**Extraterrestrial Systems Project**

Imagine you're a biologist consulted by George Lucas to design a new extraterrestrial creature for his upcoming movie. As an expert in the characteristics found in living things, you begin to design your own creature. You must ensure that you use the proper biological principles to make your creature "believable" to the public. When you've completed your design plans, submit them in a creative and detailed booklet format for Mr. Lucas.

Make sure the following questions are displayed in your booklet. **(Use these questions as a checklist)**

**One of the drawings for number 7, 8 or 11 must be created in 3D. Please be creative and detailed in your design.**

1. Is your creature microscopic or visible to the naked eye? **Draw a picture of your creature in its’ environment. (Title Page)**

2. Explain whether your creature is unicellular or multicellular. What 2 creatures did you blend together.

3. Does your creature produce its own food, or does it have to find its own food? As the stomach is used to digest food, but also acts as a storage site for food. How often does your creature need to eat? Will it affect the size of his stomach? How much does it eat in one sitting?

4. Is your creature aquatic or terrestrial? Explain at least three of the adaptations that it must help it survive in its environment. Draw the three adaptations.

5. Is your creature awake at night or during the day? What adaptations does he have that suit him to this way of life? What would a day look like for your creature?

6. Is your creature alone or does it live in groups with other creatures of its kind? What kind of features does it have in a group or individually?

7.How does your creature breathe? (Gills or lungs)

Design a proper breathing system from the notes you have taken. **\*Draw and create a colorful detailed poster OR a recycled 3D model of your creature's respiratory system.** Make sure all parts of his breathing are labeled and explained.

8. How does your creature digest its food? **\*Draw and create a colorful detailed poster OR a recycled 3D model of your creature's digestive system.** Make sure all parts of his digestive system are labeled and explained.

9. How long does your creature live? Is it able to regenerate lost parts or can it only repair injured tissue?

10. **Draw a colored image of its heart and functioning. Be sure to label its most important parts.**

11. **Draw 2 examples of your creature's "special senses" and explain how it uses those senses.**

**Rubric - Systems Research Project**

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| --- | --- | --- | --- | --- |
|  | **4** | **3** | **2** | **1** |
| **Cleanliness**  **And**  **Organization** | My research project is very clean and easy to read. The project is organized in a way that makes sense. | My research project is clean and easy to read. The project is mainly organized in a way that makes sense. | My research project is a bit clean. Some parts are not organized and/or are not attached in a clean way. | My research project is not very clean, and the parts are not attached properly. He is very disorganized. |
| **Content**  **Precision** | The information in my research project is 100% correct. My information is clear and detailed. | The information contained in my research project is mostly correct with 1 or 2 errors. | The information contained in my research project is somewhat correct with 3 to 5 errors. | The information contained in my research project is mostly incorrect with many errors. |
| **Mandatory**  **Elements** | My research project includes all the required documents. I have included information and facts that go beyond what is required. | My research project includes almost all the required documents. | My research project includes some of the required parts, but some elements are missing. | My research project lacks many pieces that are needed. |
| **Illustrations**  **And**  **3D design** | My illustrations and 3D design are very carefully colored and pasted into my research project. They include many details. | My illustrations and 3D design are carefully colored and glued into my research project. They include several details. | My illustrations and 3D design are colored and pasted into my research project with some details. | My illustrations and 3D design lack color and detail. They are very messy. |

**Systems Project - Extraterrestrial**

**Short version**

**Don't forget to create a 3D image of the respiratory or digestive system.**

**\*\*\*Check the long version for more details\*\*\***

**1.** Title page- Draw an image of your creature in its environment.

**2.** Explain that your creature is multicellular. Describe the 2 kinds of animals you blended together.

**3.** What does your creature eat as food? Where does it find its food? How much does it eat in one sitting? How often does it eat?

**4.** Explain 3 adaptations that will help it survive in its environment. **Draw** the 3 adaptations as well.

**5.** Explain a normal day for your creature.

**6.** Your creature lives alone or in a group. What for?

**7.** How does your creature breathe? Draw an image of your creature and make sure to label the respiratory parts.

**8.** How does your creature digest its food? Draw an image of your creature and make sure to label the digestive parts.

**9.** How long does your creature live? Is it able to regenerate lost parts?

**10.** Draw a picture of your creature, in color, of its heart and label the important parts.

**11.** Draw and explain 2 "special senses" of your creature.