



# Twisted Orca

Whales of New England & More.... Grades K-3

## Lessons & Activities



There is something very special about the ocean.

Look out as far as you can see!

Whales, sharks, sea turtles and much more are living right below the waves (even if you can't see them).

There is a magical world out there.

Let's go explore!





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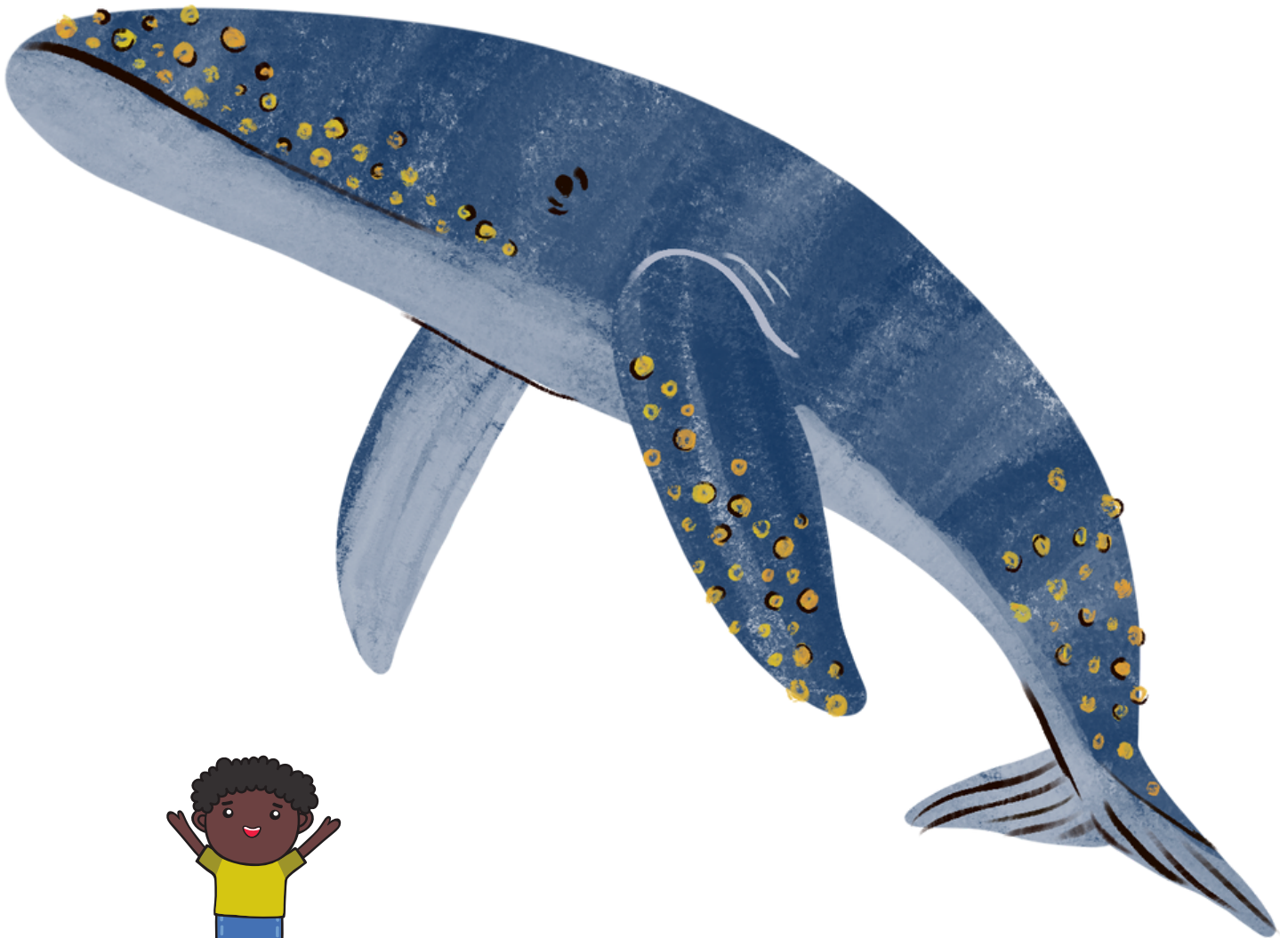
Whales of New England & More.... Grades K-3

**Whales, Whales, Whales!**

**Have you ever seen a real whale?**

**Whales live in every ocean in the world!**

Many people have never seen a whale. If you live near an ocean, you may be lucky enough to see whales and many other animals!





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## *What are Whales?*

### **Whales are Mammals!**

**Some people think that whales are fish.  
However, whales are mammals just like us!**

Mammals are animals who are warm blooded. This means that their bodies can make their own body heat. Whales have a fat layer called blubber. This helps to keep them warm in cold water!

Mammals breathe air through their lungs. Whales cannot breathe underwater. They have to come up for air just like we do.

Mammals give birth to live babies and make milk to feed them.

Mammals have hair! Whales are born with a few hairs (like whiskers on a cat). Some whales keep some of their hairs forever!







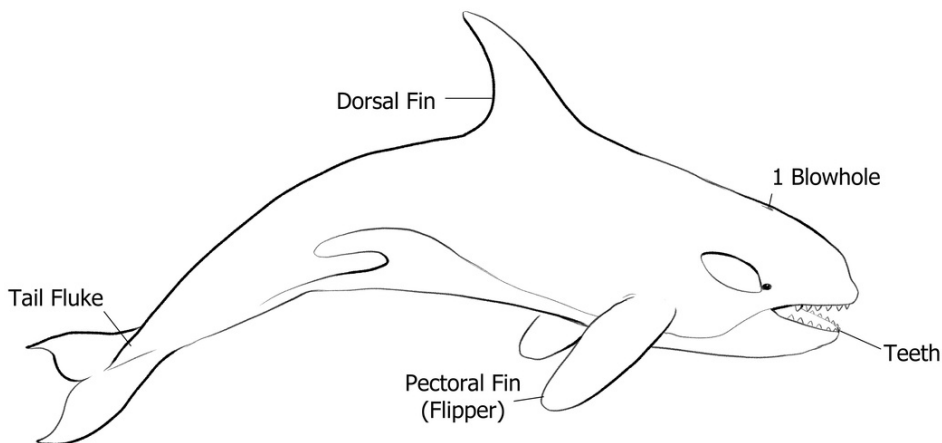
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## Whales with Teeth

There are many different kinds of whales!

