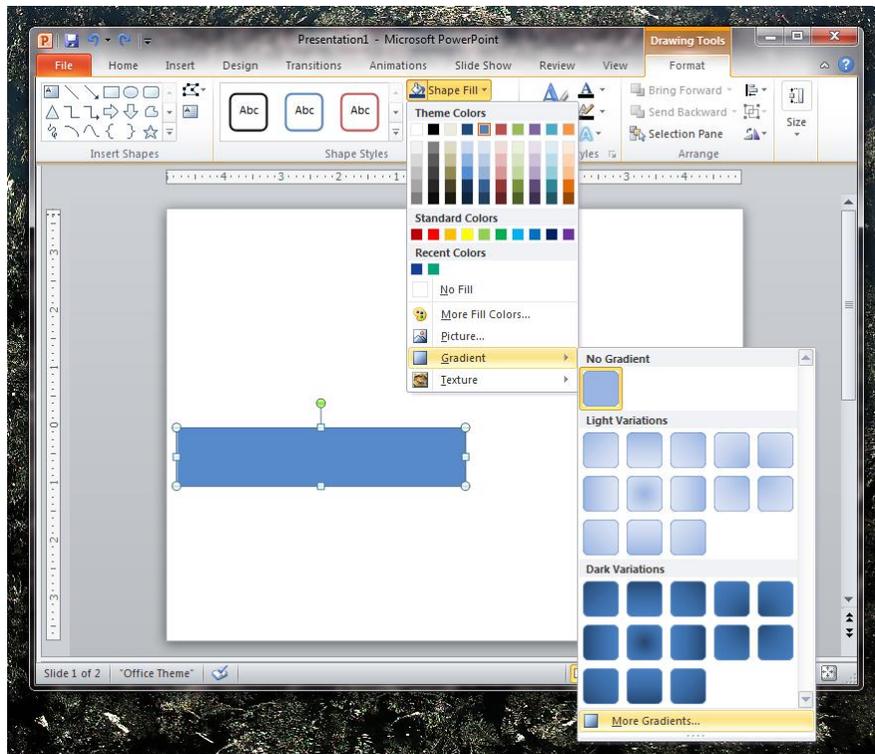
Image by Ilissa Ocko.

A. Start with an empty canvas

1. Open Microsoft PowerPoint
2. Create a new slide and delete any text boxes so that it is perfectly clean and white

B. Create the base of the landscape

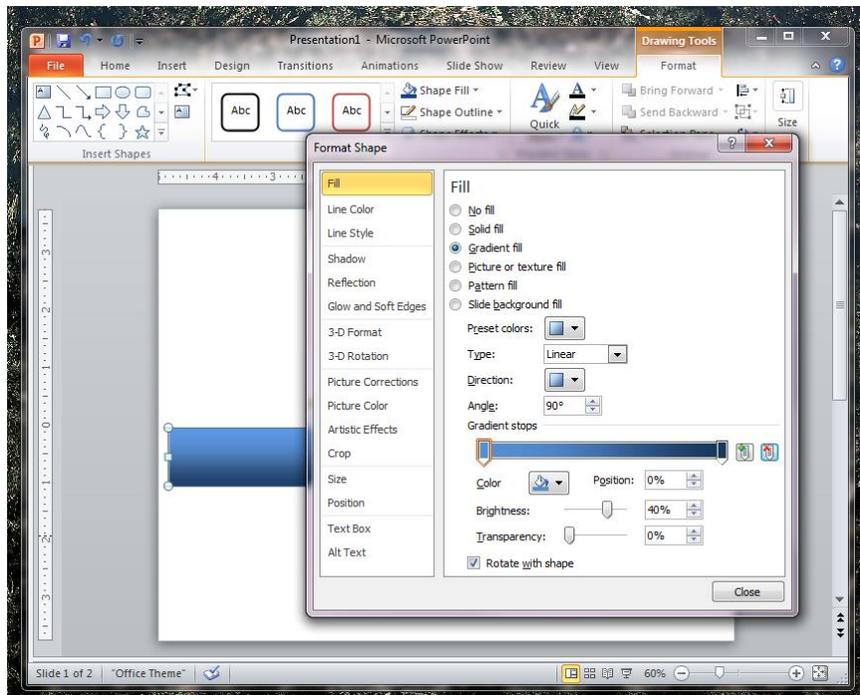
1. Click on “Insert” and then “Shapes” and create a rectangle
2. While box shape is highlighted, click on the “Format” tab
3. Click on “Size” and change the dimensions to Height: 1.0” and Width: 5.0”



