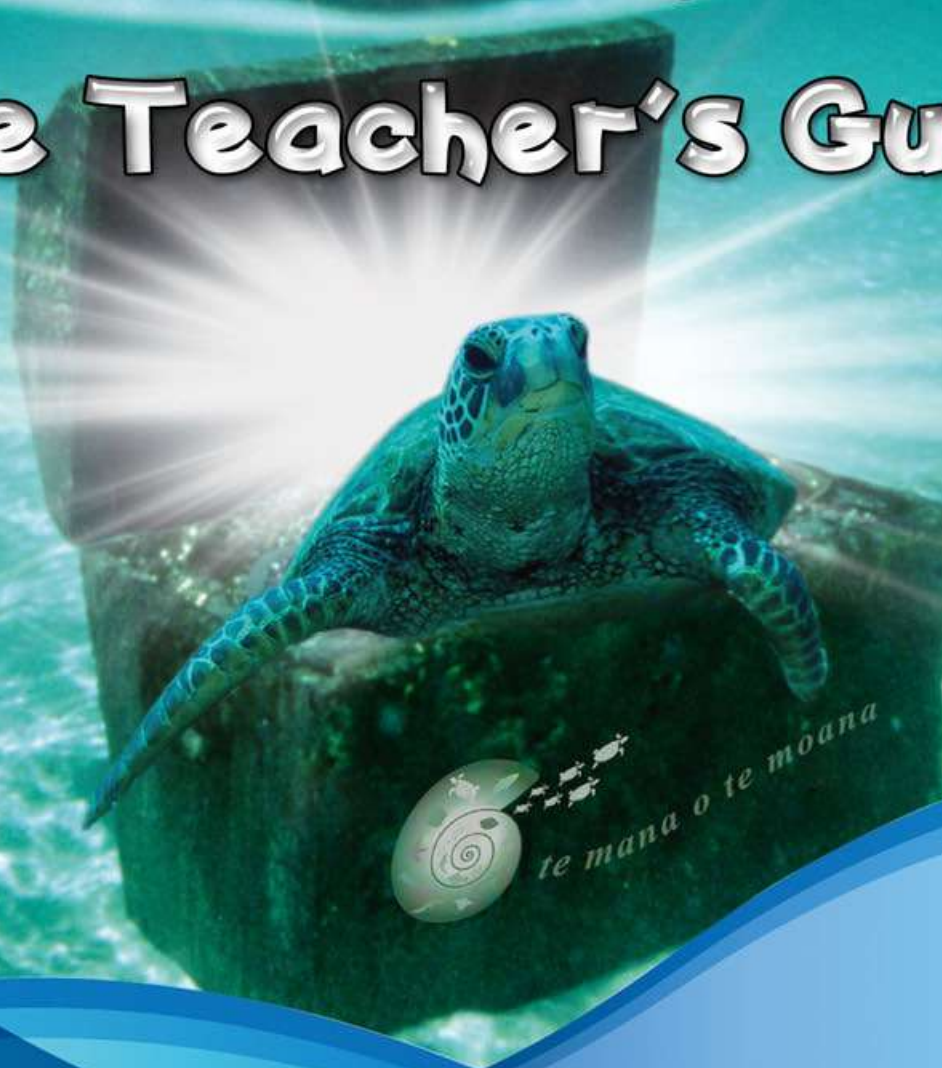


# HONU Toolkit

**Te mana o te moana presents**

## The Teacher's Guide



**Discover · Learn · Teach · Protect**



Fondation  
Nature  
& Découvertes





**Thanks to our generous doners.**





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**I INTRODUCTION****I- CONTEXT**

French Polynesia's waters are rich in marine biodiversity, including 5 of the 7 species of sea turtles that are found throughout the world: the green sea turtle (*Chelonia mydas*), called "honu" in Tahitian, the hawksbill turtle (*Eretmochelys imbricata*) or "honu 'Āfii Rahi", the leatherback turtle (*Dermochelys coriacea*) or "Marega" in Tahitian, the loggerhead turtle (*Caretta caretta*), and the Olive Ridley turtle (*Lepidochelys olivacea*).

