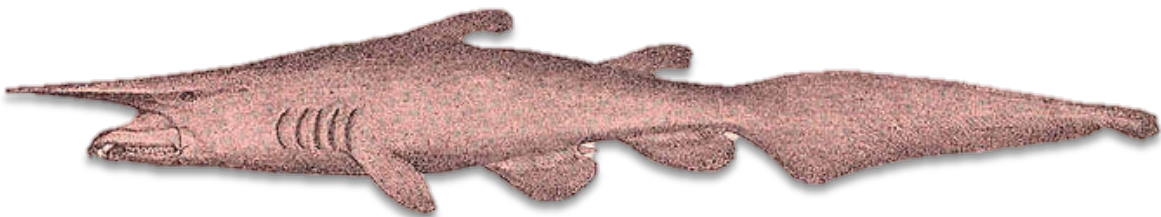


# Deep Sea Sharks: Megamouth, Goblin & Frilled



## **Study Guide**



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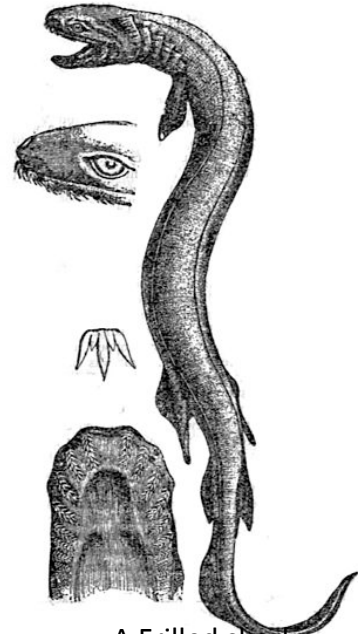
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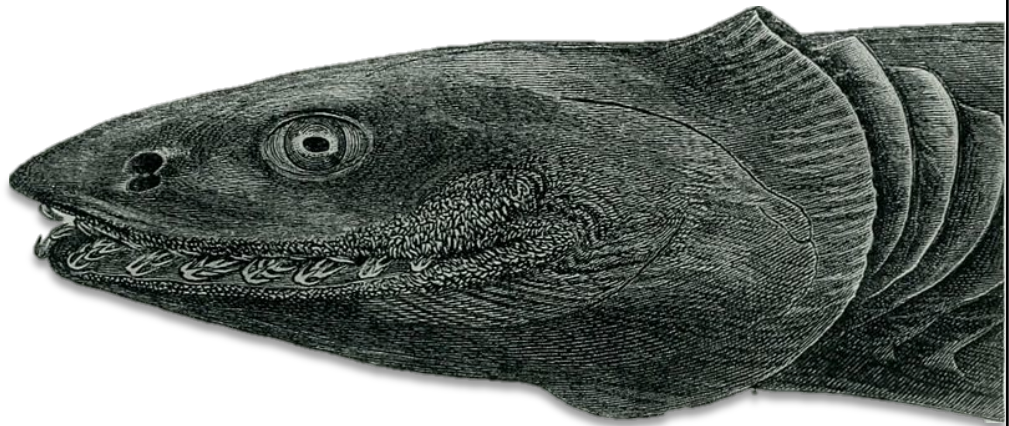
**[gab21921@gmail.com](mailto:gab21921@gmail.com)**



A Frilled shark showing anatomical details.

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The head of a Frilled shark. Image in the public domain.

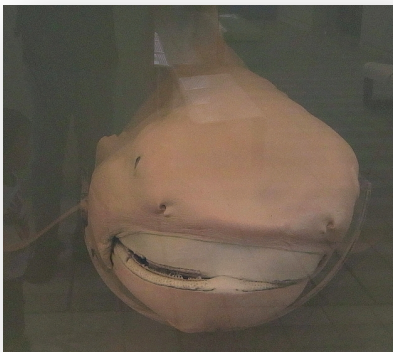
## Introducing the Deep Sea Shark: Megamouth, Goblin & Frilled

In this lesson we look at the lives of the Megamouth, Goblin and Frilled sharks, all fascinating in their own right. Although we still have only very little information about these rare to us sharks, what we know about them is still palatably interesting.