4. Click on “Shape Outline” and then “No Outline”

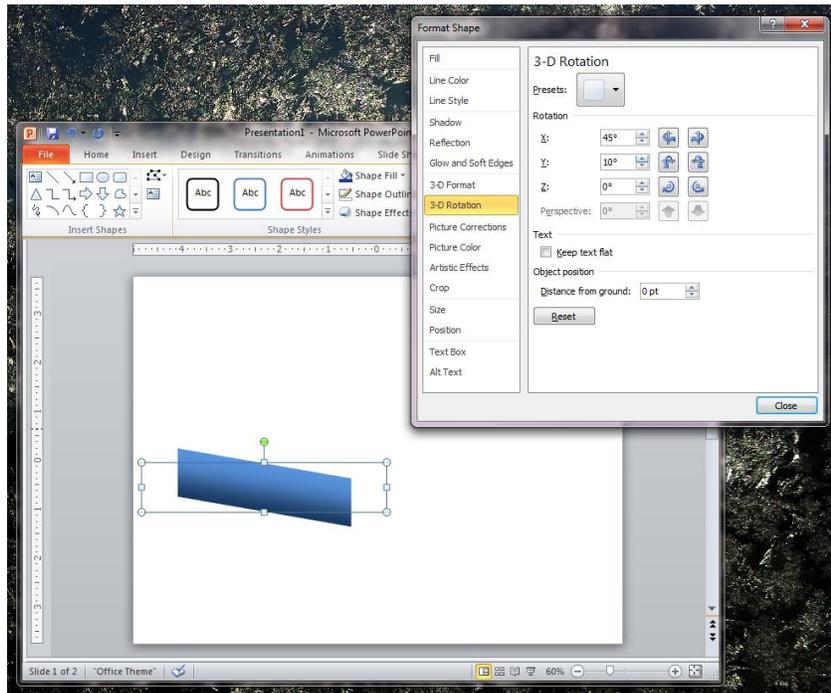
Insider tip: never use default colors and outlines for shapes, arrows, and charts. They are way too generic!

5. Click on “Shape Fill,” then on “Gradient,” then on “More Gradients”
6. Under “Fill,” click on “Gradient fill” and then click on “Gradient stops” tabs to select, add, or remove colors of your choice
7. Click “Close”

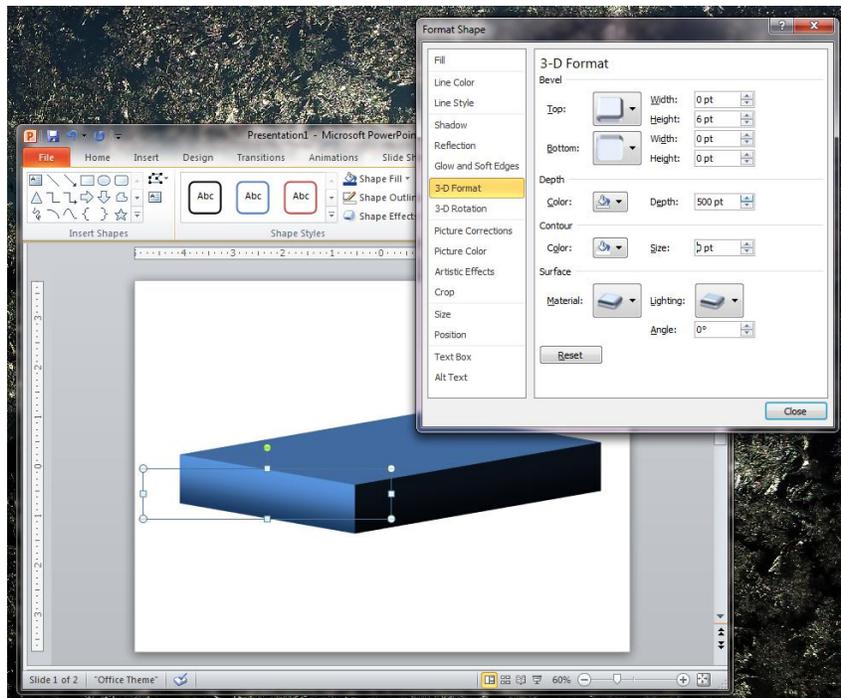


8. In the “Format” menu, click on “Shape Effects,” then on “3-D Rotation,” then on “3-D Rotation Options”

9. On the “3-D Rotation” tab, rotate X by 45 degrees and Y by 10 degrees



10. On the “3-D Format” tab, change the depth to 500



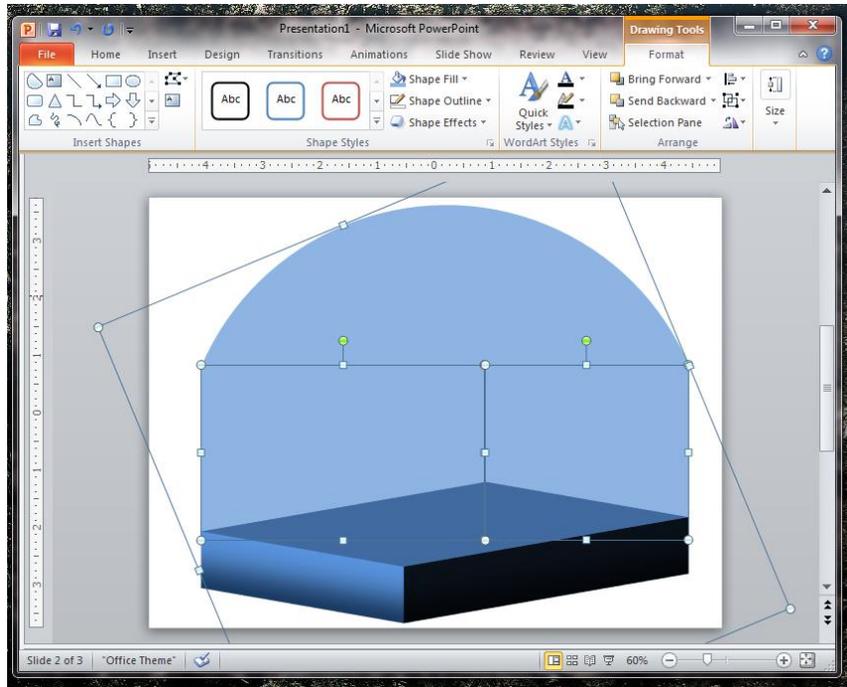
11. Click “Close”
12. Move the box to the bottom of the slide.