On July 12, 1812, King Pomare II removed the "tapu" ("taboo": prohibition) in the Tahitian islands. After that the consumption of sea turtle meat became a tradition in Polynesian culture. Due to declining populations of sea turtles worldwide, laws were passed in 1990 to protect three of French Polynesia's sea turtles: the green sea turtle, the hawksbill turtle and the leatherback turtle. Despite this protection, sea turtles are still endangered. Their survival is threatened by poachers, who supply sea turtle meat for its illegal sale, and by marine pollution (floating plastic, fishing nets, etc.). February 2008, conservations laws were modified to include loggerhead and olive ridley turtles, the other two species that are observed in Polynesia's waters.

Today, Polynesians are gradually becoming aware of the need to protect the marine environment and its fauna and flora, which are essential sources for the local economy and a vital part of the Tahitian culture. However, changing a society's attitude is often a slow and long process.

It is essential to raise public awareness, especially amongst children, in order for people to sincerely change their attitude towards the protection and conservation of sea turtle, and to ensure the long-term survival of these globally threatened species. The latter requires a better knowledge of each species and their respective life cycles.

**II- OBJECTIVES**

"Te mana o te moana" created the "Honu toolkit" to provide schools and teachers with the necessary tools to increase awareness of future generations on the conservation of sea turtles and French Polynesia's natural heritage.

The "Honu toolkit" is intended for elementary and primary school students (Kindergarten through 6<sup>th</sup> grade). There are over thirty teaching aids, to provide educators with a multitude of activities that can be adapted to various grade levels. While studying this program, educators should encourage students to share their acquired knowledge with their families, who, in turn, might commit to the sea turtle conservation effort.

Ultimately, the goal of this program is to contribute to the preservation of sea turtles, by reducing their anthropogenic threats, such as the consumption of sea turtle meat or eggs, use of their shell, and marine pollution.



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Two “Honu toolkit” chests are available for schools since the beginning of the school year 2009/2010. The first chest is intended for the schools in Tahiti and Moorea, while the second one will travel around the other archipelagos.

This project was also designed to incorporate already existing media developed by worldwide partners and teaching aids on sea turtles, onto a bilingual DVD (French-English). This will spread interest within the educational network, and thus raise awareness in increasing numbers of students on the protection of sea turtles in French Overseas Departments and Territories along with the other islands of the South Pacific, thanks to the SPREP.

*The completion of this major project was made possible  
by the generous financial support of our numerous partners.  
Te mana o te moana would like to thank these sponsors for their commitment to and  
confidence in this project,  
to raise awareness amongst future generations of Polynesians  
about the importance of preserving island biodiversity,  
and to ensure their chances of encountering these  
sacred animals in the ocean and lagoon.*

*Thanks to:*

*The Nature and Découvertes Foundation, the FFEM (French Global Environment Fund), The  
Moorea Dolphin Center, Tikiphone company, Air Tahiti, InterContinental hotels, the Ministry  
for the Environment and the Department for the Environment.*

### III- THE TEACHER'S GUIDE

The “Teacher’s Guide” was developed in close collaboration with local school teachers, to follow the official primary school education curriculum.

It includes scientific information on sea turtles (**Part II: Sea turtles**), explanations on how to apply the chest’s materials for various grade levels, and a review of the skills that will be covered (**Part III: Contents of the honu toolkit**).

*We also wish to thank the **team of teachers**, of Moorea-Maiao district,  
who participated in the development of this guide,  
to adhere to the Official Primary Education standards.  
We would also like to thank those educators,  
who tested and evaluated the materials included in the HONU learning toolkit.  
A special thank you to the 3rd grade class from the Papetoai Elementary School in Moorea  
which inaugurated the activity book of the honu toolkit.*





## II SEA TURTLES

### I- GENERAL INFORMATION

#### 1. Turtles: Sauropsids

Sea turtles (of the order Testudines) belong to the class Sauropsida, or “lizard faces”, which also includes Squamates (serpents, lizards and iguanas), Sphenodontians, Crocodilians, and birds.