Some whales have teeth like we do!  
They use these teeth to help catch their food!



**Fun Fact:** Toothed whales have 1 blow hole on the top of their head to breathe out of.



The Narwhal is a whale that lives far away in the Arctic. Some Narwhals have a tooth that grows right out of their lip and looks like a horn! This long tooth is usually found on boys, but some girls have them too!





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## Whales With Baleen

**Some whales have baleen instead of teeth!**



Baleen is made out of the same material as our fingernails!

The baleen looks a comb or the bristles on your toothbrush!



When the whale opens its mouth, lots of tiny fish and seawater come in.

When the whale closes its mouth, the baleen keeps the food inside the whale and lets all the seawater out.



This is like when you pour spaghetti into a strainer at home. The noodles stay in and the water drains out.

Whales can eat over 8,000 pounds of food this way each day! How much spaghetti can you eat in a day?



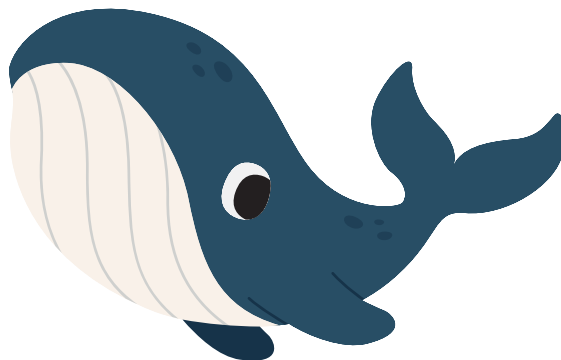
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*Whales of New England & More.... Grades K-3*

## Whales

### Did You Know???

- A male whale is called a bull. A female whale is called a cow. A baby whale is called a calf!
- Whales breathe air through holes called blowholes on top of their heads. Toothed whales have 1 blowhole and baleen whales have 2 blowholes!
- The Blue Whale is the largest animal that has ever lived. It is even bigger than the biggest dinosaur was!
- When whales sleep, half of their brain stays awake and reminds the whale to breathe!
- Whales talk by making sounds such as whistles, clicks, or groans. They also use body movements to communicate.
- Like bats, some whales use sonar or 'echolocation' to see under the water. When whales make a sound, that sound bounces off of an object and returns to them. Whales can use these echoes to form a picture.
- Whales are good for the earth. Whale poop helps small ocean plants grow. These plants give off oxygen that people breathe!





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## *Whales of New England*



Whales live all over the world. There are a few types of whales that visit the New England area every year!

These whales can be found swimming near Rhode Island, Connecticut, Massachusetts, New Hampshire and Maine! Do you live in any of these states?

Every spring through fall, Minke Whales, Humpback Whales, Fin Whales and North Atlantic Right Whales come to New England to feed on fish.

One of the best places in the world to see whales is Stellwagen Bank National Marine Sanctuary off Cape Cod, Massachusetts.

**Let's meet some of these whales!**







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## Humpback Whales

Humpback whales are very big compared to people! They can weigh as much as 10,000 10 year old kids put together!

Humpback whales have baleen instead of teeth.

Humpback whales stay in warmer waters in the winter, and come to New England in the spring through the fall to feed on small fish and krill (tiny ocean animals like shrimp).

It takes about 3,000 pounds of food to feed them. That is like us eating a whole hippopotamus everyday!

Humpback whales can be very active. You may get to see one jumping right out of the water one day!

Humpback whales have dark bodies with white on their flippers. They also have unique marks on their tails. This helps scientists tell them apart and even name them!

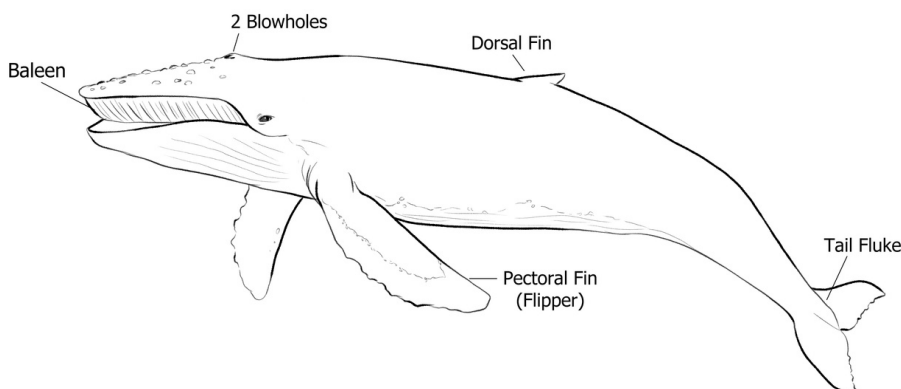
One famous Humpback Whale who visits New England is named Salt. She has had at least 13 babies who come and visit now too! Maybe you will see her one day!



*White Flippers*



*Humpback jumping out of the water*



*Salt the Humpback's tail*



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## Minke Whales

Minke Whales (pronounced Mink-ee) are one of the smallest baleen whales.

Even though they are considered small, they can still grow as long as a school bus!

