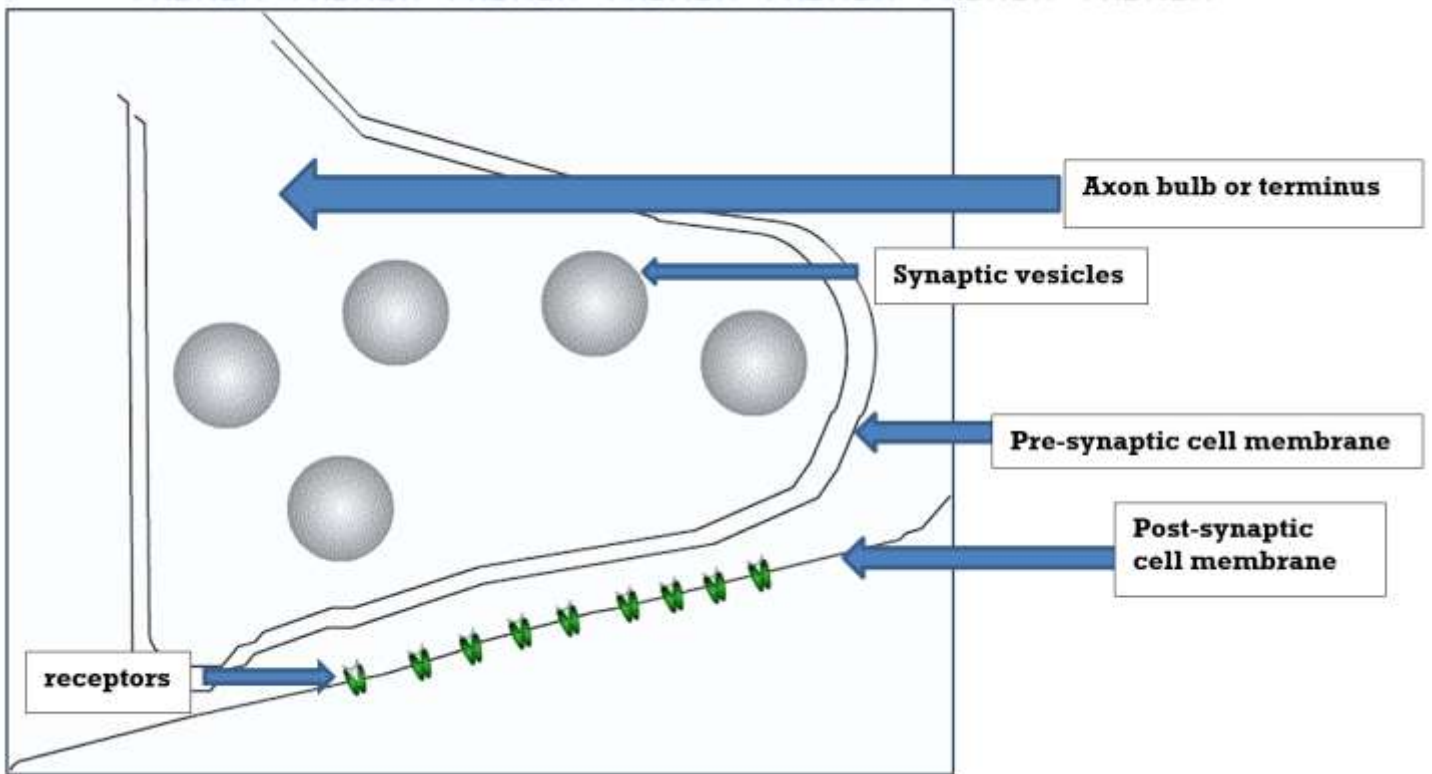


The following material will appear on the upcoming exam. Use this preview to familiarize yourself with the material, and guide you in studying. Be sure to look up the definitions of any words you do not know. You are free to discuss this material or ask questions about it.

Use a #2 pencil to fill in the information on your NCS answer sheet.

- 1) Enter your **last name** and **first name** as indicated and darken the corresponding circles
- 2) Enter your **CWID** in the spaces indicated for "Student ID" and darken the corresponding circles.
- 3) Enter **1912** in the spaces indicated for "**Course number**" and darken the corresponding circles.
- 4) Enter the **form** of the exam (**001** or **002**) in the spaces indicated for "**SEC**" and darken the corresponding circles
- 5) Write your **O-Key Account Username** above the words "Last Name".



Shown above is the area around the neuromuscular junction (synapse between a neuron and a muscle cell).



This (blue-and-yellow) sign below was used (in the old days) for students to line up during course registration.



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The paralytic drug **curare**, is derived naturally from the tropical vine plant *Strychnos toxifera*. Although it has been smeared on poison arrows by indigenous hunter-warriors in the Amazon, curare in dilute form has medicinal value. It has been added to the regimen of anesthetic drugs prescribed by surgeons as a muscle relaxant used prior to surgery.

A tapir struck by a curare-tipped arrow slows down very quickly before dropping to the floor of the rainforest. Once the sun sets, the *Strychnos toxifera* vine is in total darkness.

A lover of tropical plants is growing *Strychnos toxifera* vines in a special greenhouse using a see through plastic material that acts as a green filter (which allows only green wavelengths to be transmitted).



