Island Frogs

(Work in Pairs)

**Scenario:**

You are part of a research team investigating an island complex in the south pacific. The island complex was once a very large island that began to erode and subside back into the ocean after its volcanos became inactive.

Your job is to compare six frog species that have been discovered on in the fossil record for the island and recreate the possible order of speciation. Some of these have been discovered through fossils and other are still observed. Reminder: speciation is a process by which species sometimes split due to changes in geographic conditions or behavioral divisions within the population.

**Protocol**

1. Use the species traits table below to determine which species are the most closely related and which are the “parent” species. Remember species can also lose traits during speciation. Keep in mind that the more characteristics that two species share the more likely they are to be closely related.

|  |  |  |  |
| --- | --- | --- | --- |
| Species | Stripes | Eye Color  | Ventral Spots |
| A (extinct, fossils) | Red and Blue | Red | Yellow |
| B (extinct, fossils) | Red and Blue | Red | None |
| C (extinct, fossils) | Red and Blue | Blue | Yellow |
| D (extant, observed) | Red | Red | None |
| E (extant, observed) | None | Blue | None |
| F (extant, observed) | Blue | Blue | Yellow |

Note: *extinct* means the species is no longer observed in nature and *extant* means that the species is still observed in nature.

1. Use the space below to draw each from species. This will help you keep track of which traits are associated with each frog.
2. Use the flow chart below to determine a potential speciation pathway (illustrate each species in the box). Start with the species that you think is the parent species.

Potential Speciation Pathway