C. Create the sky

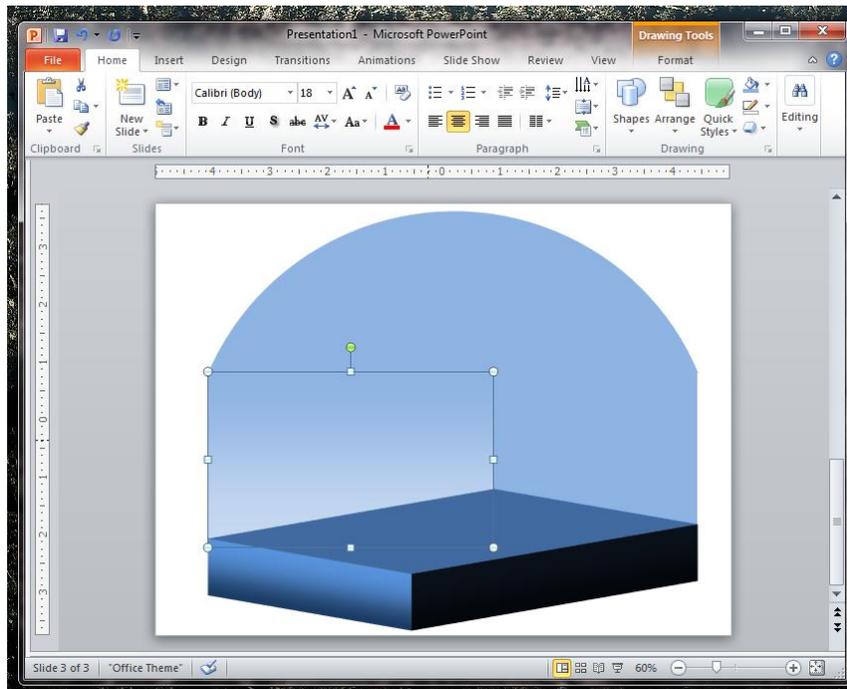
1. Create two new rectangles: 1) Height: 4.0" and Width: 5.0" and 2) Height: 3.5" and Width: 3.5"
2. Right-click on each rectangle, click on "Arrange" and "Send to back."
3. Remove each rectangle's outline.
4. Position the rectangles side-by-side and in line with base (see the example below for guidance), and change the colors to a light shade of blue
5. Create a half circle as top of the atmosphere, by inserting the "Chord" basic shape.
6. Click on one of the yellow diamond shapes to create a perfect semi-circle, and rotate by clicking on the green circle. Line up the diameter of the semi-circle with the top of the rectangles.

Insider tip: when inserting a shape, if you want it to be symmetrical (such as square or circle), press down "Shift" when sizing the shape. This also works for rotating shapes and lines to perfect 45° and 90° angles.

Insider tip: take advantage of "yellow diamonds" on braces, shapes, and arrows—they let you customize default curves and widths!