Minke Whales are sometimes nicknamed 'Stinky Minkes' because their breathe can smell like dead fish!

Minke Whales can be found all over the world. They can often be found in New England in the spring through fall as they look for food.

Minke Whales are known for their beautiful color patterns. You may notice white bands on their flippers. These are called Minke Mittens!



Minke Whales have 2 Blowholes



Do you see the Minke Mittens?



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## Fin Whales

Fin Whales are also called Finback Whales.

They are the second largest animal to have ever lived in the world (even bigger than dinosaurs)!

They can weigh up to 160,000 pounds and grow to 85 feet long! That is longer than 2 school busses put together!

When a newborn Fin Whale is born it can weigh more than a car! Baby whales stay close to their mothers for the first year.

Fin Whales swim faster than any other whale! Because they swim so fast, it is sometimes hard to get a good look at them! Many times you can see their backs as they race by!

They have very unique faces. The right half of their jaw is white, and the left half is black!

Fin Whales have baleen to help them catch fish. They come to New England to feed every year. Sometimes they can stay under water for 15 minutes to find food. They can often be seen around Humpback Whales.

Fin whales can live to about 90 years old. Do you know anyone who is 90 years old?



The backs of 2 Fin Whales



You can spot whales from the spray that comes out of their blowholes when they come up for air!







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## *North Atlantic Right Whales*

Some whales are endangered. This means there are not many left.

North Atlantic Right Whales are one of the most endangered species of whales on earth! There are less than 350 of them left.

We must try to protect them so they do not go extinct and disappear forever.

North Atlantic Right Whales are baleen whales. They have dark skin with rough white patches.

These whales come to New England every spring looking for food.

They swim very close to the shore, and sometimes you can even see them from the beach!

Because they swim very slow and close to land, boats have to be very careful not to hit them.

There are laws that make boats slow down around these whales and stay about the length of 5 football fields away.

Many North Atlantic Right Whales get tangled in fishing ropes and nets. Scientists are looking for ways to help keep these whales safe.



Do you see the white patches?



They are often close to land



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## Other Sea Animals to See In New England

Dolphins are actually toothed whales!

They often travel in family groups called pods.

The Orca is largest of the dolphin family. Orcas are often called Killer Whales.

Orcas are not seen in New England often, but sometimes they are!

One Orca named old Thom can sometimes be seen in Cape Cod and Maine!

**Fun Fact:** Many people say Killer Whales are not whales. Since all dolphins are in the whale family, you can tell them that they are both dolphins **AND** whales!!



A pod of dolphins



Dolphins often jump out of the water



Orca (Killer Whale)



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## *Fish*



There are many different kinds of fish in the water.

Unlike mammals such as whales, fish are cold blooded.

Fish can breathe under the water using a body part called 'gills'.

Fish lay eggs. They do not give birth to live babies.

Fish do not have hair. They have scales that protect their skin.



Have you seen any of these fish before?



Mola Mola (Sun Fish)



Tuna Fish



Salmon





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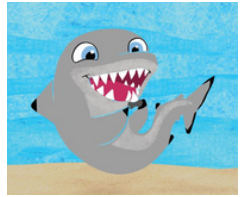
## Sharks

Did you know that sharks are fish?

Fun Fact: Even though sharks are fish, some sharks lay eggs and some sharks give birth to live babies (called pups).

A shark can lose and grow thousands of teeth during its life. When one tooth falls out, another is right behind it to replace it.

How many teeth have you lost?





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## *Other Ocean Life*

There are so many amazing plants and animals that live in the ocean.

It is exciting that more are being discovered all the time!







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## Sea Animals on Land

It is normal for some sea animals to be on land!

Sea turtles come on land to lay their eggs.

Seals come on land to rest. Sometimes a baby seal will be on land while the mother seal looks for food.

It is very important not to go close to or touch wild animals. They may get you sick and may bite.

If you think a sea animal may need help, stay far away (at least the length of 4 school busses away) and let an adult know.

Special rescue workers can help stranded animals. These are animals that should be in the water (whales and dolphins) and animals like seals and turtles that may be sick or injured and need help.



*If you see a stranded  
ocean animal in New  
England, have an adult  
contact:*

*NOAA Fisheries  
24-hour Stranding  
Hotline:*

*(866) 755-NOAA  
(866) 755-6622*





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## *Protecting Sea Animals*

There are laws to protect ocean animals.

The **Marine Mammal Protection Act** makes it against the law to hurt, take, feed, or touch marine (ocean) mammals such as whales and seals!

The **Endangered Species Act** protects animals who are in danger of going extinct (disappearing forever). This Act also protects the environment that animals live in and need to survive.

It is very exciting to see whales and sea animals. We always need to make sure we give them plenty of space to keep them happy and safe.

It is also important to keep the ocean clean, healthy, and quiet so that sea animals can live healthy and long lives!





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## *Keep The Ocean Healthy*

You may have heard about our 'Carbon Footprint'. We breathe in oxygen and breathe out carbon dioxide. Carbon is also released from things we use, such as the cars we drive and the fuel we use to heat our homes.

Carbon helps keep the earth warm. But too much carbon can make it warm up too much! The ocean is warming too quickly and it is changing where some fish travel. This makes it harder for whales to find food to eat.

The ocean is also being polluted with chemicals and trash which is bad for sea life. Detergents to clean our homes and chemicals to make our lawns greener are getting into the ocean.

Many whales and ocean animals are eating plastic which can be dangerous for them. Balloons and plastic bags can look like food!

You can help keep the ocean and animals healthy!

- Save fuel and energy. Walk instead of driving when you can, and turn off things that use energy when you are done!
- Try to use less plastic - especially plastic that is only used once and thrown away (like straws and grocery bags)! Never let balloons loose outside!
- Help your parents look for safe cleaners.
- Reuse and Recycle! Pick up trash when you see other people have littered!



