

Pre-trip preparation for Survival of the Fittest – Grades 5-6

With the new exhibit Monster Fish opening up in December here at The Discovery we ask the question why would a monster fish ever exist? This hands-on lab will challenge students to figure out how that might happen. They will work as a team through a few simulations where they will use mathematical modeling to figure out why populations of animals change over time. We will conclude with some key components of conservation biology and what students can do to make a difference to keep richness of biodiversity.

Nevada Academic Content Standards in Science (NGSS) MS-LS4-4

Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.

Nevada Academic Content Standards in Science (NGSS) MS-LS4-6

Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.

Common Core SL.(6-8).1

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.

During your Discovery Class students will be expected to:

- Sit in groups of 4 students per table.
- Students should be prepared to give their full attention to the Lab instructors when given the quiet signal.
- Work cooperatively with one another at the table.
- Follow the hands-on procedures just as the Lab teacher or assistant explains them.
- Handle materials and equipment carefully.

It is important that teachers and chaperones:

- Help focus the students' attention.
- Assist students with lab activities through questioning allowing the student to do the actual building and decision making. For example a parent might ask, "I see your base is shaky, what could you do to strengthen it?"
- Engage students at a higher level by asking open-ended questions throughout the class.
For example: "Why did you choose ___?"
- Turn off cell phones and other electronic devices during the class.

Literary connection:

To get students excited about the upcoming Discovery lesson we suggest reading experts from the following book with your students: *Desert Animal Adaptations (Amazing Animal Adaptations Series)* by Julie Murphy. Desert animals special features help them survive in the heat and cold of their bone dry homes.