

## Call of the Killer Whale Viewing Questions with Answers

Note: The timing listed below is approximate and is based on the PBS broadcast.

The following questions are coded based on theme:  
A = Adaptations, E = Ecosystems, HI = Human Impact and  
G = General. Use these codes to help you choose which  
questions or segments to focus on.

### HOUR 1

#### Introduction (2:25-5:30)

- G 1. What is the maximum length of male orcas? *32 feet*
- A 2. Who rules orca pods? *females*
- E 3. Where do orcas live? *from the Arctic to the Antarctic*
- G 4. How many orcas are there worldwide? *fewer than 100,000*

#### Orcas in Captivity (5:31-11:25)

- HI 1. Why were orcas captured in the mid-1960s to mid-1970s? *to be sent to aquariums*
- HI 2. What is one reason that keeping orcas in captivity is controversial? *because they have very elaborate social relationships*
- HI 3. Where was Keiko captured and where was he taken? *he was captured in Iceland and taken to Mexico City*
- HI 4. How many orcas remain in captivity today? *42*
- HI 5. Keiko became famous because of which movie? *Free Willy*

#### Orca Society and Culture (11:26-13:29)

- A 1. What defines a matrilineal society? *everyone in the group is related to a female ancestor*
- G 2. When do large adult males leave their group? *never*
- G 3. What are the names of the four groups of orcas that live in the Pacific Northwest? *northern residents, southern residents, transients and offshores*
- G 4. Do these groups mix? *no*
- A 5. What do humans and orcas pass on from generation to generation? *languages and behaviors*
- A 6. "For both humans and orcas, different *cultures* exist among the same species."

#### New Zealand Orcas (13:30-17:35)

- G 1. What percentage of the world's whale, dolphin and porpoise species live in the waters around New Zealand? *50 percent*
- G 2. How many orcas live around New Zealand? *about 200*
- E 3. What are some of the things that New Zealand orcas feed on? *fish, sharks, rays and marine mammals*
- A 4. What are some of the differences between orcas in New Zealand and orcas in the Pacific Northwest? *what they prey on, their social structure, their language and how much they travel*
- A 5. Even though orcas around the world live in similar *habitats*, they have different *cultures*.

**Echolocation/Keiko's Rehabilitation - Part I (17:46-21:35)**

- HI 1. Why did Keiko gnaw on the rock in his tank? *he was stressed*
- HI 2. What important task did Keiko have to learn to do in order to be released and survive in the wild? *echolocate and catch live fish*
- A 3. Why do whales echolocate? *to "see" with sound in order to find food*

**Hunting Strategies of Orcas (21:36-27:19)**

- A 1. The orcas in New Zealand are opportunistic in their feeding, but are also very *specialized*.
- A 2. How do orcas catch rays along the rocky coast of New Zealand? *one orca grabs the ray by the tail and another one bites it*
- A 3. Why do the orcas carry the rays around? *to train the younger orcas how to eat them*
- A 4. What do orcas that aren't good at catching rays do when they find a ray? *call in another orca that's better at catching rays*
- A 5. What have the orcas learned to do to keep rays immobilized? *flip them over*
- A 6. How do orcas in Antarctica catch crabeater seals? *they work together to create a wave of water that washes the seal off the ice floe*
- A 7. How do orcas in Argentina catch sea lion pups? *the orcas swim up on the shore*
- A 8. How do transient orcas off the coast of California hunt gray whale calves? *they work together in packs to isolate and overpower the calves*
- A 9. If there is a change in the orca's environment so that their prey is no longer available, it is difficult for orcas to *adapt*.

**Orca Vocalization/Keiko's Rehabilitation - Part II (27:20-33:22)**

- A 1. For how long did Keiko learn to hold his breath (which is normal for wild orcas)? *almost 18 minutes*
- HI 2. What did Keiko do before sleeping that was different than a wild whale? *he gathered his toys around him*
- HI 3. How long had it been since Keiko communicated with another orca? *more than two decades (20 years)*
- G 4. How do Dr. Spong and the researchers at OrcaLab listen to the orcas? *through a network of hydrophones*
- A 5. How can the researchers tell if the orcas are hunting? *they hear them echolocating*
- A 6. What do the orcas' calls sound like when they are resting? *they are low-energy sounding*
- A 7. On average, how many distinct calls does a pod make? *a dozen*
- A 8. Which mammals are known to have dialects at the family level? *humans, dolphins and some primates*

**Keiko's Return to the Wild** (33:23-38:27) and (41:15-43:46)

- G 1. From how far away can orcas' calls be heard? *10 miles*
- HI 2. How did Keiko travel to Iceland? *on an airplane*
- HI 3. Where was Keiko kept while he acclimated to his old home? *first in a pen, then in the bay*
- HI 4. How long had Keiko been in captivity? *23 years*
- HI 5. Did Keiko join a group of orcas in Iceland? *at first, but then he followed a fishing boat into a fjord in Norway*
- HI 6. Why was the decision made to again feed Keiko by hand? *there weren't fish in the fjord for him to eat*
- G 7. How did Keiko die? *from a pneumonia-like virus*

