**Shark Dissection**

**Analysis (50 points)**

-Compare and contrast the adaptations of squid and shark to life in the ocean

-Consider movement, feeding & digestion, sensing, maintaining homeostasis, obtaining oxygen, defense & protection, body support and shape

-use your observations from both dissections to assist your analysis

-Please use more than one word to contrast- example- lungs vs lungs to breathe with

| **Unique Adaptations of Squid** | **Similarities** | **Unique Adaptations of Sharks** |
| --- | --- | --- |
| * **Tentacles have suction cups which can grab and damage the prey. A form of sense.** * **Beaks that can break down food and digest it.** * **Ink Sac - The ink sac in the squid has the ability to create a black cloud/smokescreen to get away from enemies.** * **Guts - used to break down food small enough and entirely to send the remains and nutrition through the body. Basically another word for it is a stomach.** * **SIphon - allows the squid to suck in liquid to travel through its body as a form of getaway or just to move like jet propulsion.** * **Pen - is a form of durability like protection for the squid to protect its body outward and inward.** * **Mantle - The mantle holds all the internal organs together and lets through liquids like water expel outwards or inwards.** | **Living- shared 10 features**   * **Sharks and Squids share the unique adaptation of fins for movement and to be a very agile creature** * **Gills for breathing** * **Eyes - both used for seeing and observing the surroundings to survive. A form of sense** * **Both have a reproductive organ to find out what gender they are** * **Both have a three chambered hearts used to survive** * **Each has their own unique shape to benefit themselves.** * **The brain controls the center of the body used to gather information about its surroundings and another form of sense.** * **Coloration - uses color patterns to blend into its environment** * **Countershading - is a mixture of dark on the bottom and white on the top which both the squid and shark share.** * **Both are asymmetrical** * **Mouth - used to chew food and swallow its food up** * **Both having internal organs** * **Similar body shapes give them a unique way to move and survive.** * **Homeostasis - through movement and using their gills for oxygen related things** * **Kidneys** | * **Spiracle - allowing water over gills during rest or eating** * **Cloaca - exit for systems like excreting waste** * **Clasper- used to deposit sperm to female** * **Operculum - pumps water over the gills which creates a surface like shield to protect fishes gills** * **Scales - streamline, hydrodynamic waterproof** * **Tail - used for movement, propulsion through water and a source of locomotion** * **Teeth - used to kill and destroy its food. Teeth are used for chewing to break down its prey, sucking out all the nutrition and eating it.** * **Ampullae - a shark uses an ampullae to sense prey and predators using its electromagnetic system.** * **Lateral line - it picks movement vibrations in the ocean to know where something is or if it is close to it. Very good to not be attacked.** |

| **Consider the following parts:** | | **Consider the following reasons for adaptations:** |
| --- | --- | --- |
| **Squid** | **Shark** |
| * ~~Gills~~ * ~~Mantle~~ * ~~Fins~~ * ~~Siphon~~ * ~~Beak and mouth~~ * ~~Tentacles~~ * ~~Body Shape~~ * ~~Coloration~~ * ~~Pen~~ * ~~Ink sac~~ | * ~~Gills~~ * ~~Spiracle~~ * ~~Scales~~ * ~~Fins~~ * ~~Tail~~ * ~~Teeth~~ * ~~Body shape~~ * ~~Coloration~~ * ~~Lateral line~~ * ~~Ampullae~~ * ~~Internal Organs~~ | * Body Support * ~~Body Shape~~ * ~~Movement~~ * Maintaining Homeostasis * ~~Feeding~~ * ~~Digesting~~ * ~~Obtaining Oxygen~~ * ~~Defense/Protection~~ * ~~Senses~~ |

| Provides evidence to compare and contrast (2 points per part)   * Appropriate (Scientific information from observations- describe what you wrote during the dissections) * Sufficient (Enough evidence to support the claim) | | | | | |
| --- | --- | --- | --- | --- | --- |
| **2 points**  Information is completely accurate and reflects a good understanding of the material. | | | **1 point**  A few misunderstandings are apparent due to more than one structure missing from the list. | | |
| Explanation provides reasoning for the comparison that is… (3 points per part)   * Clear (Clearly communicated and goes beyond repeating claim and evidence) * Connected (Explains how the part functions and helps the shark and/or squid survive and thrive) * Integrated (Links the evidence to the themes of structures fit functions, adaptations, homeostasis) | | | | | |
| **3 points:**  Observations show a strong link between the structure and function specific to a shark or squid | | **2 points:** Observations show a basic understanding of how the structure and function are related | | **1 point:** Observations do not show a link between structure and function or are not specific to shark or shark | |