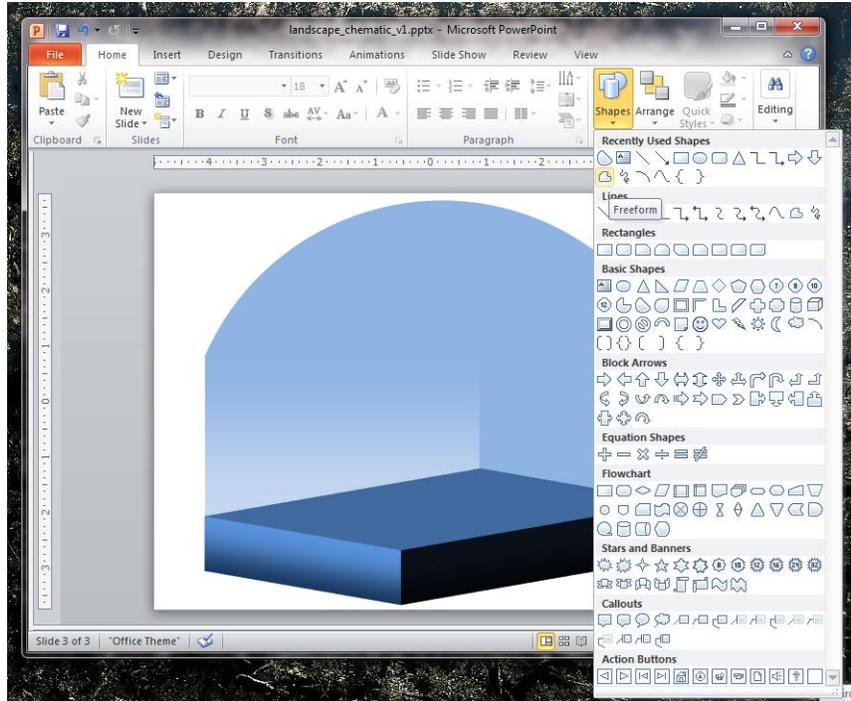


7. Add a gradient to the chord. Make the bottom color match the other sky shapes, but the top color a darker blue
8. Add a gradient to the left box to create some dimension to the atmosphere. Make the top color match the other sky shapes, but the bottom color a lighter blue



D. Add the terrain

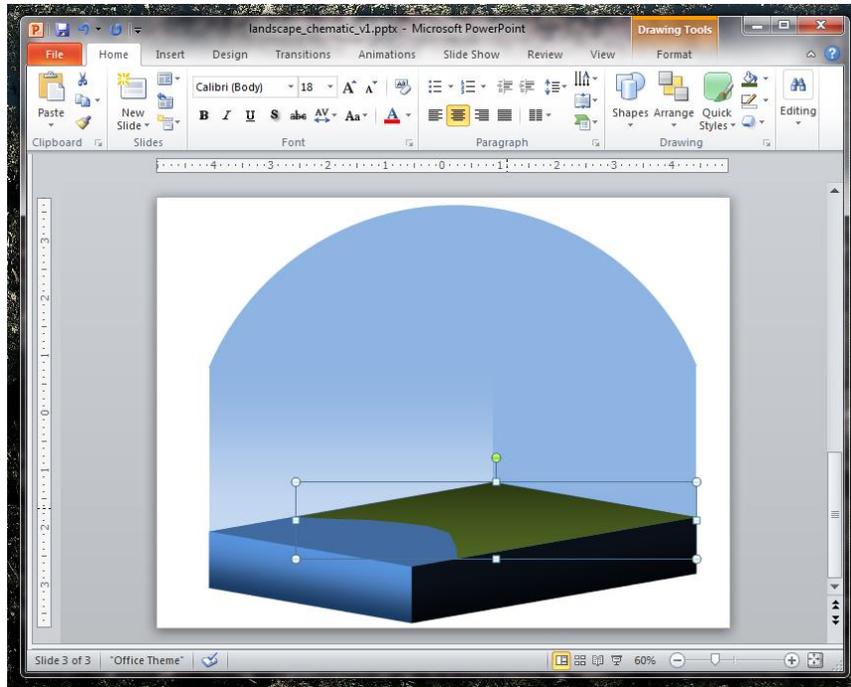
1. In the “Shapes” tab, go to “Lines and Connectors” and add a “Freeform” shape



2. Draw the shape of the land on top of the dark rectangle. Click once where you want the line to begin, and then click for each bend/curve in the line to create an outline of the land shape on top of the rectangle. (Don't click and drag mouse, it will turn out all squiggly.) Double-click where you want the line to end. You should have an outline of the shape of the land on top of the dark rectangle.

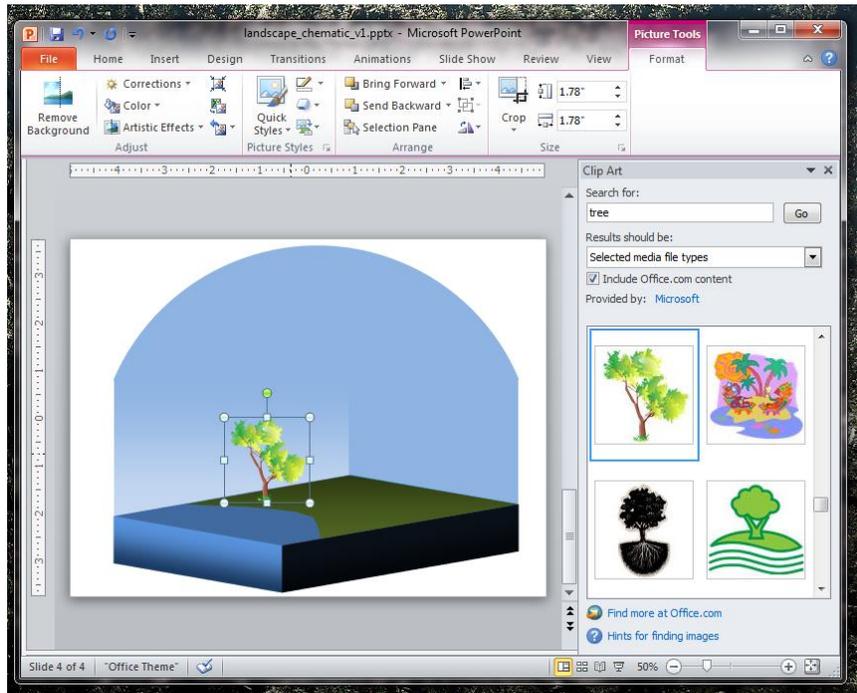
Insider tip: to add smooth curves, make shorter lines and curve their combined path.