**Orca Stranding** (44:55-53:45)

- HI 1. How does the team first help the stranded young orca? *digging holes in the sand for her flukes and flippers, keeping her skin moist, and keeping her hydrated*
- G 2. Why did the young orca have marks on her tail stalk? *probably from another orca trying to drag her back into the water*
- G 3. It is believed that orcas can survive out of water for how long? *24 hours*
- G 4. Why was Rakey moved to the eastern coast of the island for release? *there was a better chance that her pod would hear her calls*

**HOUR 2**

**Norway** (2:23-7:38)

- A 1. Do the orcas in Norway have the same matrilineal system as those in the Pacific Northwest? *yes, but the groups are not as permanent*
- A 2. Why do the orcas travel into the fjords in the winter? *to feed on herring*
- A 3. What is the name of the unique technique that the orcas use to hunt herring? *carousel feeding*
- E 4. After 20 years of coming into the fjords, why did the herring and the orcas stay offshore this year? *scientists aren't sure*
- HI 5. What happened to the orcas when the herring population was overfished in the late 1960s? *hundreds of orcas were harvested for animal feed*
- HI 6. What is one possible reason that the orcas' social structure is so fluid? *the harvesting of so many orcas in the 1970s*
- G 7. What animal did the team unexpectedly find swimming in the ocean in Norway? *a reindeer*

**Hunting Gray Whales** (7:39-12:19)

- G 1. Where does the **Ocean Adventures** team travel to look for orcas hunting gray whales? *Monterey Bay, California*
- A 2. Why do the transient orcas focus on hunting gray whales versus other whales? *there are more of them, and they are easier to find*
- A 3. How do the orcas kill the gray whale calf? *by drowning it*
- A 4. Why do the orcas eat the tongue of the gray whale first? *the tongue is easy to get to; they pick the "best" parts to eat first before the whale carcass begins sinking*

**Contaminants - Part I** (12:20-18:11)

- HI 1. Why can't the **Ocean Adventures** team approach the orcas in British Columbia? *the orcas are protected by law*
- HI 2. Which group of orcas are the most contaminated marine mammals on the planet? *the transients*
- HI 3. How does Dr. Ross study the contaminants in orcas even though he can't take samples from them? *he studies and samples harbor seals*
- HI 4. How do chemicals enter the marine environment? *through sewage effluent and the atmosphere*
- HI 5. How do chemicals like PCBs and PBDEs impact orcas and harbor seals? *they lead to reduced reproduction, increased mortality and an increase in the incidence of disease*
- HI 6. What is the relationship between high contaminant levels in marine mammals and humans? *we share the same environment and rely on the same food webs*

**Salmon - Part I** (19:47-27:57)

- E 1. Who depends on salmon for survival in the Pacific Northwest (there are several answers)? *the First Nations people, orcas, bears, eagles*
- E 2. How do orcas "manage" the population of their food, the salmon? *they feed in one place for a short while, then move on*
- HI 3. What are two probable reasons that the wild salmon populations have declined in British Columbia? *logging and salmon farming*
- HI 4. What species of salmon are farmed in British Columbia? *Atlantic salmon*
- HI 5. How many pounds of fish (used as food for farmed fish) does it take to grow one pound of farmed fish? *2.2 pounds*
- HI 6. How many times higher are the levels of PCBs and PBDEs in farmed salmon than in wild salmon? *10 to 15 times higher*
- HI 7. What is the health concern around PCBs and PBDEs? *they are linked to cancer in humans*

**Contaminants - Part II (27:57-33:46)**

- HI 1. When were PCBs banned in the United States? *the 1970s*
- HI 2. In what kinds of foods are PCBs found? *fatty fish, meats and dairy fats*
- HI 3. What are PBDEs and where are they found? *flame retardants; they are found in electronic equipment, home furnishings and dust*
- HI 4. Why do children have higher levels of PBDEs than adults? *they spend more time on the floor*

**Salmon - Part II (33:47-45:51)**

- HI 1. Why are the orcas in the Pacific Northwest traveling farther each day than they used to? *they are looking for food*
- E 2. What do orcas eat? *Chinook salmon*
- G 3. By what year are wild Chinook salmon predicted to be extinct? *2100*
- E 4. What do Chinook salmon eat when they are young? *pink salmon*
- G 5. What are salmon born without? *scales*
- G 6. How do sea lice affect baby salmon? *they eat into the salmon's skin, causing the salmon to die*
- HI 7. What is the relationship between sea lice infecting baby salmon and fish farms? *the fish farms contain a lot of salmon, which host sea lice; the young salmon swim along the coast by the fish farms and the sea lice latch on*
- HI 8. What is slice? *a treatment fed to farmed salmon that kills sea lice*
- HI 9. What is one solution to the open-net salmon farms? *closed containment (pens with walls instead of nets)*

**Robson Bight (45:52-50:13)**

- E 1. Why is Robson Bight an important area for orcas? *they go there to rub on the beach and feed*
- HI 2. What was lost on the bottom of the ocean in Robson Bight? *logging equipment that fell off of a barge*
- HI 3. What are the concerns about having the wreckage at the bottom? *fuel and oils will leak out over time; the environment is not like it used to be*
- HI 4. When will some pieces of the wreckage be removed? *May 2009*