What Are Eigenvalues and Eigenvectors?

The mathematics of PCA isn't really necessary for PCA to be useful. However, it can be useful to fully understand the mathematics of a technique to understand how it might be extended to new cases. For this reason, the page has a few additional references which go more into the mathematics of PCA.

If you dive into the literature surrounding PCA, you will without a doubt run into the language of eigenvalues and eigenvectors. These are just the math-y words for things you have already encountered in this lesson.

An eigenvalue is the same as the amount of variability captured by a principal component, and an eigenvector is a principal component itself. To see more on these ideas, take a look at the following three links below:

Eigenvalue

Eigenvalue and eigenvector

A great introduction into the mathematics of principal components analysis.

An example of using PCA in python by one of my favorite data scientists.

An example of PCA from the scikit learn documentation.