“Using Science to Teach Middle School Research and Writing Skills”

By Zanae Rodrigo

 I love to incorporate science in my English classroom. Because students are fascinated with animals, one of my most-successful units is to teach middle school research and writing skills by pairing such skills with a unit on endangered species. I have a simple, seven-step plan I follow for teaching the research paper.

**Step One: Define**

 I begin by having students come up with a definition of “endangered species.”

**Step Two: Choose a Species**

Once the class has decided on a working definition, we research which species are endangered and choose a species we want to research (everyone must choose a different animal). There are a number of helpful sites students can access, including the following:

1. The Nature Conservancy: <https://www.nature.org/newsfeatures/specialfeatures/animals/index.htm?src=sea.AWG.prnone.crv1&kt=endangeredspecieslist2011&gclid=EAIaIQobChMI-r2vspCq1QIVxFqGCh3cqgVXEAAYASAAEgJ-3vD_BwE>
2. World Wildlife Federation: <https://www.worldwildlife.org/species/directory>
3. Endangered Animals A-Z: <https://a-z-animals.com/animals/endangered/>
4. National Geographic Kids: <http://kids.nationalgeographic.com/>
5. Kids’ Planet: <http://www.kidsplanet.org/>
6. Animal Fact Guide: <http://www.animalfactguide.com/animal-facts/>
7. Ducksters Endangered Animals: <http://www.ducksters.com/animals/endangered_animals.php>

**Step Three: Outline**

Once students have chosen the animal they want to research, I begin the process of teaching the research paper. Since it’s easier to research information you know you need, the first step is to outline the paper. I have students brainstorm what they think is important in a research paper on endangered species. Together, we come up with an outline that looks something like this:

1. Introduction/Description: scientific name, number of species and subspecies, historical meaning of name (if any), size, weight, skin or fur, eyesight and hearing capabilities, speed, etc.
2. Habitat/Range and Diet: where they’re found, what they eat, how environmental impacts affect food shortages
3. Reproduction: gestation periods, number of calves born
4. Causes of Endangerment/Threats: what has caused the animal to become endangered
5. Conclusion/Conservation Efforts: what’s being done to save the animal and how successful these efforts have been, how others might get involved

**Step Four: Paraphrase Important Information/In-text Citations**

The next step is to locate the information they need on their animal. Once they have found this information, they will paraphrase it on their computers by following their outline. By following their outline, they’re writing their first draft.

Teaching how to paraphrase is important for student success. I explain that paraphrasing is longer and more detailed than a summary, that it’s taking material you read and putting it in your own words, and that it’s cited since the ideas aren’t your own. I also explain that paraphrasing is NOT changing a couple of words from the original, deleting a couple of words, or rearranging the order of the words. This is called PLAGIARIZING. Paraphrasing must be clear, concise, and logically ordered. As they paraphrase, students must cite their work. I follow standard citation practices in *Wordly Wise*.

**Step Five: Title Page/Bibliography**

 I teach standard title page/bibliography style as outlined in *Wordly Wise*.

**Step Six: First Draft**

Students submit their first drafts to me. They must photocopy their sources so I can check whether they’ve paraphrased or plagiarized. Once I edit their first draft, I return it to them for revisions.

**Step Seven: Final Draft**

Once students revise their draft, they turn it in for their final grade.

**Conclusion**

 Students love to research and write about endangered animals. Not only do they learn how to write an effective research paper, they learn how to be better stewards of the animals that inhabit this wonderful planet we call Earth.