**Finding Information: Bibliographic tools and library searches online**

1. Using **Google scholar** (<http://scholar.google.com/>) search for “Sickle Cell Disease” or “Sickle cell Anemia”

* Did you find anything? List the titles and source of 3 articles that you found interesting.
* List the titles and source of 1-2 articles that helped you learn about hemoglobin and sickle cell disease.

1. Using **PubMed** <http://www.ncbi.nlm.nih.gov/pubmed>

Also try the NCBI Bookshelf at <https://www.ncbi.nlm.nih.gov/books>

Search the **library** for the same terms “Sickle Cell Disease” or “Sickle cell Anemia”

* Restrict the search using available filters – e.g. restrict by time periods,
* How many records did you find
* List the name of one book that you found useful
* List one article in Science that has relevant information
* Find one website or database that has relevant information
* How would you cite each of these references? Record the citation. (Hint: see <http://www.citethisforme.com/> for ideas. There are several free citation generation tools that you can select from.

**Resources**

<https://owl.english.purdue.edu/owl/resource/558/01/>

<http://www.techrepublic.com/blog/10-things/10-tips-for-smarter-more-efficient-internet-searching/>

<http://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html>

**Activity/Discussion**

Answer the following questions in a few sentences each:

1. Describe the composition and overall structure of hemoglobin. Why is it so important for us?
2. How does sickle cell hemoglobin (HbS) in red blood cells cause them to sickle?

1. How does the sickling of red blood cells cause anemia, a shortage of red blood cells?

**Additional research: Choose a research topic that you have found interesting related to the sickle cell case**

## You could try:

* [sickle cell anemia **malaria**](https://scholar.google.com/scholar?hl=en&as_sdt=0,11&qsp=1&q=sickle+cell+anemia+malaria&qst=i)
* sickle cell anemia protein structure
* [sickle cell anemia **gene therapy**](https://scholar.google.com/scholar?hl=en&as_sdt=0,11&qsp=2&q=sickle+cell+anemia+gene+therapy&qst=i)
* [**hydroxyurea** sickle cell anemia](https://scholar.google.com/scholar?hl=en&as_sdt=0,11&qsp=3&q=hydroxyurea+sickle+cell+anemia&qst=i)
* [sickle cell anemia **fetal hemoglobin**](https://scholar.google.com/scholar?hl=en&as_sdt=0,11&qsp=4&q=sickle+cell+anemia+fetal+hemoglobin&qst=i)
* [sickle cell anemia **transfusion**](https://scholar.google.com/scholar?hl=en&as_sdt=0,11&qsp=5&q=sickle+cell+anemia+transfusion&qst=i)
* [sickle cell anemia **inheritance**](https://scholar.google.com/scholar?hl=en&as_sdt=0,11&qsp=6&q=sickle+cell+anemia+inheritance&qst=i)
* [sickle cell anemia **thalassemia**](https://scholar.google.com/scholar?hl=en&as_sdt=0,11&qsp=7&q=sickle+cell+anemia+thalassemia&qst=i)
* [sickle cell anemia **molecular disease**](https://scholar.google.com/scholar?hl=en&as_sdt=0,11&qsp=8&q=sickle+cell+anemia+molecular+disease&qst=i)

**Find one primary research article and write a summary of what they showed.**

1. Why is this study important?
2. What is the objective?
3. What is the supporting evidence?
4. What are the conclusions?
5. Do you agree with the authors' interpretations of the presented data? Why or why not?
6. What would you do next?