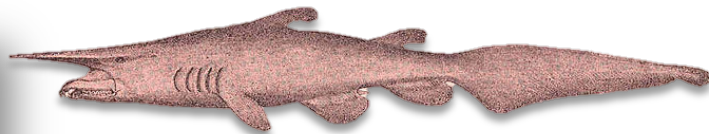
The Megamouths have startlingly large, rubbery mouths and swim with their enormous mouths wide open, filtering water for plankton & jellyfish. They are found at lower zones and surprisingly higher zones.

The Goblin shark's startling appearance is goblin-like with nail-like teeth and an unusual jaw that is protruded when seizing its prey. Their long snouts are covered sensory organs with detect minute electric fields produced by nearby prey.

The Frilled shark Gills has 6 pairs of long gill slits with a "frilly" appearance created by extended gill filament tips, giving its name. A first gill slit pair meet across its throat, forming a "collar". They have broad, flattened heads with a short, rounded snout with around rows of small, needle-like teeth numbering around 300.



A Megamouth shark.  
Image credit: OpenCage.



A Goblin shark



A Frilled shark

## PowerPoint Review Questions: Deep Sea Shark

**Directions: Read through NatureGlo's eScience PowerPoint, Deep Sea Sharks: Megamouth, Goblin & Frilled. Answer the questions below.**

### Slide #4 The Megamouth Shark *Megachasma pela*

1. The Megamouth shark is the \_\_\_\_\_ of 3 extant planktivorous sharks, besides the whale shark & the basking shark.  
  
a. smallest   b. largest   c. toughest

### Slide #5 Megamouth Shark Geographic Range

2. Zoom into the World sightings of the Megamouth map. Locate the closest Megamouth shark sighting to where you live. Write down the closest Megamouth sighting to where you live below. Include the number of Megamouths sighted.  
  
\_\_\_\_\_

### Slide #6 Megamouth Shark Description

3. The Megamouth shark's mouth is surrounded by luminous \_\_\_\_\_ which may act as a lure for plankton or small fish.

### Slide #9 The Goblin Shark *Mitsukurina owstoni*

4. The Goblin shark are Pink-skinned, elongated with flattened snouts, highly protrusible jaws containing prominent nail-like \_\_\_\_\_.

### Slide #11 Goblin Shark Physical Characteristics

5. Goblin shark jaws are highly protrusible and can be \_\_\_\_\_ almost to the snout's end, although normally its held flush against the underside of its head.  
  
a. Lowered   b. extended   c. removed





## PowerPoint Review – Deep Sea Shark

### Slide #12 Goblin Shark Physical Characteristics II

6. The Goblin shark's pink or tan skin is from visible \_\_\_\_\_ beneath the skin.

### Slide #13 Goblin Shark Diet

7. The Goblin shark \_\_\_\_\_ near the sea floor & far above it.
- a. Sleeps   b. forages   c. gives birth

### Slide #18 Frilled Shark Young

8. The Frilled sharks are aplacental viviparous meaning the embryos emerge from the egg capsules \_\_\_\_\_ the mother's uterus and survive mainly on yolk.
9. The Frilled shark's gestation period is possibly as long as \_\_\_\_\_ years, the longest of any vertebrate.

### Slide #19 Frilled Shark Physical Description

10. The Frilled shark has 6 pairs of long gill slits with a \_\_\_\_\_ appearance created by extended gill filament tips, giving its name.



A Frilled shark. Image credit: Tambja.

## Journal Entry: Deep Sea Shark

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Make a sketch in the box below of any deep sea shark species of your choice including any from NatureGlo's eScience PowerPoint, **Deep Sea Sharks: Megamouth, Goblin & Frilled.** Fill in the information on the right about your sketch.



**Description** – Describe what kind of deep sea shark you drew (size, color, shape etc.) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Geographic range** – Where it lives.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Diet** – What it eats.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Habitat** – What marine zone(s) it lives in and such places as coral reef, Mariana trench etc.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Deep Sea Sharks Quiz

**Directions: Read through NatureGlo's eScience PowerPoint, Deep Sea Sharks: Megamouth, Goblin & Frilled. Answer the questions below.**

**Slide #4 The Megamouth Shark *Megachasma pela***

1. The Megamouth shark is the \_\_\_\_\_ of 3 extant planktivorous sharks, besides the whale shark & the basking shark.  
  
a. smallest   b. largest   c. toughest

**Slide #5 Megamouth Shark Geographic Range**

2. Zoom into the World sightings of the Megamouth map. Locate the closest Megamouth shark sighting to where you live. Write down the closest Megamouth sighting to where you live below. Include the number of Megamouths sighted.  
  