You can make a difference and be an Ocean Hero!



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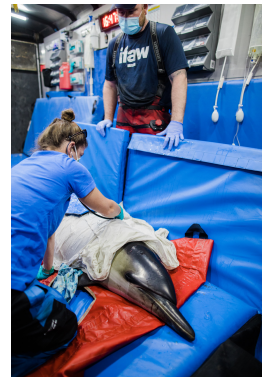
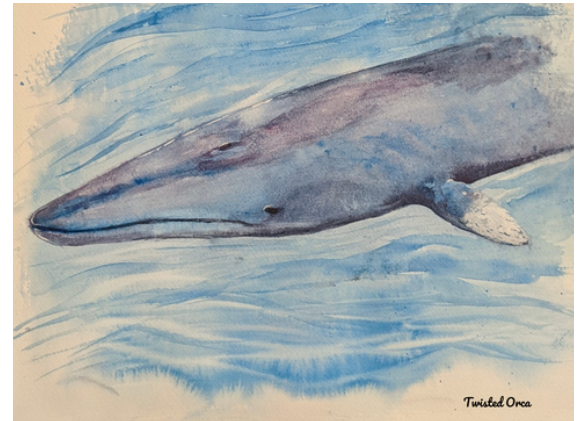
## Ocean Jobs

Would you like to have a job working with ocean life?

Marine Biologists and Oceanographers are scientists that study the ocean and the creatures that live in the ocean. There are other great jobs you can have too!

- You can be an artist and draw ocean animals
- You can write books about the ocean.
- You can become a wildlife or underwater photographer and create pictures or movies.
- Do you like boats? You can be a Marine Naturalist and give tours on the water. Do you like planes? There are jobs looking for whales from the air!
- Maybe you would like to be marine veterinarian or work with a marine animal rescue.
- You can learn all you can and teach others.
- Many ocean groups need good volunteers!

There are all kinds of ocean jobs for people with all different skills and experiences! Make a list of what you like to do. Think of how you could use that in an ocean career!







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## *Ocean Hero Pledge*

### **The Ocean Pledge**



**The Ocean Needs our Help! Please take the Pledge below to help keep our oceans clean and healthy!**



- **I will pick up litter to help keep the ocean clean! Sea animals can get sick or hurt by eating litter or getting tangled in trash (This includes balloons and grocery bags).**
- **I will recycle and reuse items. It takes 450 years for plastic to break down in the sea!**
- **I will not waste water and energy! This means turning off faucets and lights when not using! This saves water and fuel which helps the environment and ocean stay healthy!**
- **I will tell my friends and family about protecting the ocean and the sea animals that live there.**