3. Remove the outline and make the shape's fill green. Add a gradient if you prefer, to add definition

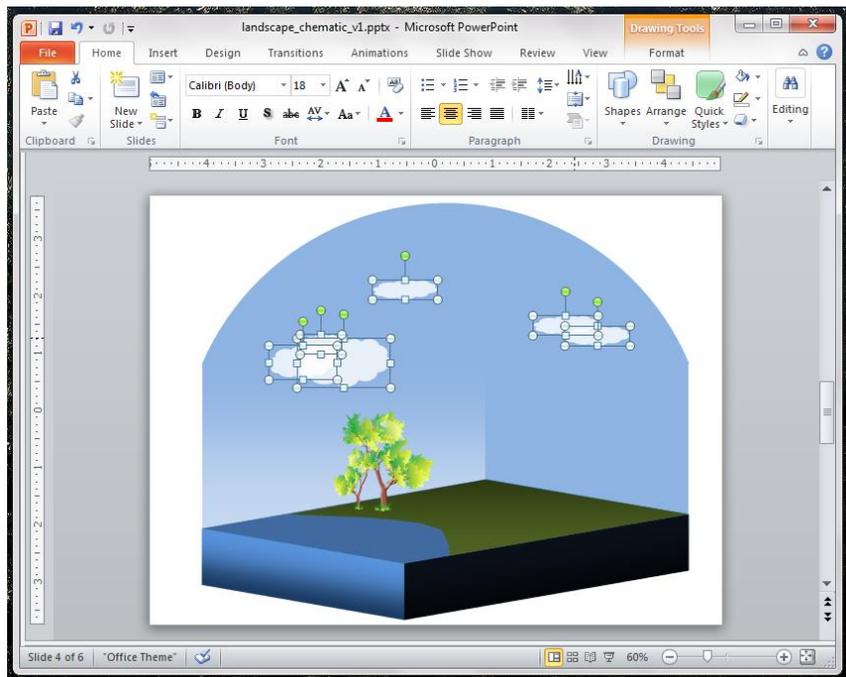


E. Add clip art elements to fill out the scene

1. To add clip art objects, such as a tree, click on “Insert” and then “Clip Art.” Be sure to select “Illustration” as the only desired media file type, because otherwise you’ll get endless photos that are not typically suitable for a schematic. Just click on the clip art to insert it into your diagram, and resize as needed.



2. Alternatively, go to Microsoft Clip Art [online](#) to search through hundreds of illustrations more easily. Type a keyword into “Search” at the top of the page, and then click the box for “Illustration” on the left side under “MEDIA TYPES.” Download illustrations to your computer and insert them into your PowerPoint slide by clicking on “Insert” and “Picture”
3. Some symbols can be found in the “Shapes” tools in PowerPoint, such as a cloud. Just be sure to change the outline and fill from the default. Play with sizes, colors, gradients, and even transparency (you can access transparency by clicking “More Fill Colors” from the “Shape Fill” tab)



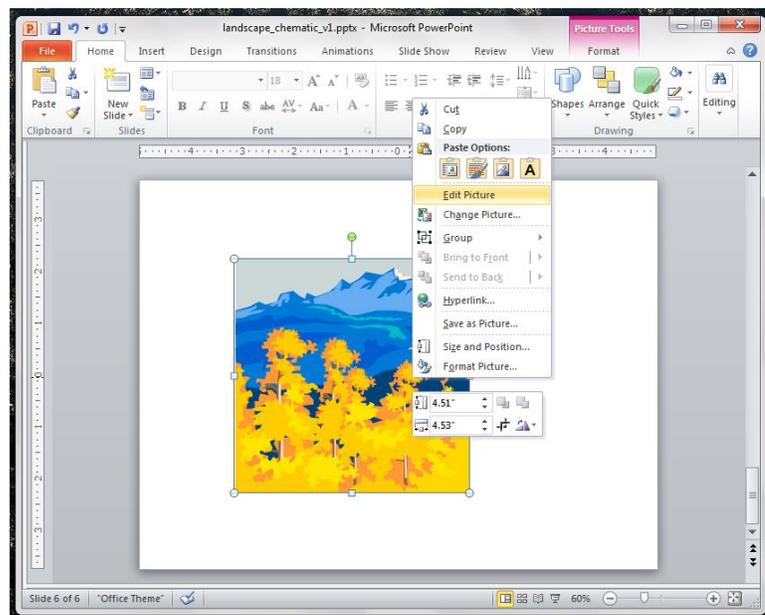
***Insider tip:** if you have multiple shapes that you want the styles to match (such as fill, size, outline), highlight all of them first while holding down the “Shift” key and then make your edits.*

