

Instructions for Dolphin Photo ID Activity for Teachers/Classrooms

Things you will need:

1. Printed or electronic copies of dolphin dorsal fin photos
2. Photo ID activity key
3. Printed or electronic copy of Dorsal Fin Regions image (for Advanced level only)

Students will learn about dolphin photo-identification (photo-ID), a method used by scientists to individually identify dolphins using photographs of their dorsal fins. Throughout an individual dolphin's lifetime, it will develop notches or scars on its dorsal fin, and no two individual dorsal fins will look exactly the same. These notches and scars can be used much like fingerprints in people to identify individual dolphins. Scientists can take photos of these distinct dorsal fins to match individuals through time, which can answer questions such as where do dolphins spend time, how many dolphins reside in an area, and which dolphins spend time together.

Important: Scientists conducting dolphin photo-identification research are required to have permits from the NOAA National Marine Fisheries Service (NMFS). All photographs included in this photo-identification activity were taken under NOAA_NMFS permit #21938-01 and DISL_NMFS permit #23772. Each photograph includes a copyright logo containing this permit information – **images may not be cropped to remove this information.**

This activity includes photographs of dorsal fins for 10 individual dolphins. A left and right photograph of each dorsal fin is included for a total of 20 photographs labeled Fin 1-10_Right and Fin 1-10_Left. Fins with the same number belong to the same individual dolphin (i.e. a match). For example, Fin10_Right and Fin10_Left are photographs of the same dolphin.

This activity can be modified for three learning levels: Beginner, Medium, and Advanced. Instructions for each level are listed below. The activity can be further modified by using different numbers of photographs from individual dolphins (up to 20 photographs of 10 dolphins are included) or using more or less distinct dorsal fins that may be easier or harder to match. The Photo-ID activity key can be found on page 3.

Beginner

1. Use two copies of a photograph from the same side (right or left) of an individual dorsal fin (e.g., two copies of Fin1_Right). These photographs will be identical copies and easier to match.
2. Have students use the photographs to make matches.

Optional: To include a memory test as part of the activity, turn the photographs face down next to each other and turn over two at a time. If photographs are a match, set them aside (congratulations!). If photographs are not a match, turn them back over face down. Continue this process until all matches are made.

Medium

1. Use one copy each of photographs from both the left and right side of an individual dolphin. Because these photographs are from different sides of the dorsal fin, they will be harder to match.

2. Have students use the photographs to make matches.

Tip: Pick one photograph of the right side of a dorsal fin, then compare it side by side to each of the left sided photographs until you make a match.

Advanced

1. Use one copy each of photographs from both the left and right side of an individual dolphin. Because these photographs are from different sides of the dorsal fin, they will be harder to match.

2. Have students use the photographs to make matches.

3. Use the Dorsal Fin Regions image (below) to determine what regions of each dorsal fin make that fin unique. To further advance this activity, put the unique regions in order from most unique to least unique. Scientists use this approach to characterize individual fins, making it easier for them to search for individuals within large databases that can include thousands of individual dolphins.

Example: In the image below, the two regions that make this dorsal fin unique are the middle and upper regions in that order.

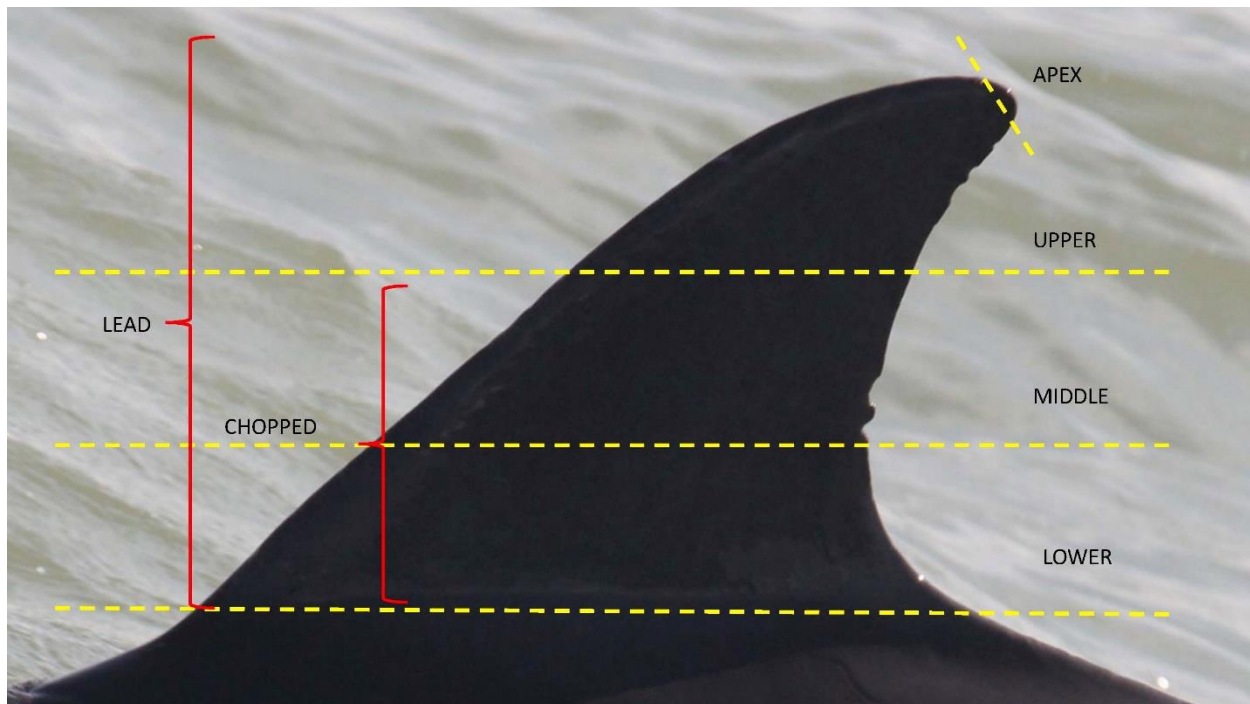


Photo ID Activity Key

Right side photo name	Left side photo name	Unique regions of dorsal fin
Fin1_Right	Fin1_Left	Middle, Upper
Fin2_Right	Fin2_Left	Upper
Fin3_Right	Fin3_Left	Upper, Middle
Fin4_Right	Fin4_Left	Middle, Upper
Fin5_Right	Fin5_Left	Upper
Fin6_Right	Fin6_Left	Lead, Middle
Fin7_Right	Fin7_Left	Upper, Middle, Lower
Fin8_Right	Fin8_Left	Upper, Apex, Lead
Fin9_Right	Fin9_Left	Middle, Upper, Lower
Fin10_Right	Fin10_Left	Chopped fin