SCIENTIFIC KEY

Teacher Resources - Activities

Image credit: Ganapathy Kumar

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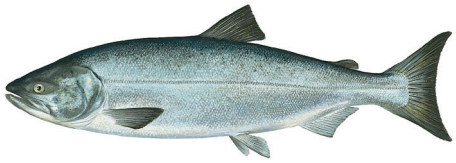
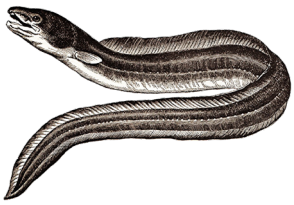
SCIENTIFIC KEY 1: FISH BODY SHAPES

Clues to where and how a fish lives

Use the scientific key to learn about these fish adaptations.

Torpedo shape (Open water)	
Boxy shape (Among coral and rocks)	
Round & narrow (Tight places)	
Flat (Sandy bottom)	
Elongated (Around and under rocks)	

Credits: This activity and these keys have been adapted from an activity by Monterey Bay Aquarium
Illustrations © Scandinavian Fishing Year Book, and Brgfx on Freepik vectors

SCIENTIFIC KEY 2: FISH EYE SHAPES

Clues to where a fish spends time

One eye on each side (Usually swims above the sea floor)	
Both eyes on top of head (Sits on or near the sea floor)	
Large eyes (Light gathering / spends time in dark places)	
Both eyes on one side of head (Usually stays on sea floor)	

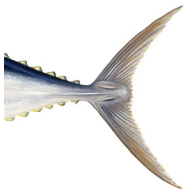
SCIENTIFIC KEY 3: FISH MOUTH SHAPES

Clues to how and where a fish eats

Mouth with teeth (Bites and catches prey)	
Mouth on underside (Bottom feeder)	
Big wide mouth (Gulp its food)	
Long skinny mouth (Probes into cracks)	

SCIENTIFIC KEY 4: FISH CAUDAL OR TAIL FINS

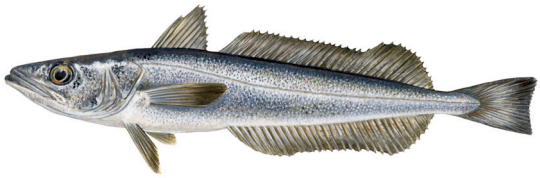
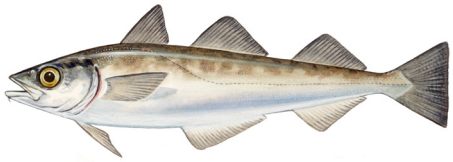
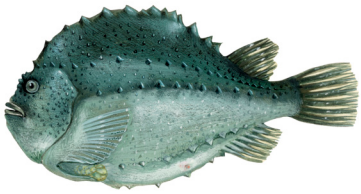
Clues to fishes swimming speed

Squared / truncated tail fin (Moderate speed; sprint starts)	
Forked tail fin (Very fast speed; open water habitat)	
Pointed tail fin (Fast speed)	
Lunate tail fin (Crescent moon shaped, maintaining rapid speed)	
Rounded tail fin (Swimming far and long)	

SCIENTIFIC KEY 5: FISH PECTORAL & DORSAL FINS

Clues to how a fish swims

Pectoral (side) fins help fish to balance, turn and brake.
Dorsal (back) fins help steer and prevent fish from rolling.

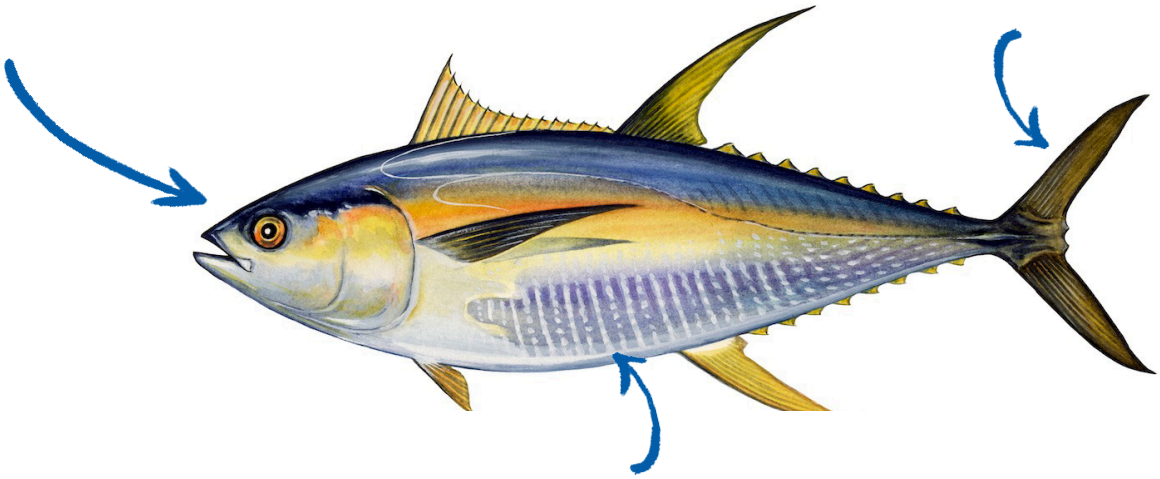
Long or Large fin (Stabilising)	
Triangular fins (Stabilising)	
Small or Short square fins (Maneuvers quickly)	
Irregular fins (Balances, hops or sits on fins)	
Pointy fins (Sharp turns and fast stops)	

