**Extinction Project** (courtesy of Model Based Biology; https://www.modelbasedbiology.com/extinction-project-overview)

Introduction: Throughout the year we’ll be addressing the question, **“Why are all living things alike yet so different?”** And more specifically, **“How did there come to be so much biodiversity on Earth and how did all those organisms come to have so much in common?”** As we progress through the year to understand the phenomena around us, we will continually come back to our year-long driving question to understand how major biological ideas weave together to explain the unity and diversity of life on Earth, as well as the impact we humans are having on the planet.

Project Purpose: The extinction project is designed to weave together the major ideas for the school year and to focus on human impact on species survival. You will apply your gained knowledge to a specific example species.

1. Extinction Project Check-In (Initial)

*Driving Question:* **How have humans affected survival of your species? Name of your Species**

* Research more about your species. Document your references below
* Take notes that you will use later in the year for a more formal paper

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Class Conversation: Discuss your response (above) with your small group. Listen to each group member’s responses. **What similarities exist between each species? In other words, what unifying factors did you observe?**

**What are some differences observed when comparing each species? In other words, how is there diversity between species?**

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1. Extinction Project Check-In (Bio 1,2 after unit 3, Adv. Bio after Ch. 6/7)

*Driving Question:* **What specific resources does your species require and how do they get those resources? What resources are most limited for your species? How does this affect their survival?**

*Lesson Connections:* Chemical Reactions, Cellular Respiration, Biosynthesis, (can include Feedback Loops and Photosynthesis)

* Research more about your species. Document your references below
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1. Extinction Project Check-In (Bio 1,2 after unit 4, Adv. Bio after Ch. 8)

*Driving Question:* **How is your species designed to ensure successful reproduction? How is reproductive success threatened for your species?**

*Lesson Connections:* Mitosis, Meiosis, Growth and Development (May include DNA structure and function)

* Research more about your species. Document your references below
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1. Extinction Project Check-In (Bio 1,2 after unit 7, Adv. Bio after Ch. 13/14)

*Driving Question:* **What is the ancestral history of your species? How has your species changed over time?**

*Lesson Connections:* Natural Selection, Speciation (Possibly Sexual Selection and Gene Pool dynamics)

* Research more about your species. Document your references below
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1. Extinction Project Check-In (Bio 1,2 after unit 8, Adv. Bio after Ch. 34/35/36)

*Driving Question:* **How is your species dependent on other species? How are other species dependent on your species Why does biodiversity matter in order for your species to survive?**

*Lesson Connections:* Cycles of Matter, Energy flow, (Possibly Population Size Dynamics)

* Research more about your species. Document your references below
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1. Extinction Project Check-In (Bio 1,2 and Adv. Bio end of May)

*Driving Question:* **Predict if your species will survive or become extinct. In other words, what direction is the species heading and why?**

*Lesson Connections:* All Models

* Answer the question based on your prior research and your overall understanding of this species
* Use examples/evidence whenever possible.
* Write out a 1-2 paragraph (about 12 – 15 sentences) response in the space below. Use a separate piece paper if more space needed

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