# Calendar Connections

### August ~ Ocean Life

Target Level: grades 3-6

The facts are created at a more advanced level but can easily be used for the entire homeschool family! Young children will soak up the information their older siblings are taught while all together.

Although the cards were created for August, they can be used for any month of the year!

### Ocean Books

Click on the book image to see it on Amazon.











# Calendar Connections

## Helpful Items ~these are the exact products we use~



cardstock



laminator





1 Oceans	2 Seas	<sup>3</sup> Estuary	
There are four oceans: Pacific Ocean Atlantic Ocean Indian Ocean and the Arctic Ocean Try to find them on a map or globe.	Connected to oceans are several seas. These are smaller bodies of salt water that are landlocked or mostly landlocked such as the Mediterranean Sea, Bering Sea, Red Sea, Black Sea, Adriatic Sea, and the Caspian Sea	The place where a river meets with an ocean or a sea. The water that is closer to the estuary is less salty than that closer to the ocean or sea. Many creatures live in an estuary – but what is amazing is that they stay in the area that is just the right amount of salt water for them!	
4 Aquatic Habitat 🜌	5 How does the salt get in the ocean?	6 Tide Pools	
Water covers almost 3/4ths of the earths surface. This makes it the biggest and most abundant of all animal habitats.	One way is by rivers that run over rocks containing salt. As the river runs over those rocks, salt is picked up and carried into the ocean. Another way is through volcanoes. Volcanoes that erupt under water release salt into the water. Salt is continually being added.	Small pools usually found on rocky shores during low tide. Sea life can be discovered under rocks and in crevices o these tide pools. Some organisms that can be found include sea stars, anemones, mussels, tube worms and whelks.	



7 Whales	<sup>8</sup> A Whale of a Tail 📼	9 Two Whales
The largest of all of God's creatures! Whales are marine mammals meaning they need to come to the surface to breathe oxygen from the air. Whales are called cetaceans (see tay' shuhns) because they belong to the order Cetacea.	A whales tail is called a fluke. It uses it to steer while moving through the water. Cetaceans cannot smell very well and rely on their sense of hearing more than any other sense. A whales "nose" is it's blowhole and is found on the top of it's head.	There are two types of whales: baleen and toothed. Baleen is long strips of bristled plates (like a toothbrush) that hang from the upper mouth and act as a filter for the food they eat. Baleen whales are also called great whales because they are usually much bigger than toothed whales. Despite their great size their throats are only the size of a grapefruit, hence the filtering!
<sup>10</sup> What Makes a 🝌	11 Great Gills!	12 Fabulous Fins!
Scientists say that if an animal has fins for swimming and gills for breathingit is a fish! There are three main kinds of fishes: bony fishes, cartilaginous fishes, and jawless fishes.	How do fish breath? Water goes into the mouth and passes over the blood vessels in the gills. Oxygen from the water is absorbed by these blood vessels. At the same time, carbon dioxide is released from the blood and goes out with the water that passes over the gills and through the gill cover called the operculum.	Fish have 5 different fins to help them navigate the waters. Pectoral and pelvic fins are paired – meaning there is one like it on each side. These are attached to muscles inside the body and aid in moving the fish in the direction it chooses. The dorsal and anal fins aid in balance - helping the fish not to roll from side to side. The last fin, the caudal fin, is the tail. It is used to push the fish in a forward motion. The shape of this fin



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don't they sink? God created them with a swim bladder. A swim bladder is like a balloon inside their body. It is filled with gas. When a fish wants to go deeper muscles squeeze the bladder making it smaller. When the fish wants to rise the muscles relax causing the bladder to enlarge. Isn't that amazing?

#### Sharks

15 Dead Weight



Fish are denser than water. So why Sharks are cartilaginous fishes. This Unlike bony fish, sharks do not have a swim bladder. As a result they will sink means their skeletons are made of to the bottom when they are not in cartilage instead of bone. Sharks motion. When you observe them in also have dermal denticles (skin an aquarium you will notice they are teeth!) instead of scales. If you continually swimming. This constant slide your hand up from the tail to motion also aids in breathing as it the head the skin will feel rough. pushes the water through their mouths You can't see the tiny, sharp spikes and out their aills. When they are at that are deeply imbedded in the rest they rely on spiracles, breathing skin – but you can feel them! holes on top of their bodies. 16 17 <sup>18</sup> Crustacean Sensation! What Big Teeth Oh Baby! You Have! Examples of crustaceans include Baby sharks are called pups. Most Sharks have several rows of teeth, the lobsters, shrimp, crabs, and krill. Each sharks develop and hatch from front row containing more than a of these creatures has a shell called eggs within the mother's body. It hundred! Why do they need so many an exoskeleton. "Fx" refers to can take some species almost two teeth? Sharks cannot chew. When "outside", so it is an outside skeleton. they catch their prey they shake it years to develop and emerge from They have no bones inside their violently to tear pieces off to swallow. its mother. Other species lay egg bodies - only squishy flesh. There is a During this shaking, several teeth cases, commonly called problem, however, exoskeletons can't break off. A new one moves quickly "mermaid's purses". You can grow. The creature must molt. As the up to the front row and another one often find empty cases washed up old one comes off, the new bigger arows slowly in the back row. A shark one hardens. The creature often eats on the beach. may go through 30,000 teeth in it's the old exoskeleton as it is filled with lifetime! many nutrients.