**Ouabain** is found in the leaves, roots and seeds of the *Acokanthera schimperi* plant that is native to East Africa. A potent toxin, **ouabain** acts by binding to and inhibiting the  $Na^+/K^+$  pump. In larger doses, ingestion of ouabain can cause paralysis.



The image below of three swift foxes (*Vulpex velox*) was taken (© [Jason Bruck](#)) at the Oklahoma City Zoo on Feb 16<sup>th</sup> 2019 when the outdoor temperature was 28°F.



In a huge African lake called Lake Tanganyka, a species of cichlid fish has given rise to more than 200 unique species of fish including insect eaters, fish eaters and mollusk eaters.

Lake Ejagham is a small body of water located in Cameroon, Africa. It has a muddy bottom in the center and sandy bottom on the shore. These areas provide different **niches** to cichlid fish. A researcher has been studying two closely related fish populations that have specialized in different environments over generations, and therefore exhibit different sizes and diets.



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The fur of giraffes has particular patterns of coloration.

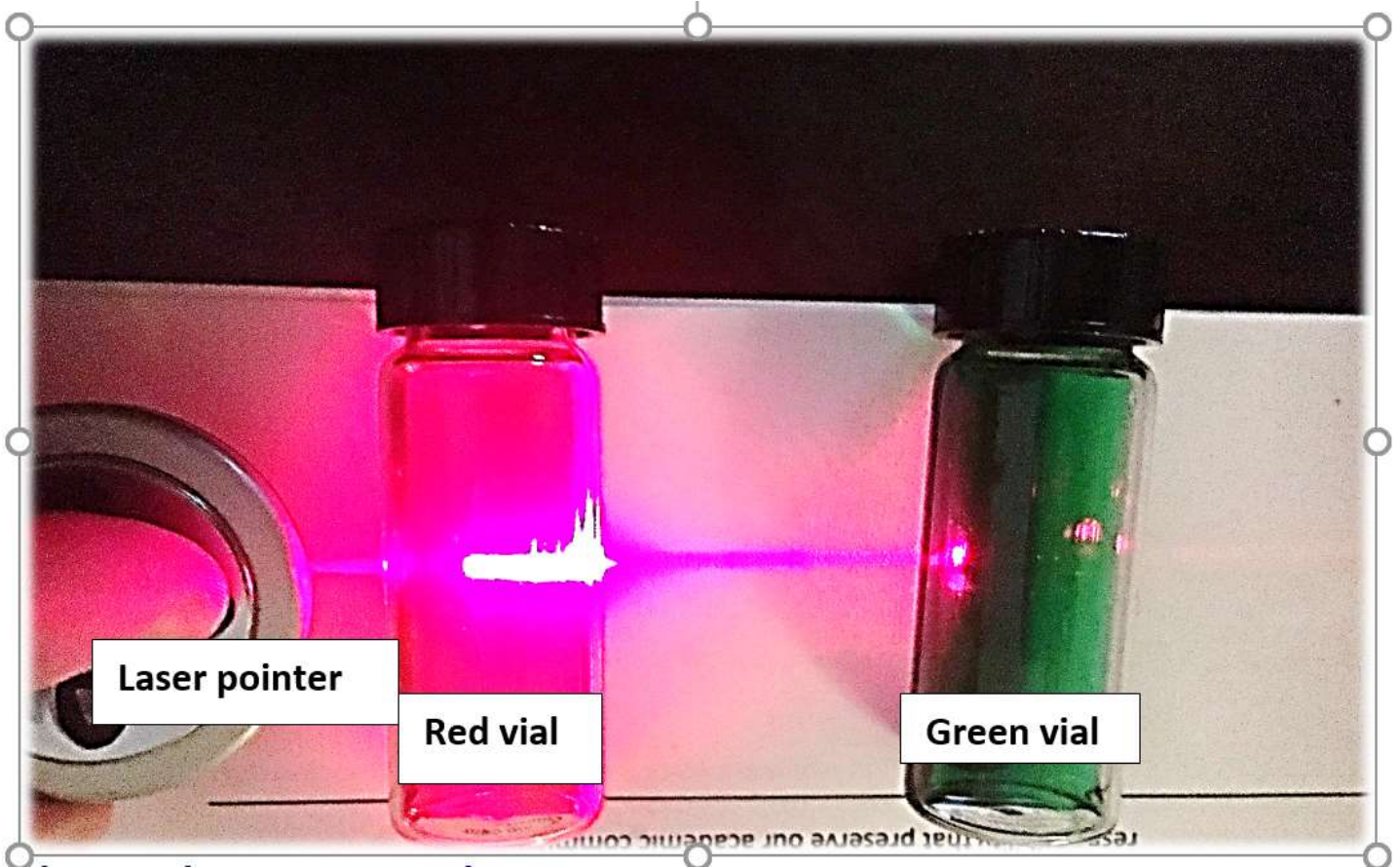


photo credit: [Dr. Jason Bruck](#)

This is an image of vials of red and green liquid with a red laser (far left) aimed at them.



Sea turtles lay many eggs on beaches, and newly hatched turtles travel to the sea after they dig themselves out of the mother's burrowed nest. The journey of baby turtles back to the sea, however, is often ended by predatory birds that find them to be a nutritious meal.