BODY SHAPES OF FISHES

Adaptation is an evolutionary process (something that happens over time) where a creature becomes well-suited to living in a certain place (habitat). The body shape of a fish gives clues to where and how the fish lives.

Adaptation 1: Eyes on either side of head are good for swimming above the sea floor

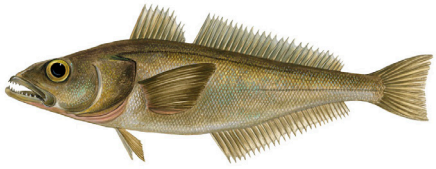
Adaptation 2: Torpedo shaped body and forked tail for fast swimming



Adaptation 3: Colours (dark on top and light underneath) help camouflage in open water

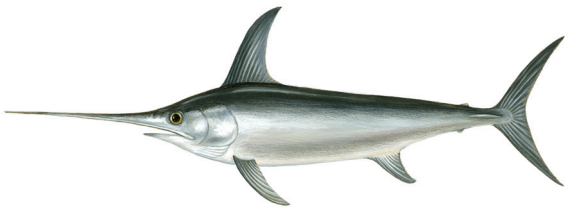
Exercise 1

Using the Scientific Key, look at the pictures below and guess which type of fin shape each fish has? All fish are caught by Australian fisheries and are MSC-certified.



1. Patagonian Toothfish

2. Skipjack Tuna

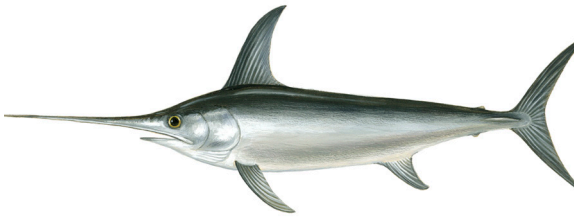


3. Swordfish

4. Australian Sardine

Exercise 2

Use the Scientific Key to figure out the habitats, body shapes and diets of three fish species below

1. Swordfish 	Habitat: Eyes indicate lives above the bottom, in open water Body shape adaptations: Lunate tail indicates swimming with rapid speed. Uses its sword to knock prey before eating Diet: Small fish and cephalopods (squid or octopus)
2._____	Habitat: Body shape adaptations: Diet:
3._____	Habitat: Body shape adaptations: Diet:
4._____	Habitat: Body shape adaptations: Diet:

Exercise 3

How do marine habitats differ from one another?

Use the Scientific Key to match these ocean creatures with their marine habitat.

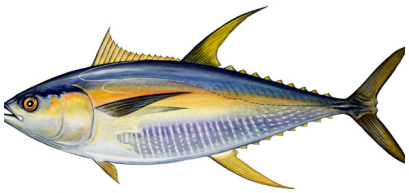
Open water

Soft sandy to muddy bottom

Hard / Rocky

Deep water

All of these species are found in Australia / New Zealand and can be found with the MSC Blue Fish Tick for sustainability.



Yellowfin Tuna

Hoki

Patagonian Toothfish

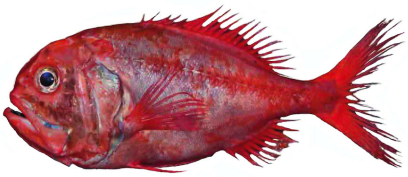
Blue Swimmer Crab

Silver-Lipped Pearl Oyster

Pink Ling

Australian Sardine

Mackerel Icefish



Orange Roughy

Answers

Exercise 1

1. Irregular fins
2. Triangular fins
3. Pointy fins
4. Small fins

Exercise 3

1. Yellowfin Tuna - Open water
2. Hoki - Deep water
3. Patagonian Toothfish - Deep water
4. Blue Swimmer Crab - Hard/Rocky
5. Silver-Lipped Pearl Oyster - Hard/Rocky
6. Pink Ling - Soft sand to muddy bottom *and* Hard/Rocky
7. Australian Sardine - Open water
8. Mackerel Icefish - Deep water
9. Orange Roughy - Deep water