4. Whereas the tree and cloud shapes were easy to include because they were standalone objects (with no background), it’s not always that simple. In PowerPoint you are actually able to take apart clip art objects so that you can remove the background. Say we want mountains but can’t find any clipart without a sky, hills, etc., and those elements do not fit in with our schematic. To remove unwanted elements:
 - i. Open up a new blank slide

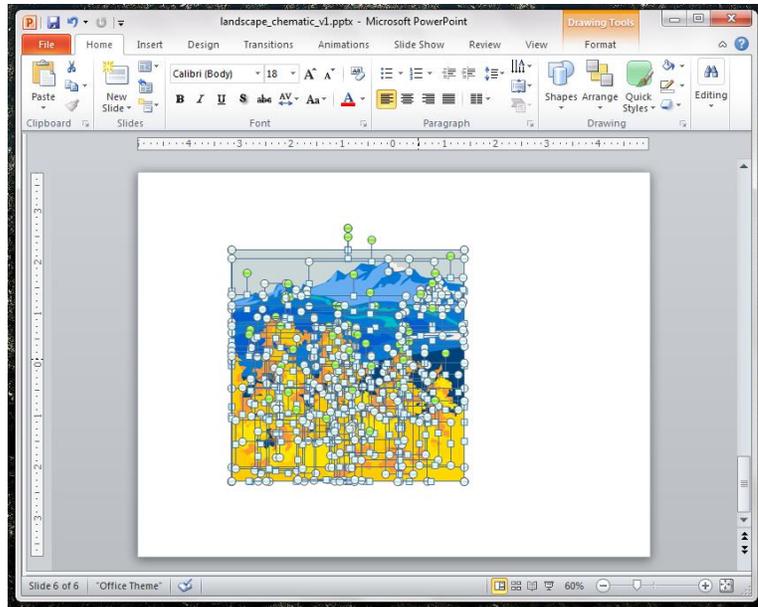
- ii. Insert a mountain clipart illustration

Insider tip: if inserting an outside image, like a logo, you can remove the background by clicking “Remove Background” under “Format.”

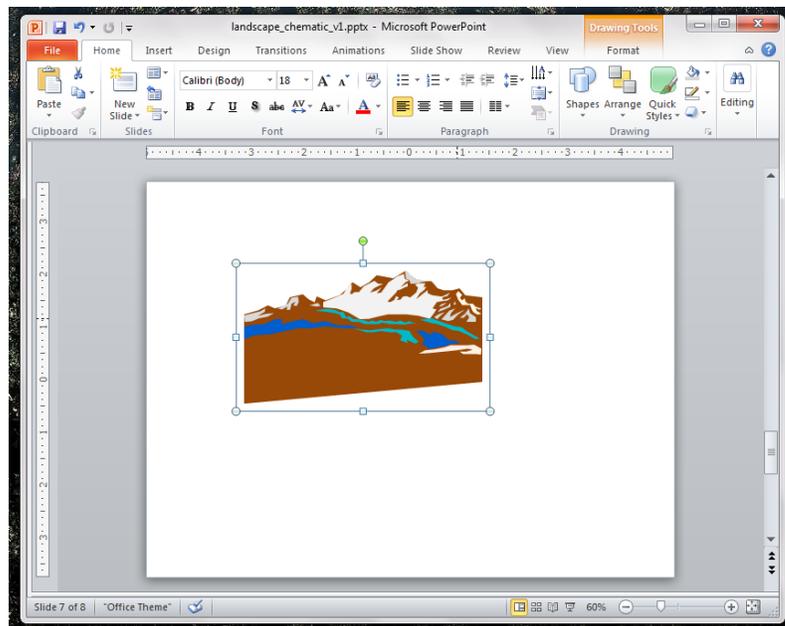
- iii. Right click on clipart and click on “Edit Picture,” press “Yes” to continue (Older PowerPoint versions may require some Googling to figure out (i) if this is possible, and (ii) how to locate the appropriate tool.)



- iv. Right click on clipart again and click “Ungroup” under “Group”

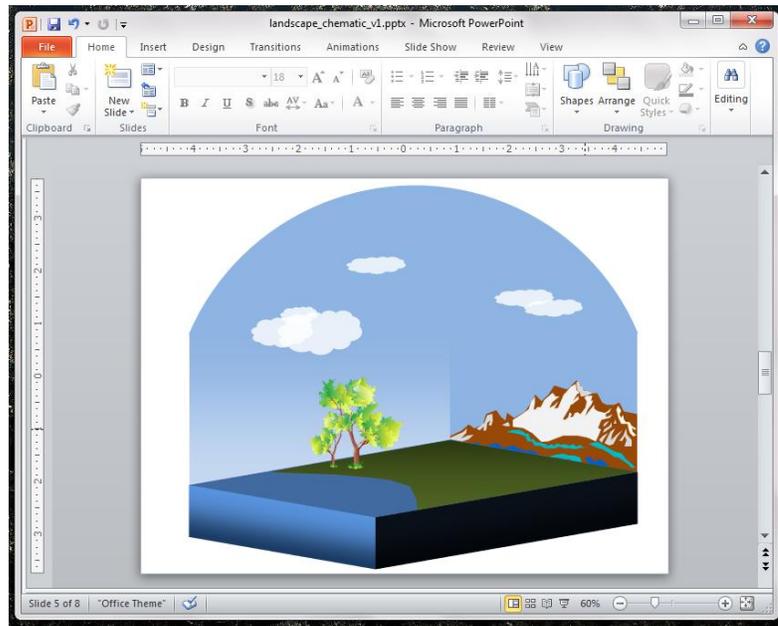


- v. Delete pieces that you do not want
- vi. Change colors of remaining pieces, if desired
- vii. Highlight all remaining pieces, right click, and press “Group”



Insider tip: grouping items together is key to changing sizes proportionally.

