

Woods Hole Science Aquarium

THERE'S A LOT TO LEARN! - answers

GROUND FISH

1) As you enter the aquarium, you will see a flatfish in the first tank. This fish is a:

- a) pollock
- b) cod
- c) halibut

2) The fish in the aquarium's logo is a species of fish found in one of the first 5 tanks. Name the fish: *Atlantic salmon*

LOBSTER

3) Lobsters can weigh more than:

- a) 20 pounds
- b) 30 pounds
- c) 40 pounds

4) How do lobsters and crabs, which have hard external skeletons, grow?

They molt

5) A 5-pound lobster is generally how old? *approx. 25 years old*

6) Lobsters can be many colors; the blue color (which is seen in one of our aquarium lobsters) is a result of which two possible factors?

diet and *genetics*

Bonus Fun: How many lobsters do we have on exhibit at the Woods Hole Science Aquarium? 3

HOW OLD IS THAT FISH?

7) Scientists here at NOAA Fisheries "age" fish that have been caught in survey vessels to find out how old they are. There are two ways to age fish. List both ways:

otoliths and *scales*

8) The most precise way of aging fish is by looking at the *otolith*, which is part of the fish's ear bone.

THREE, TWO, ONE....BLAST OFF!

9) The aquarium exhibits TWO species of fish which have been taken to space by NASA astronaut scientists. List the species.

fundulus and *toadfish*

10) Why do you think the scientist astronauts choose to bring these species in particular?

- a) they were small and easy to transport
- b) they are hardy and can handle a wide variety of salinity and pH.
- c) they were funny looking fish and would amuse the astronauts.

Bonus Fun: Guess how many fish are in tank 6 (6th tank from the aquarium entrance). 12

SOUNDS OF THE SEA

11) Endangered Right Whales feed off Cape Cod waters in the spring and summer. The whales can have a hard time communicating with each other due to this human made noise.

air guns, vessel engines, undersea construction activities

12) On the Sounds of the Sea exhibit, find a sound that you wouldn't guess could be made by an animal and list the species here.

student's choice; there are many

SEA TURTLES

13) The largest species of sea turtle is the: *leatherback sea turtle*

14) The fastest growing species of turtle in the world is the:

- a) Kemp's Ridley Sea Turtle
- b) Diamondback Terrapin
- c) Leatherback Sea Turtle

15) Which species of sea turtle has a color in its name? *green sea turtle*

Bonus Fun: Which turtles are the most commonly spotted along Cape Cod?

Kemp's Ridley sea turtle

SALT MARSH/SEAGRASS MEADOW ENVIRONMENTS

16) Cape Cod has numerous salt marshes. List one of the species you can observe in a salt marsh area. *various: mummichog, spider crab, green crab, scallop,*

killifish, tautog, seahorse, American eel, etc...

17) Eel grass is critical for the survival of many coastal marine animals. Eel grass is a:

- a) a type of kelp
- b) a true grass (like grass in a meadow)
- c) algae

SHARKS, DOLPHINS, PORPOISES

18) List the three major differences between a dolphin and a porpoise.

Porpoises have smaller dorsal fins; porpoises have laterally compressed, spade-shaped teeth; porpoises are rounder in shape with a less pronounced beak.

19) What species of shark do we exhibit here at the WHSA?

chain dogfish

20) The megalodon's closest living relative is:

- a) Great White Shark
- b) Whale Shark
- c) Bull Shark

Bonus Fun: How many individual sharks do you see in the aquarium? (don't forget those pups!) 8

SPORT FISHING

21) The Big Tank has a number of sport fish. Through observation, identify the fish that exhibit the following characteristics:

Fastest swimming: (depends on the day)

Largest: black drum

Best-camouflaged: either tautog, sea robin, or northern puffer

22) List the fish in the big tank that uses its fins to "taste" as it "walks". sea robin

TROPICAL WATERS

23) How do species of tropical fish get transferred from warm tropical waters to temperate Cape Cod waters?

- a) They migrate
- b) The Gulf Stream sweeps them north
- c) They get caught in the bilge of boats

24) Which fish in the aquarium is/are an invasive species? lionfish

25) Explain, as best you can, what the phrase "invasive species" means.

A living organism that is not native to an ecosystem and which causes harm

Bonus fun: Lionfish can envenomate. How do they do this?

Dorsal fin spines are like needles and can inject venom

IT'S BEHIND THE SCENES TIME!

26) Horseshoe crabs have blue colored blood. What is contained in the blood that makes it blue?

- a) copper
- b) iron
- c) zinc

27) How much food do the biologists prepare each year for the animals at WHSA? 8,000 lbs/year

28) Some of the tanks in the behind the scenes area are "time-out" tanks for fish that are misbehaving and need to stay separated for a short time. These fish will be ALONE in a tank. Tell us how many time-out tanks we currently have. various; depends on year/day

Bonus fun: What species of fish are in the time out tank(s)? various

29) You may notice a lot of pipes up here! There are 5 major piping systems running above the aquarium tanks. Can you list what these 5 systems are? *Hint: Four are water, one is not...*

air, temperate, cold, tropical, fresh water

MARINE MAMMALS

30) Which four types of seals are most commonly seen in Cape Cod waters?

harbor seals, hooded seals, gray seals, harp seals

31) What type of seals live at the Woods Hole Science Aquarium?

harbor seals

32) What law protects seals?

Marine Mammal Protection Act

33) The biologists train the seals for multiple reasons, list two of the reasons below.

a. *mental stimulation*

b. *husbandry (physical care)*

34) You will hear a story about each of our seals during the feeding presentation. Once you have watched the presentation use the space below to explain why the two seals are living at the aquarium.

*They are non-releasable animals that can't survive in the wild.
They are advocates for education.*

35) List THREE ways you can tell the difference between seals and sea lions.

a. *flipper length*

b. *ear holes/flaps*

c. *vocalizations (also movements on land)*

36) What (approximate) percentage of time do seals spend on land? *30-50% depending on season*

37) What should you do if you see a seal on the beach? *Turn around and leave;*

DO NOT APPROACH!

38) What are the four predators for seals?

a. *killer whales*

b. *sharks*

c. *polar bears*

d. *humans*