

## Understanding How to Find, Use, and License OER

With so many new tools and ways to use technology, open educational resources (OER) have become an important supply from which to draw when developing instructional content. OER are educational materials produced by one party that are licensed to be shared freely and at no cost by others.

Let's examine the process of finding and using OER and how to handle the complications that can arise when combining materials with different licenses. There are many open licenses, but Creative Commons licenses are the ones we will be working with here.

So how do you go about finding and using OER? Let's watch Michelle as she develops a chapter for an open textbook on metabolism.

Michelle has been teaching metabolism for years, so she has already developed the text of the chapter from her notes. But she needs some illustrations—specifically of the Krebs Cycle and the Electron Transport Chain. She'd also like to find some exercises to accompany the text.

There are many places to find OER, such as Flickr CC, OER Commons, Connexions, Internet Archive, or Open.Michigan. Michelle goes to Flickr CC at [flickr.com/creativecommons/](https://www.flickr.com/photos/creativecommons/). That brings her to a collection of all the Flickr images that have Creative Commons licenses. She quickly finds the images she's looking for, both with CC BY licenses.

For exercises, she logs into The Orange Grove, Florida's digital repository, where a wide range of OER are available. Here she searches for "Electron Transport Chain" and turns up some exercise test questions, also licensed CC BY.

Because there are no restrictions on these images or exercises, Michelle is free to modify them to suit her needs. She resizes and crops the images and writes captions for them. Then, for each image, she provides the specific Creative Commons license with a link back to its license deed. Next, she writes the creator's name, linking back to the Flickr site where she found the image. She also adds some references to the images in her text.

She then adds the exercises at the end, removes two that do not belong in her chapter, provides attribution to the creator, and links back to the resource. Then she uses the Accessibility Checker utility in Microsoft Word, which spots content that may pose challenges for persons with disabilities.

When Michelle saves her book, she notices the metadata text fields at the bottom of the Save As window. Her name is already listed as author. She could add more names if she had co-authors. She enters the title and subject, then several tags that describe the content of her work. When Michelle clicks Save, the metadata is embedded in the document.

Finally, she adds a Creative Commons license. Because the other content she is using has CC BY licenses—the least restrictive license available—she is free to choose the license she wants. She goes to the Creative Commons page to choose a license. She answers a few questions, and her license is selected automatically. She then fills in some information to help others provide proper

attribution for her work, and the chooser automatically generates text and code for her document. She copies the text and pastes it onto the first page of her chapter. A job well done, Michelle!

Michelle used the BY license, which made licensing her new work easy. But not all licenses play well with others. Let's consider some situations where the licenses being combined are more restrictive.

Suppose you are developing a work and you want to use some other CC-licensed works within yours. If you adapt or derive works offered under Creative Commons licenses, you must not only follow the terms of the licenses involved but also choose a license for your work that is compatible with the licenses of the works you are using. If the license of the work you want to use is not compatible with yours, or another work you plan to use, search for a comparable work with a compatible license, or try to contact the rights holder and request permission to use the work under your license.

So which licenses are compatible and which are not? The BY license is compatible with any other Creative Commons license, so you can use it—with attribution, of course—any way you like. Sometimes the BY license has the NoDerivatives or ND provision. The ND provision prohibits the works from being adapted, revised, or combined at all. With the ShareAlike or SA provision, your new work must have an identical license as the source content. In other words, this license lets others remix and build upon a work as long as they credit the creator and license their derivatives under identical terms. Finally, the NonCommercial or NC provision makes the license compatible with any of the three licenses with an NC component: BY-NC itself, BY-NC-SA, or even BY-NC-ND.

Andrea and Charles are each developing their own chapters of an open textbook to be licensed separately. When they have questions about which license to use, they ask Beth, the Scholarly Communications Librarian. Beth is considered a leading expert on campus in Creative Commons licensing. Most people think she's pretty cool. Andrea and Charles would agree.

Andrea has found two resources that she wants to use with her own writing. One is an extensive table with useful information for students. The other is a diagram that shows the relationships among complex variables in a way that makes them easier for students to grasp. The table is found in a work with an Attribution license. The diagram carries an Attribution-NonCommercial license. She's confident she can use these assets for her open textbook chapter, but she wonders what licenses she can apply to her finished work. Considering the stipulations of the BY-NC license, she figures she can use a BY-NC, a BY-NC-SA, or a BY-NC-ND license. Right, Beth? Great!

Now it's Charles' turn. Charles also has two resources that he wants to use with his chapter. One is a photograph with an Attribution-ShareAlike license, and the other is a set of exercises with an Attribution-NonCommercial license. He figures he can cover them both by licensing his chapter with a BY-NC-SA license. Beth? No way, Chuck! Not unless you obtain permission from the photographer. ShareAlike means you have to use the exact same license, and the BY-NC license of the exercises won't let you do that. Well, what if I use this resource—BY license? You're good to go. Thanks, guys! No problem.

When it comes down to it, some combinations of licenses just aren't compatible. And some combinations, like Andrea's, give several options. Fortunately, the number of resources with open licenses is huge, and it's growing every day. So don't give up if the work you want to use has an incompatible license. There's plenty.

And that's it! It's pretty easy when you get the hang of it. Now you'll be able to produce properly licensed open educational resources that can benefit many people. So good luck!