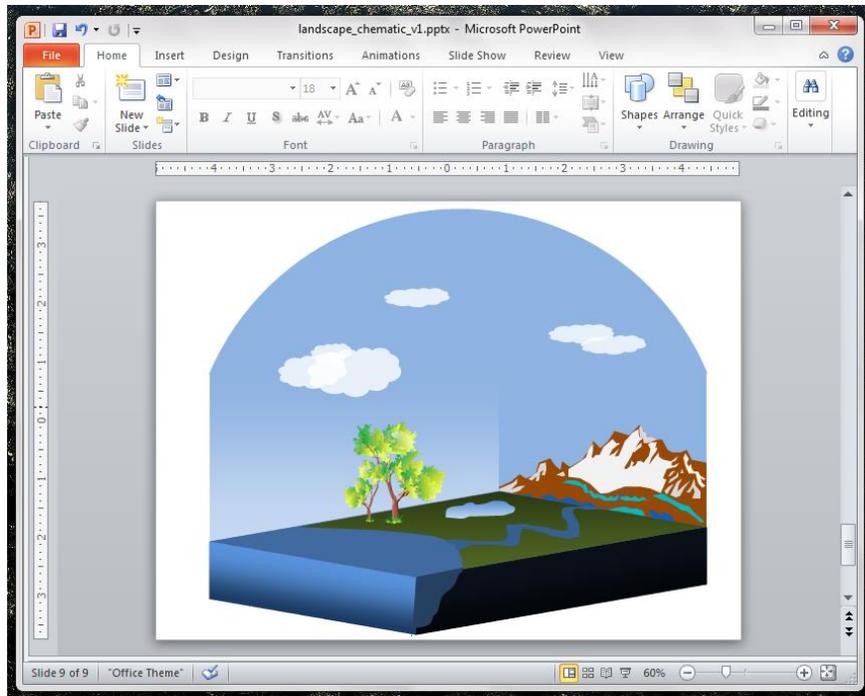
- viii. Insert into schematic, resize, and bring other elements to the front to tuck under the mountains



Insider tip: you can align or distribute objects perfectly by using the "Arrange" tab.

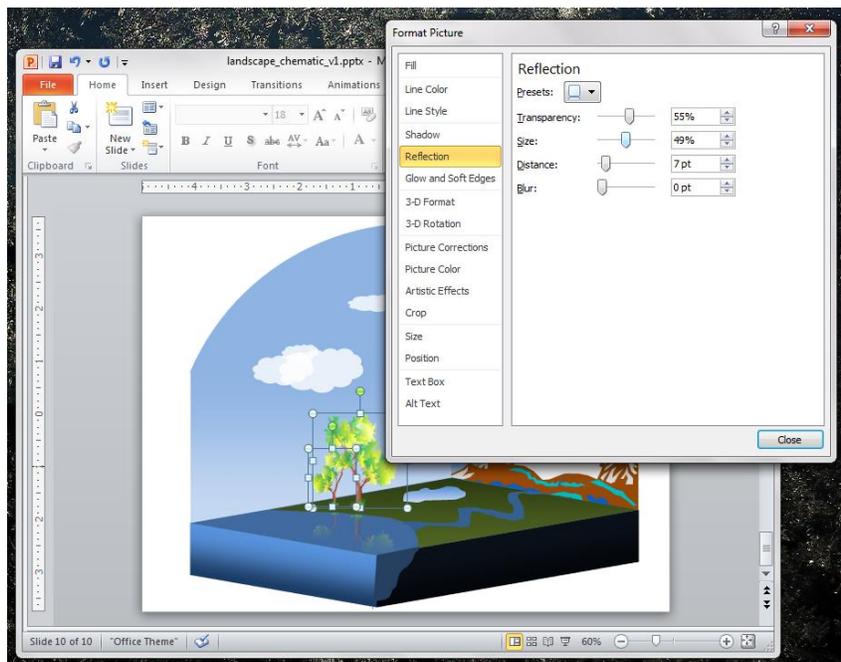
F. Draw additional elements of the landscape around clipart items

1. Draw a river from the mountains to the Ocean, and a lake, by using the same "Freeform" shape tool as before, removing outline and playing with colors and gradients
2. Connect the Ocean perspective to the side cross-section also using "Freeform" tool

