**Scientific research in popular sources: Comparing and contrasting delivery of information**

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**Learning outcomes**

* Students will…
  + Describe the information creation process for popular and scholarly sources
  + Compare and contrast the type of information disseminated by each
  + Explain the ways in which authority and accuracy are contingent upon information need
* Therefore, students will…
  + Evaluate the accuracy and authority of a source based on discipline and information need
  + Recognize and select appropriate resources for academic research

**Activity**

1. Materials needed
   * 1 scholarly article
   * 1 news article reporting on the same research
   * Attached worksheet
   * Post-it notes or an online “bulletin board” program like Padlet\*
   * (Optional) For digital version, online platform like LibGuides (ask your librarian!)
2. Set-up
   * Print 1 copy of each article for each student -OR-
   * Link/embed articles in Padlet or a LibGuide
   * Print 1 worksheet for each student
   * Clear a wall for Post-it Notes -OR-
   * Prepare to project Padlet
   * (if using online tools, each student will need a computer)
3. Process
   * **Think—Pair—Share**
   * Each student reads/skims both articles
   * Could be done in advance
   * Students get started on worksheet alone, answering ‘a’ questions
   * With partner/neighbor, work on ‘b’ questions
   * Students share answers using Post-its or Padlet
   * Class discussion
4. Conclusion
   * Class discusses how observable answers (‘a’ questions) helped them think critically to discover answers to more complex questions (‘b’ questions)
   * Class debates answers to ‘b’ questions and defends their decisions
   * Class analyzes whether popular article was accurate representation and why this may be
   * Prompt students to think/talk about how this will affect their own research

**Optional add-ons**

* Focus on the privilege of accessing scholarly research:
  + Find a scholarly article only available behind a paywall/in a library database and an open access scholarly article
  + Discuss these creation processes and the effect they have
  + What happens to those who lack this privilege?
  + What does this mean for authority/credibility?
* Example:
  + Whale article ([Royal Society Open Science](https://royalsocietypublishing.org/journal/rsos))
  + Water vapor on planet:
    - Water detected in atmosphere of potentially habitable super-Earth ([CNN](https://www.cnn.com/2019/09/11/world/water-atmosphere-exoplanet-scn/index.html))
    - Water vapour in the atmosphere of the habitable-zone eight-Earth-mass planet K2-18 b ([Nature Astronomy](https://www.nature.com/articles/s41550-019-0878-9))
* Focus on exaggerated language in popular articles:
  + Find an article whose non-expert language grabs readers’ attention
  + Discuss why this may be done and the effect it has
  + What does the “value” of information mean in different contexts?
  + Confirmation bias—seeking out info that agrees with your worldview
* Examples:
  + Planetary discovery
    - Giant exoplanet found around tiny star shouldn't even exist, astronomers say ([CNN](https://www.cnn.com/2019/09/26/world/giant-exoplanet-dwarf-star-scn/index.html))
    - A giant exoplanet orbiting a very-low-mass star challenges planet formation models ([Science](https://science.sciencemag.org/content/365/6460/1441))
  + Origins of life
    - Building blocks of life may have come from deep space: 'Key to unraveling fundamental questions for humankind‘ ([Fox News](https://www.foxnews.com/science/building-blocks-life-deep-space))
    - Nucleobase synthesis in interstellar ices ([Nature Communications](https://www.nature.com/articles/s41467-019-12404-1))
* Focus on the process of research
  + Students must find articles used for discussion or must find scholarly article given news article (could be done in advance)
  + Discuss different techniques needed for each (location, keywords, planning/effort)
  + Were scholarly articles always linked from news article?
  + What challenges did you face?
* Example:
  + Decline in wild bird population
    - Where Have the Wild Birds Gone? 3 Billion Fewer Than 1970 ([AP/US News](https://www.usnews.com/news/news/articles/2019-09-19/where-have-the-wild-birds-gone-3-billion-fewer-than-1970))
    - Decline of the North American avifauna ([Science](https://science.sciencemag.org/content/early/2019/09/25/science.aaw1313))