**Signed -----Date-----**



This Certificate Recognizes That

is an

**OCEAN PROTECTOR**

and a Friend to all Marine Life



Twistedorca.com



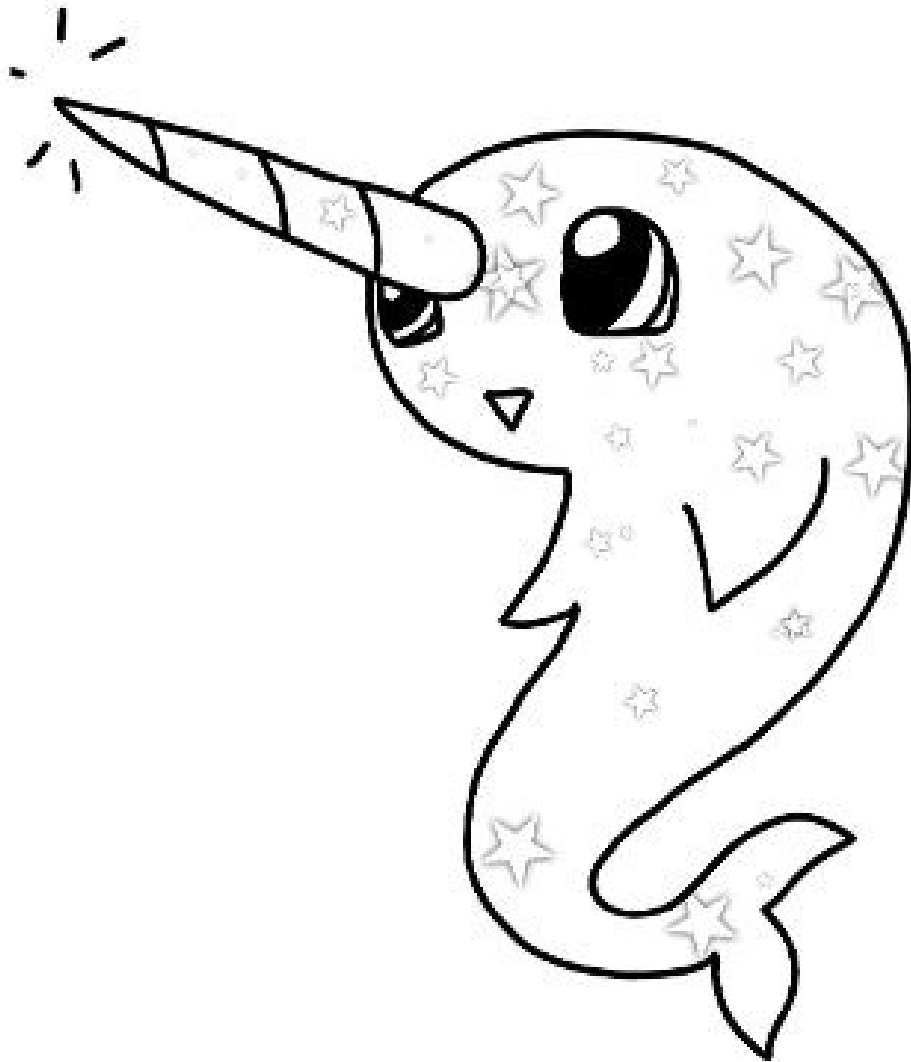


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## *Ocean Activities & Fun*

**Narwhals are sometimes called Unicorns of the Sea.  
Can you guess why?**





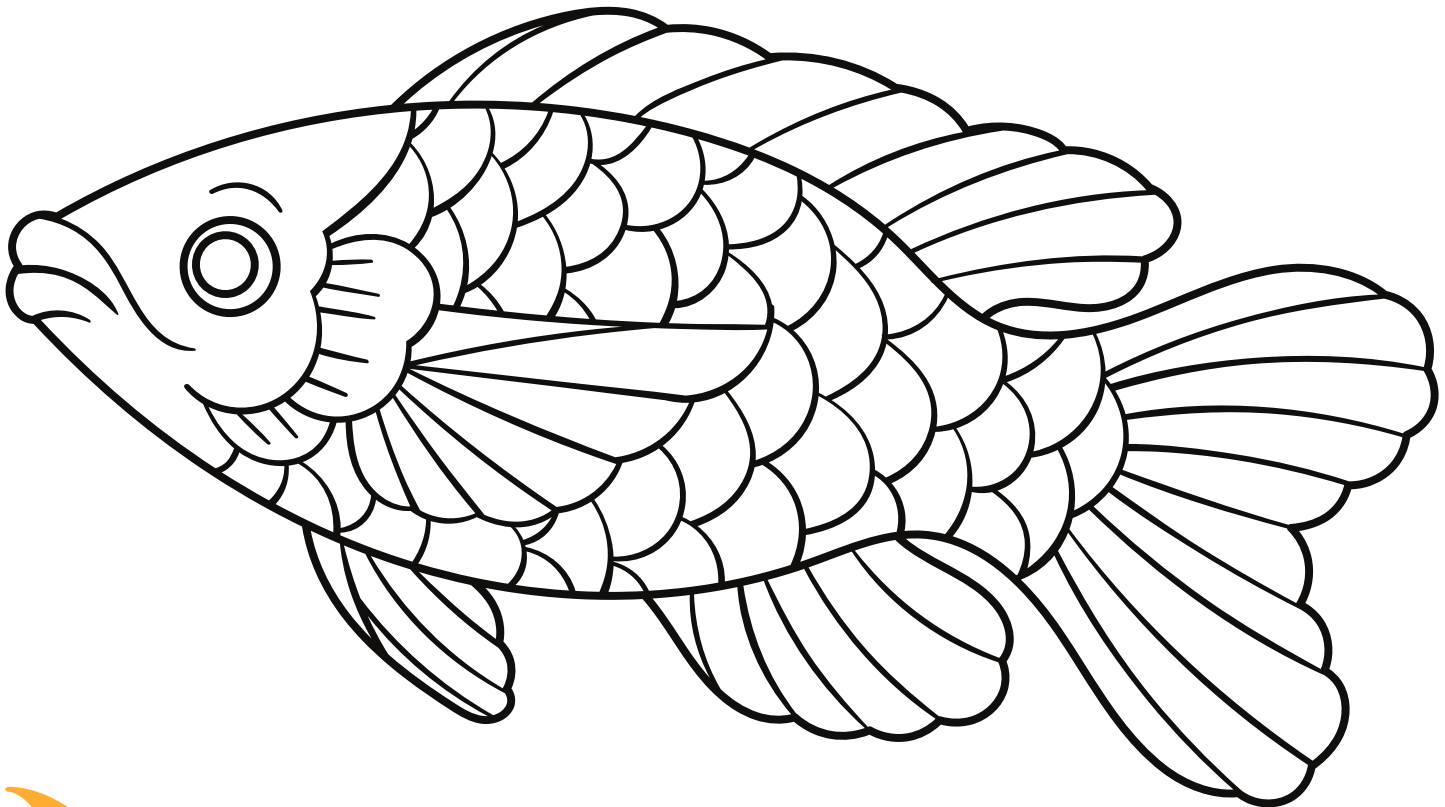
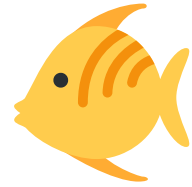


