

# I Can Develop an Analogy Map

Using models and analogies is an important part of science. Models and analogies help you understand science concepts that you might not be able to experience on your own. Sometimes events that happen in science are too big or too small to be seen. Sometimes they cannot be observed for other reasons. In these cases, it is important to use a model. Analogy maps help you make sense of how the model relates to the concept you are studying. An analogy is a comparison between two things, usually to help explain an idea. In an analogy map, you describe (1) each part or feature of the model or the analogy and (2) the part of the science concept that it represents. Then you describe how those two parts are alike. This helps you more fully understand the model you are using.

The models you use in your analogy maps may not always be physical models that you can touch and feel. They might be a model you think about. For example, you might use a running river to represent electric current. Even though you may not be touching the river, you can compare your mental image of the river to an electric current.

An example can help you better understand how to develop an analogy map. Imagine that you were studying forest fires. You have a model that looks like the picture in figure 1. Your plan is to light a match on one side of the model and see if all the matches burn. In order to understand more about forest fires, you would need to know what all the parts of this model represent. An analogy map can help. A completed analogy map for this model is shown in figure 2. Sometimes you will be given some of the information in the analogy map. Other times you will have a blank one to complete on your own.



**Figure 1: A model.** Imagine that you planned to use this model to see how a forest fire might burn. What parts of a real forest fire are represented by the different parts of this model?

Part of the model	... is/are like ...	part of the real world.	They are alike because ...	
A block of wood covered in clay			the ground in the forest.	they both hold up the trees and matches.
Matches standing up in the clay			the trees in the forest.	they are standing up, close to one another at different heights.
A hand with a lit match		lightning that could start a forest fire.	they can both cause a fire to start in a small area.	

**Figure 2: An analogy map showing the relationship between a model and a forest fire.** Notice how each row shows a part of the model, a part of the real world, and how the two are alike.