\_\_\_\_\_

**Slide #6 Megamouth Shark Description**

3. The Megamouth shark's mouth is surrounded by luminous \_\_\_\_\_ which may act as a lure for plankton or small fish.

**Slide #9 The Goblin Shark *Mitsukurina owstoni***

4. The Goblin shark are Pink-skinned, elongated with flattened snouts, highly protrusible jaws containing prominent nail-like \_\_\_\_\_.

**Slide #11 Goblin Shark Physical Characteristics**

5. Goblin shark jaws are highly protrusible and can be \_\_\_\_\_ almost to the snout's end, although normally its held flush against the underside of its head.  
  
a. Lowered   b. extended   c. removed





# Deep Sea Sharks Quiz

## **Slide #12 Goblin Shark Physical Characteristics II**

6. The Goblin shark's pink or tan skin is from visible \_\_\_\_\_  
\_\_\_\_\_ beneath the skin.

## **Slide #13 Goblin Shark Diet**

7. The Goblin shark \_\_\_\_\_ near the sea floor & far above it.
- a. Sleeps   b. forages   c. gives birth

## **Slide #18 Frilled Shark Young**

8. The Frilled sharks are aplacental viviparous meaning the embryos emerge from the egg capsules \_\_\_\_\_ the mother's uterus and survive mainly on yolk.
9. The Frilled shark's gestation period is possibly as long as \_\_\_\_\_ years, the longest of any vertebrate.

## **Slide #19 Frilled Shark Physical Description**

10. The Frilled shark has 6 pairs of long gill slits with a \_\_\_\_\_ appearance created by extended gill filament tips, giving its name.



A Frilled shark. Image credit: Tambja.

# Deep Sea Sharks Review Questions & Quiz Answer Key

**Directions: Read through NatureGlo's eScience PowerPoint, Deep Sea Sharks: Megamouth, Goblin & Frilled. Answer the questions below.**

**Slide #4 The Megamouth Shark *Megachasma pela***

1. The Megamouth shark is the **smallest** of 3 extant planktivorous sharks, besides the whale shark & the basking shark.  
  
a. smallest   b. largest   c. toughest

**Slide #5 Megamouth Shark Geographic Range**

2. Zoom into the World sightings of the Megamouth map. Locate the closest Megamouth shark sighting to where you live. Write down the closest Megamouth sighting to where you live below. Include the number of Megamouths sighted.

**Student answers will vary according to geographic location.**

**Slide #6 Megamouth Shark Description**

3. The Megamouth shark's mouth is surrounded by luminous **photophores** which may act as a lure for plankton or small fish.

**Slide #9 The Goblin Shark *Mitsukurina owstoni***

4. The Goblin shark are Pink-skinned, elongated with flattened snouts, highly protrusible jaws containing prominent nail-like **teeth**.

**Slide #11 Goblin Shark Physical Characteristics**

5. Goblin shark jaws are highly protrusible and can be **extended** almost to the snout's end, although normally its held flush against the underside of its head.  
  
a. Lowered   b. extended   c. removed



# Deep Sea Sharks Review Questions & Quiz Answer Key

## Slide #12 Goblin Shark Physical Characteristics II

6. The Goblin shark's pink or tan skin is from visible **blood vessels** beneath the skin.

## Slide #13 Goblin Shark Diet

7. The Goblin shark **b. forages** near the sea floor & far above it.
- a. Sleeps   b. forages   c. gives birth

## Slide #18 Frilled Shark Young

8. The Frilled sharks are aplacental viviparous meaning the embryos emerge from the egg capsules **inside** the mother's uterus and survive mainly on yolk.
9. The Frilled shark's gestation period is possibly as long as **3 ½** years, the longest of any vertebrate.

## Slide #19 Frilled Shark Physical Description

10. The Frilled shark has 6 pairs of long gill slits with a **frilled** appearance created by extended gill filament tips, giving its name.



A Frilled shark. Image credit: Tambja.