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#### Arthropods



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Crustaceans belong to the phylum Arthropoda. Insects belong to this phylum as well. In Greek, "Arthron" means "joint" "and "podos" means "foot". Creatures belonging to this phylum are called arthropods and have jointed feet and legs.

#### Lobsters

These are probably the most well known crustaceans. They are also some of the biggest. The largest lobster on record weighed 44 pounds and was 3 ft. 6 in. in length from it's fan tail to the tip of it's claw. Lobsters are omnivores – they eat both plants and animals. So where are the teeth needed to eat meat? In their stomachs! How much they eat is determined by the water temperature. If the water is really cold they can go an entire year without eating!

### 21 Horseshoe Crabs

These creatures look rather dangerous with it's giant armored shell and long spiky tail! But they are actually quite harmless. They really aren't crustaceans as they belong to the Xiphosura (zye' fuh sir' uh) class. They are arthropods, however, with their twelve jointed legs. The long tail is not used as a weapon, but as a steering devise while in the water and for flipping it's body over if it gets turned upside down. The next time you see one on the beach – pick it up and take a look!

#### 22 Cephalopods? 🌉

What is a cephalopod (sef' uh loh pod)? The octopus, the squid, the nautilus, and the cuttlefish are all examples of cephalopods. "Cephal" refers to the head and "pod" means foot. So they are "head foot" animals. They consist of a head with lots of tentacles attached. We call the tentacles "arms", not feet or legs. An octopus has eight arms, while squid and cuttlefish have ten.

#### 23 Hide and Seek 📖

God gave cephalopods the amazing ability to camouflage themselves very quickly! There are many animals that have this ability, but it usually takes some time. Not so with cephalopods. They can do so in a split second. Special cells called chromatophers have pigments that can change the color of the skin to match their surroundings. This is a great gift as these animals are very vulnerable since they have no shell. Jet Propulsion

24



How do cephalopods swim without fins or flippers? They have been designed to allow water inside their bodies and then quickly squeeze the water out, sending a jet stream out of its body, propelling it backwards. The stream of water is pushed out of a tube called a hyponome. They can change directions by pointing the hyponome in the opposite direction.



### 25 Echinoderms



"Echino" is Greek for "spiny" and "derma" is Greek for "skin". What creatures are "spiny skinned" and belong to this group? Starfish (whose proper name is Sea Stars), sea urchins, sand dollars and sea cucumbers. When you touch these creatures you will understand why they are called echinoderms – or spiny skin!

#### 26 What do they do?

Echinoderms have no eyes or brain! They do have tube feet! These tube feet do a lot of work for these creatures! First, the little suction cups help the creatures to push and pull itself along or to anchor itself to one spot. Second, they help the creatures to breathe! These tube feet take in oxygen and release carbon dioxide as waste. Finally, these tube feet act as a tongue, tasting everything it moves over to see if it will make a good meal! Those are some feet!

#### 27 The Making of a Star!

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Sea stars are able to regenerate themselves. This means that if one of their rays breaks off, a new one will grow in its place. What is most amazing, however, is that if a small bit of the central disk breaks of with the ray – that, too, will grow into a new sea star! Now you have two!

#### 28



#### These creatures are beautiful to look at but are best to avoid! Jellyfish, sea anemones, and corals may look harmless – but looks can be deceiving! Each of these creature is boneless, headless, brainless, footless, and eyeless! They basically consist of a mouth and tentacles. Cnidarians (nih dahr'ee uhnz) contain a powerful sting that can cause people pain and kill the animals that the creature wants to eat.

#### <sup>2</sup>You have a friend in me!

These beautiful flowers of the sea may taste bad to a number of different sea creatures, and be extremely painful as well, but it does have some friends.

Some creatures create a special coating that helps protect them from the stinging anemone. These creatures form a symbiotic relationship – meaning they depend on each other. The clownfish, for example, chases away

the butterfly fish, a predator of an anemone, and eats parasites off of it, keeping it clean. While the anemone provides protection for the clownfish.

#### Coral



Did you know coral is a living animal? The picture you see with this card is the remains of hundreds or thousands once-living corals. Live coral look like mini anemone. Coral, however, build walls around themselves for protection. These "houses" are what is left behind and what you usually find on the beach. The great Barrier reef in Australia is the largest coral reef in the world, measuring more than 1200 miles long.



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31 "Let the heaven and searth praise Him, the seas and everything that moves in them." Psalm 69:34

This past month was just a small glimpse of what God created on the fifth day of creation! What was your favorite fact? Write or tell someone what it was and maybe research it more thoroughly!