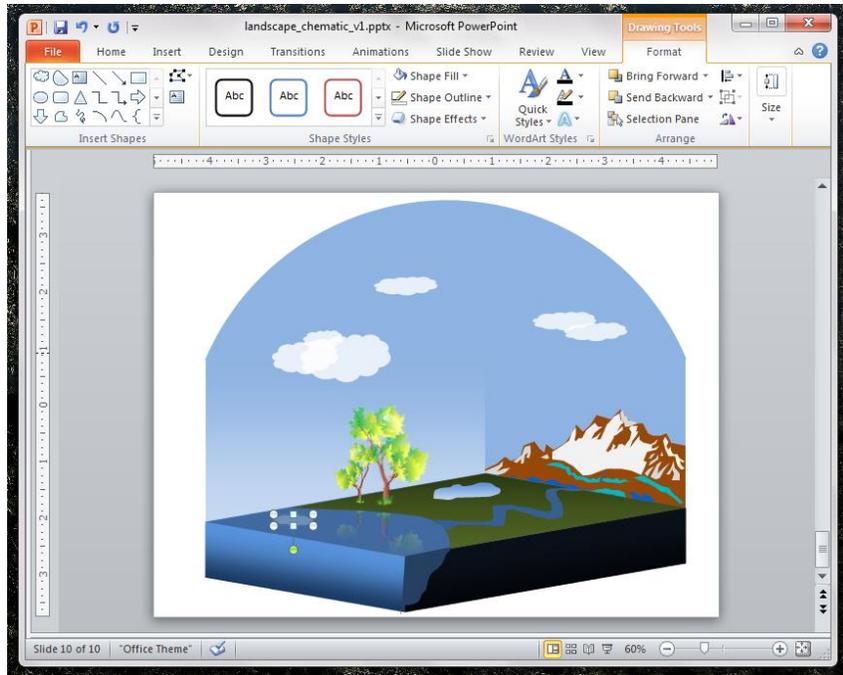


G. Finalize with extra touches

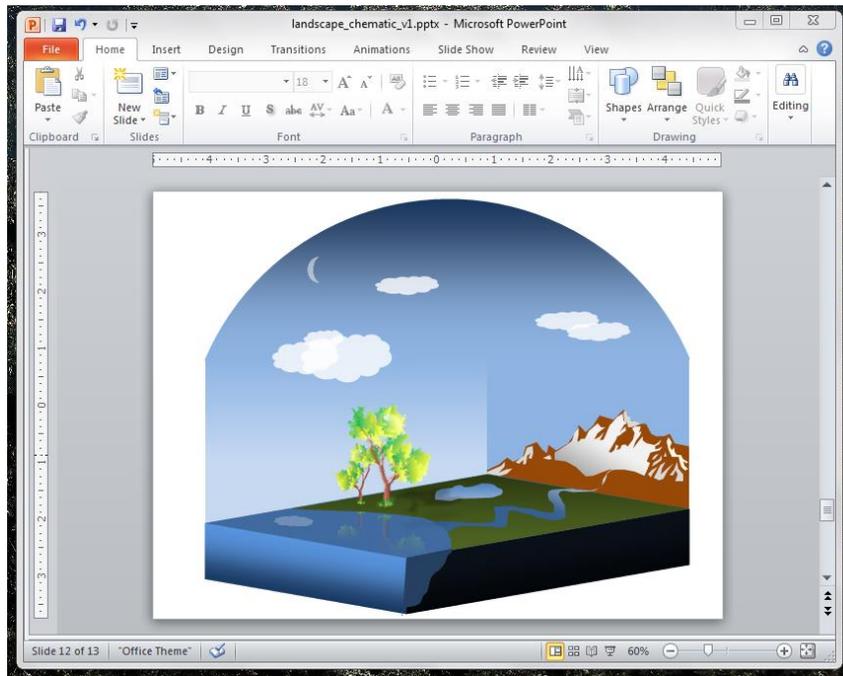
1. Add reflections of the trees in the water by using the reflection tool. Right click on the objects, click on “Format Picture,” and click on “Reflection.” Play around with the different options to get the desired look



2. You can also add reflections by increasing the transparency of an object and flipping the image in the water, as demonstrated for a cloud



3. Finally, play around with all of the tools you have learned to enhance the schematic once you see it all pulled together



Intermediate designers, or those who find themselves wanting more options and flexibility with developing graphics, may want to look into purchasing Adobe Illustrator.

Illustrator lends itself well to illustrating science. The software can be used to plot data in a more exciting way, and is compatible with postscript files, MATLAB figures, Microsoft Excel charts, PDFs, and other files scientists commonly create as part of their research. For example, you can open these files and take apart and modify their components to make them look better (e.g. thicken lines, shade curves, change fonts, smooth data).

Illustrator is also compatible with the free resizable clipart illustrations offered by Microsoft Office online, and you can take apart the individual pieces as in PowerPoint, described above in Section E4. Further, you can insert photos into Illustrator and turn them into illustrations (of which you can then take apart the individual pieces, recolor, etc.).

However, it is important to remember not to take advantage of every tool you come across no matter what image-creating platform you use. Keep in mind that simpler really is better and will be more effective in communicating your message. It took me a long time to admit this.

— [Ilissa Ocko](#) *is a climate scientist at the Environmental Defense Fund in New York City.*