

# Common Scientific Sources and Best-Use Cases

Source	Best Uses	Audience	What to Consider
Social Media	<ul style="list-style-type: none"> <li>Exposure to popular scientific thought</li> <li>Pre-prints (publications submitted for peer-review)</li> <li>Locating web articles/current news</li> </ul>	<ul style="list-style-type: none"> <li>Varies-- ranges general to scholarly</li> <li>#scicomm</li> <li>#sciencetwitter</li> </ul>	<ul style="list-style-type: none"> <li>Authors or content creators can be ANYONE, including researchers and database companies</li> <li>Breaking/trending news may need to be corrected for accuracy</li> </ul>
Websites	<ul style="list-style-type: none"> <li>Often "news" or current information</li> <li>Grant/Funding Information</li> <li>Finding different opinions</li> <li>Government/Non-profit information</li> </ul>	<ul style="list-style-type: none"> <li>Varies-- ranges general to scholarly</li> </ul>	<ul style="list-style-type: none"> <li>Credibility and accuracy may be more difficult to determine</li> <li>Bias depending on author(s)/publisher(s)</li> <li>Sources rarely cited or cited "in-text" as URLs</li> </ul>
Preprints	<ul style="list-style-type: none"> <li>Finding cutting edge research ahead of the information cycle timeline for articles</li> </ul>	<ul style="list-style-type: none"> <li>Computer scientists, physicists, mathematicians, chemists, biologists, and much more.</li> </ul>	<ul style="list-style-type: none"> <li>Preprints are not peer reviewed and may never be published in a scholarly journal.</li> <li>Some preprint servers have more rigorous standards than others (i.e., arXiv)</li> </ul>
Posters	<ul style="list-style-type: none"> <li>IMRaD format for research</li> <li>Uses visuals to demonstrate trends/evidence/findings</li> </ul>	<ul style="list-style-type: none"> <li>Professionals, researchers, students</li> </ul>	<ul style="list-style-type: none"> <li>Format of the poster</li> <li>Research may/may not be up for publication</li> </ul>
Conference Proceedings	<ul style="list-style-type: none"> <li>Identifying current research trends</li> <li>Specialized information related to a particular profession or discipline</li> </ul>	<ul style="list-style-type: none"> <li>Professional organizations, researchers, government orgs, grant agencies</li> </ul>	<ul style="list-style-type: none"> <li>May only be an abstract without a paper (a talk)</li> <li>Could be an interview or panel transcript w/ different levels of panel member expertise</li> </ul>
Scholarly Journals	<ul style="list-style-type: none"> <li>In-depth and specific research</li> <li>Focused and peer-reviewed articles</li> <li>Statistics, data, charts, graphs, and analysis</li> <li>Mostly sorted into Original Research Articles and Review Articles.</li> </ul>	<ul style="list-style-type: none"> <li>Scholars, researchers, professionals, and students</li> </ul>	<ul style="list-style-type: none"> <li>Authors are experts and their credentials are provided</li> <li>Terminology may be difficult for inexperienced readers or those outside the field of study</li> <li>Double-check peer-review status of the journal on Ulrich's Web</li> </ul>
Books	<ul style="list-style-type: none"> <li>Comprehensive overview of a topic</li> <li>Background and historical context</li> <li>Commonly field guides or picture-based</li> </ul>	<ul style="list-style-type: none"> <li>Varies-- ranges general to scholarly</li> </ul>	<ul style="list-style-type: none"> <li>Information may be quickly outdated</li> <li>Bias (depending on authors and publishers)</li> <li>Written to inform AND/OR entertain</li> <li>Should include an "endnotes" or works cited section in the back if scientific in nature</li> </ul>

# Using IMRaD Format to Identify Original Research from Review Articles

Original research articles (primary) are great for:

- Establishing methods of research.
- Discovering current topics (date dependent).
- Citing research to back up your research ideas/proposals.

Review articles (secondary) are great for:

- Reading about past/historical research.
- Obtaining a broad overview about a topic.
- Grounding yourself in the literature.
- Review articles may not have these distinct sections/headings, but are often organized in a similar manner.

	Introduction	Method	Results	Discussion
Review Article	Introduces the findings of the review research as well as the types of data used in the review article.	Often uses “review” in sub-/title or abstract and outlines how the research literature was collected and then analyzed for scope and relevancy.	Presents findings aggregated from original research articles through summarization or by establishing overlap between related research. May use graphs/charts/tables.	Compares the analyzed research and relates the findings of overlap to gaps in current research. May also make recommendations for how this research can be used in original research.
Original Research Article	Introduces the novelty of the study or the gaps that the study fills in regard to previous primary or secondary research.	Outlines lab procedures, variables, and experimentation procedure, which may be based off past, applicable research.	Presents findings from original research as outlined in the introduction of the article. May use graphs/charts/tables.	Discusses the limitations of the research regarding variables and the implications of future experimentation/ research.