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*Ocean Activities & Fun*

**Can you color in this fish?**



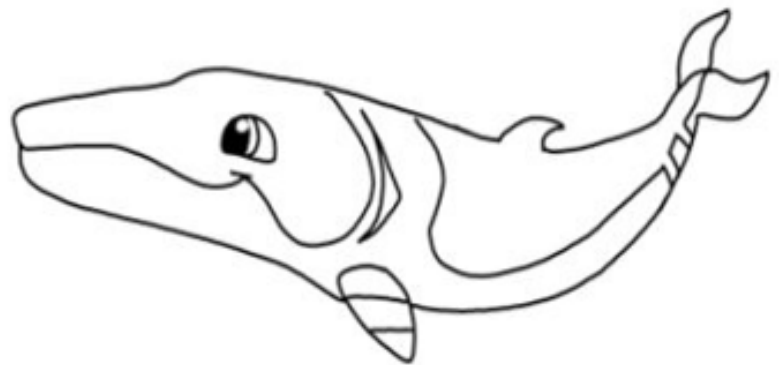
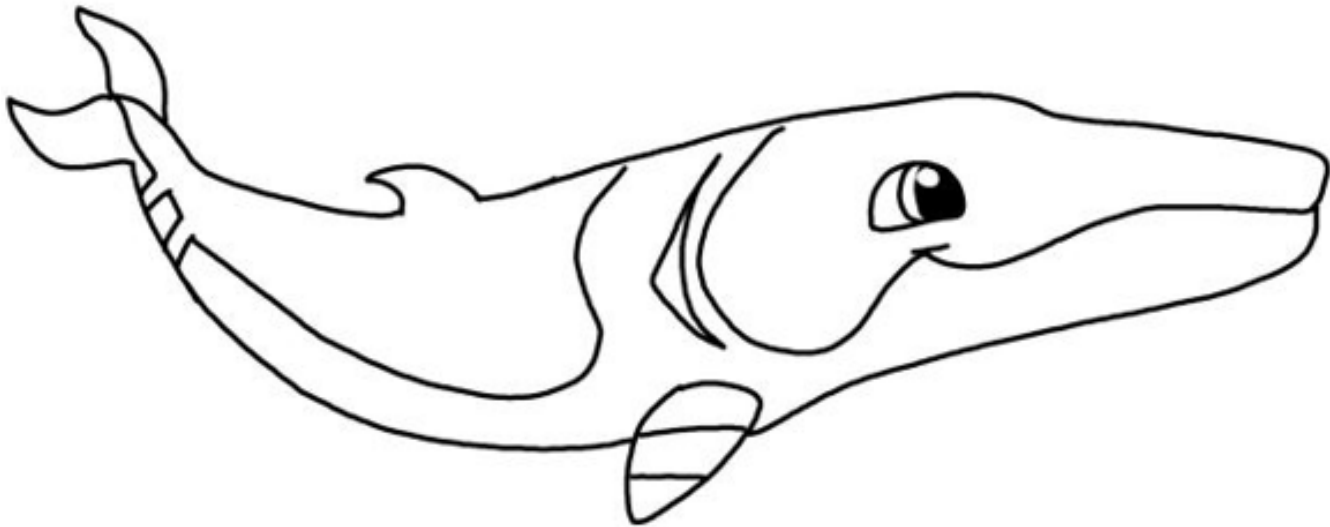


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## *Ocean Activities & Fun*

**You may see a Minke Whale in the ocean!  
Baby Minke Whales can weigh up to 1,000 pounds when  
they are born! That's as much as 3 full grown panda bears!**





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## *Ocean Activities & Fun*

Can you spot 3 differences in the pictures below?

KEEP OUR OCEANS CLEAN



KEEP OUR OCEANS CLEAN







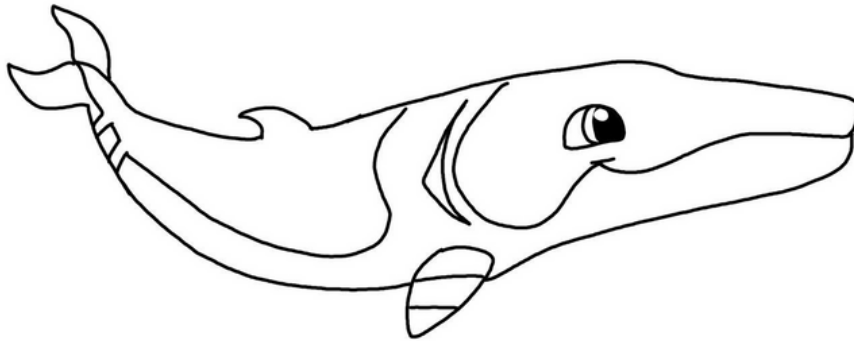
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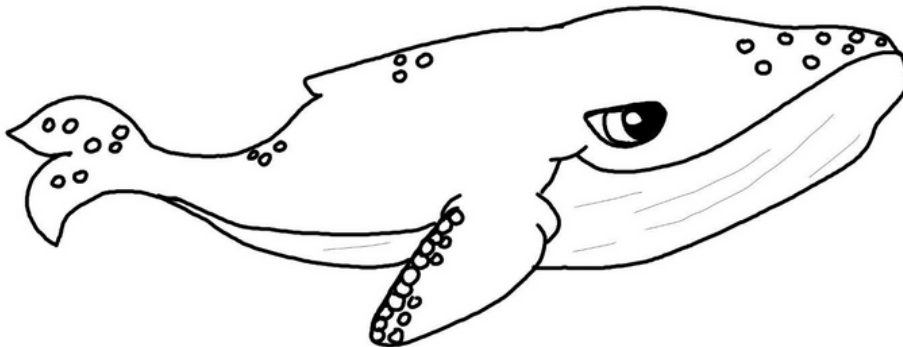
## Ocean Activities & Fun

Minke and Humpback Whales use baleen to catch their food.  
Sperm Whales use their teeth.

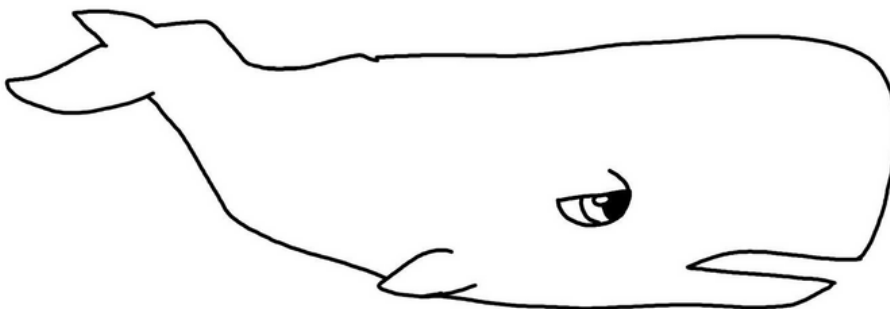
What would it be like if you had baleen instead of teeth?



