USING LIBRARY DATABASES TO LOCATE RESEARCH ARTICLES (PRIMARY LITERATURE)

Stated simply, a library database is an online collection of research articles coming from many journals.

Some databases are broad in scope in the journals that are included. An example would be QuickSearch, a database you might have used in your English composition classes. QuickSearch covers research articles published in the sciences, social sciences, and the arts & humanities.

Other databases cover journals that are much more narrow in scope. For example, biological sciences researchers typically use BIOSIS Citation Index and several other life sciences and medical databases.

Research articles are known as primary literature in the life sciences, physical sciences and medical sciences.

These are articles where the results of empirical research with original findings are first published. Empirical research is based on carefully-designed experiments and data collection. A research article typically includes the following sections: Introduction, Methods, Results, Discussion, References.

(Note that a review article is not the same as a research article. Review articles are known as secondary literature. A review article summarizes previously published studies in an academic field, but does not contribute anything new to the field. So while a review article is ABOUT primary literature, it is NOT primary literature.)

You might have heard of scholarly peer-reviewed articles. But what does it mean? Watch this explanation video.
Databases you can use to locate research articles in the field of biological sciences--animal physiology:

**BIOSIS Citation Index**
Covers research articles in all areas of biology.

**Zoological Record**
Covers research articles in all areas of animal biology such as biodiversity, environmental studies and veterinary science.

**MEDLINE**
Covers biomedical research articles, which may discuss the use of animals in biomedical research.

**Web Of Science All Databases**
Searches BIOSIS Citation Index, Zoological Record and MEDLINE databases all at once.

Web of Science All Databases is also useful because it allows you to expand your search (ie. locate more articles to support your paper) through the use of cited and citing references. This is sometimes known as backward and forward searching.

Use of citing references/forward searching allows one to keep track of new developments in a research area; use of cited references/backward searching will help one trace that research area back to its beginnings.

**PubMed**
Provides free access to the National Library of Medicine’s database, MEDLINE.

Let’s assume your professor wants you to research the following topic:
Study the physiology of thermoregulation in marine mammals

Your search phrase should look like this:
PHYSIOLOG* and THERMOREGULAT* and (“MARINE MAMMALS” or “AQUATIC MAMMALS” or “SEA MAMMALS”) 

The “” quotation marks is to ensure that your search will find articles containing the exact phrases MARINE MAMMALS or AQUATIC MAMMALS or SEA MAMMALS.
The * at the end of a stem word is a wildcard. It allows you to search for variations of a word. For eg. PHYSIOLOG* will find articles with any of the following words: PHYSIOLOGY, PHYSIOLOGICAL, PHYSIOLOGICALLY. THERMOREGULAT* ⇒ THERMOREGULATE, THERMOREGULATES, THERMOREGULATION, THERMOREGULATING