*Minke Whale*



*Humpback Whale*



*Sperm Whale*

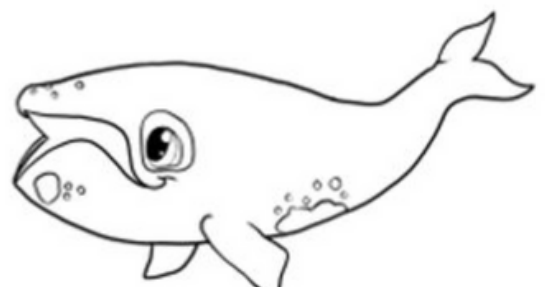
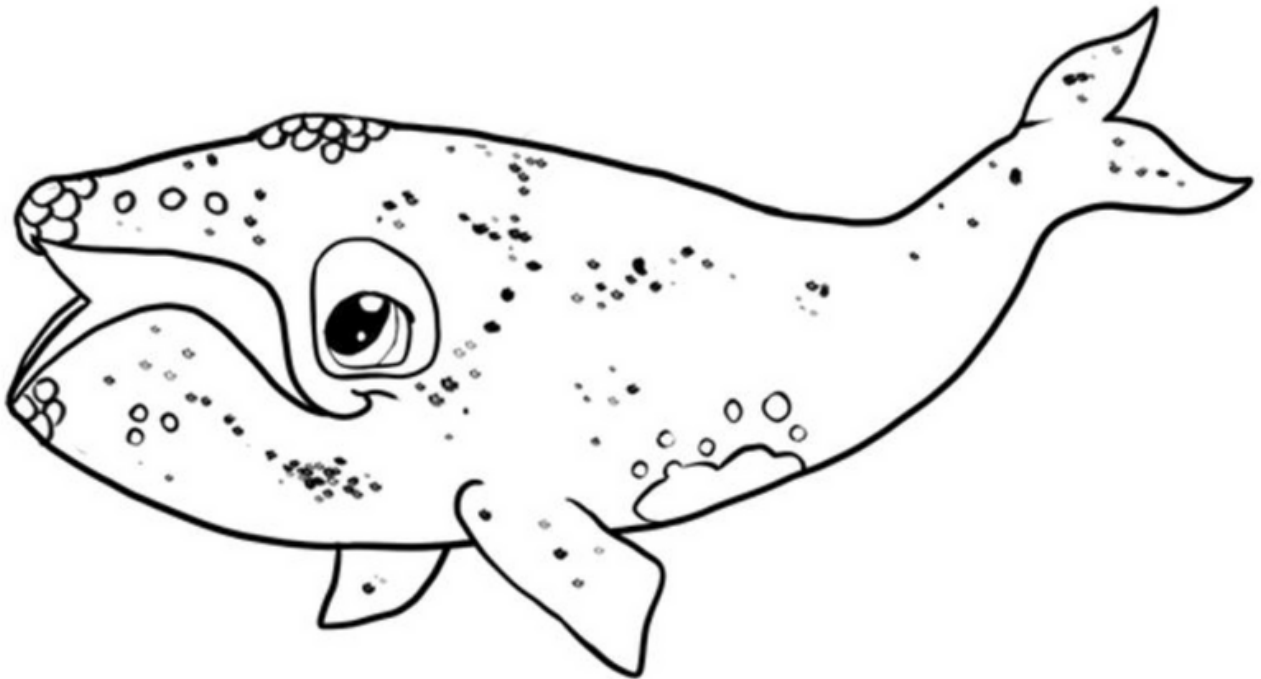


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## *Ocean Activities & Fun*

**A baby Right Whale is called a calf. The calves stay very close to their mothers. People and boats should never get close to a mother whale and her calf!**





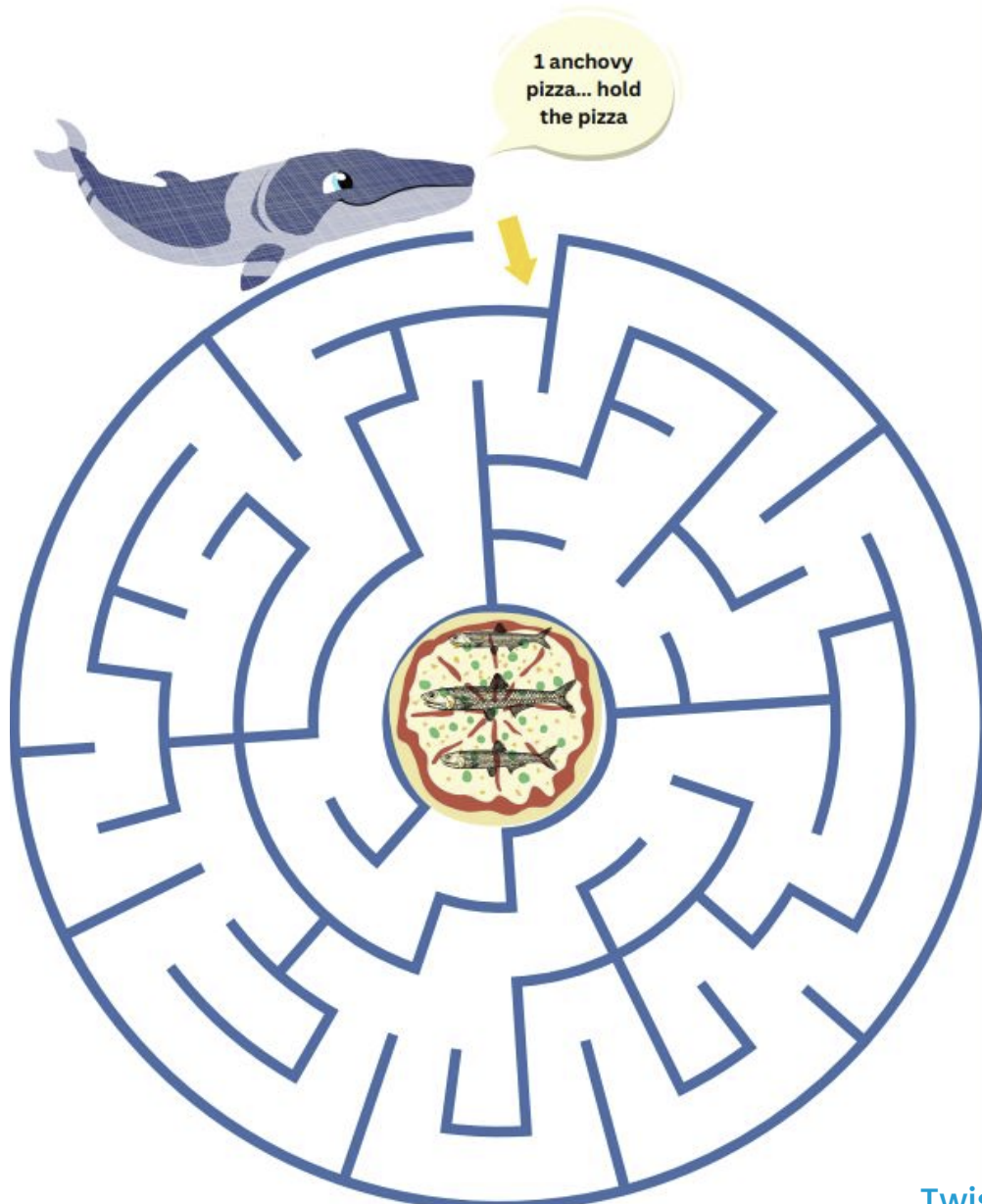
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*Ocean Activities & Fun*

## What Do Whales Eat?

Have you ever had anchovies on a pizza?  
Minke Whales love small fish like anchovies!



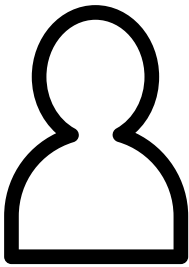




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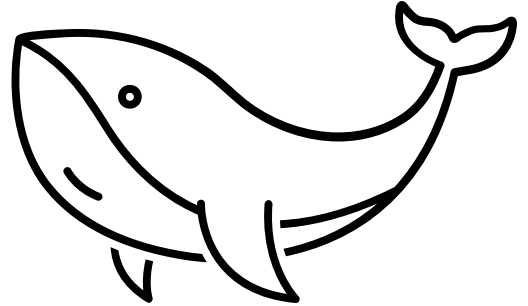
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## Ocean Activities & Fun



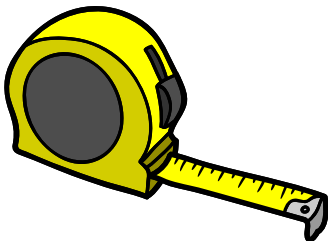
How Big is a Whale?

Find Out!



Use a tape measure and large roll of paper (or chalk on a big open space). Mark off your size compared to some of the whales we learned about!

You	__ Feet
Orca	30 Feet
Minke Whale	35 Feet
North Atlantic Right	55 Feet
Sperm Whale	55 Feet
Humpback Whale	60 Feet
Fin Whale	85 Feet
Blue Whale	100 Feet





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Whales of New England & More.... Grades K-3

## Ocean Activities & Fun

### Whale Vision

**Whales see the world differently than we do!**



*For one thing, many scientists believe that whales are either color blind, or at least see fewer colors than humans do. For example, it is not believed that whales can see the color blue!*



*We have 'binocular' vision, meaning both of our eyes see the same view. Whales, however, have one eye on either side of their head. This gives them 'monocular' vision. Each eye sees a completely different view!*

*Try taking 2 hand held mirrors and holding them with their backs together on your nose. Slowly move the mirrors to get separate views of your right and left side.*

Can you see more or less of your surroundings? How may monocular vision help whales under the water?





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## Ocean Activities & Fun

### Whale Blubber

**Whales have a thick layer of fat called blubber to keep them warm!**

Try recreating this layer of insulation in the experiment below:

You will need :

- 6 spoonfulls of shortening (like Crisco)
- 4 quart size Ziplock storage bags
- A large bowl of ice

1. Take 2 of the storage bags and place them in front of you.
2. Fill one of the storage bags with 6 heaping spoonfulls of shortening (blubber) and keep the other bag empty.
3. Turn the remaining 2 bags inside out and put them on your hands like gloves.
4. Place one gloved hand in the empty bag, and one gloved hand in the blubber bag (try to surround your gloved hand with the shortening).
5. Put both hands in the ice water. Which hand gets cold faster?

#### Helpful hints:

You can add more shortening as needed to really surround your gloved hand.

Zip the inner glove and outer bags together as much as possible to avoid getting water inside.







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## Ocean Activities & Fun

Create a fun Sea Scene!

1. Cut out pictures of sea animals from magazines or below
2. Create an ocean scene on a recycled paper plate or egg carton
3. Add things like sand, shells, or rocks to your creations!





# Twisted Orca

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## Ocean Activities & Fun





**We All Belong**





# Twisted Orca

## About Twisted Orca

**Twisted Orca's Goal is to inspire new generations of Marine Conservationists.**

**Our Whales of New England live presentations featuring a life size Minke Whale replica will be available in Rhode Island, Connecticut and Southern Massachusetts in 2023!**

**Visit [TwistedOrca.com](https://www.twistedorca.com) for more information on live events, lesson plans, children's marine conservation book series, sea themed art and free marine conservation printables for teachers and families.**



**[Keri Newman](#), founder of Twisted Orca, is a lifelong New England resident, Marine Naturalist, Conservation Author and volunteer First Responder for Marine Mammal Strandings.**