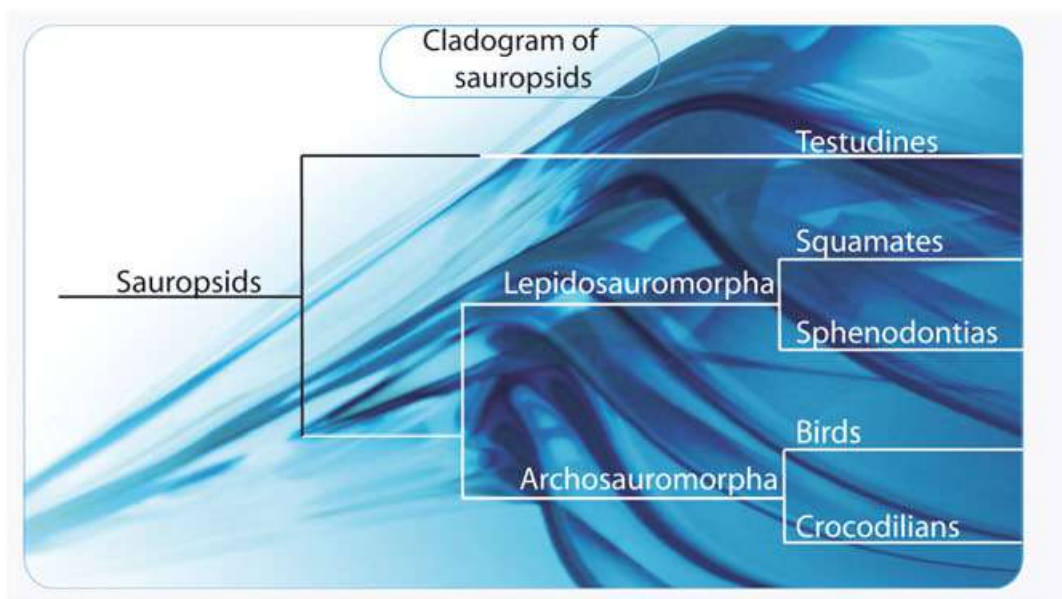


Figure 1: Cladogram of sauropsids

Testudines are divided into two groups:

- Suborder Pleurodira: These “side-necked” turtles must retract their heads by turning their heads to the side. These are freshwater turtles.
- Suborder Cryptodira: These turtles retract their heads by lowering their neck and drawing it under their spine. This suborder includes land tortoises, sea turtles, and certain freshwater turtles.

There are almost 300 species currently classified under the class of Testudines.

# Teacher's Guide

Today, sea turtles are represented by two families:

- **Chelonioidae:** These are sea turtles that have a carapace that is covered with scales (called scutes). This family includes the following 6 species: loggerhead turtles (*Caretta caretta*), flatback turtles (*Natator depressa*), hawksbill turtles (*Eretmochelys imbricata*), olive ridley turtles (*Lepidochelys olivacea*), Kemp's ridley turtles (*Lepidochelys kempii*) and green sea turtles (*Chelonia mydas*).
- **Dermochelyidae:** This family is represented by only one species, the leatherback turtle (*Dermochelys coriacea*), which is distinguished by the lack of scales on its carapace. Instead, it has a carapace made of leather-like skin.

*Formerly, chelonians, lepidosaurians, and crocodilians were grouped under the class of reptiles. This "traditional" classification took into account the absence or presence of a multitude of characteristics, but is no longer pertinent in determining the relationship between species. Also, the "traditional" use of the term "reptile" could mean that any reptile was more closely related to another reptile, than it would be to a bird. However, crocodiles, which are reptiles, are more closely related to birds than they are to lizards.*

*"Phylogenetic" classification is now the preferred method of classifying organisms, and is based solely on the evolutionary relationships between species.*

*This guide will discuss sauropsids, while using the term reptile (sauropsids, excluding birds), since the books included in this kit also use the term reptile.*

## 2. Evolution of sauropsids and their common characteristics

Tetrapods, the first land-dwelling vertebrates, appeared about 360 millions years ago. They were primitive amphibians who evolved from lobe-finned fish. They remained dependant on an aquatic environment, since they layed their eggs in water.

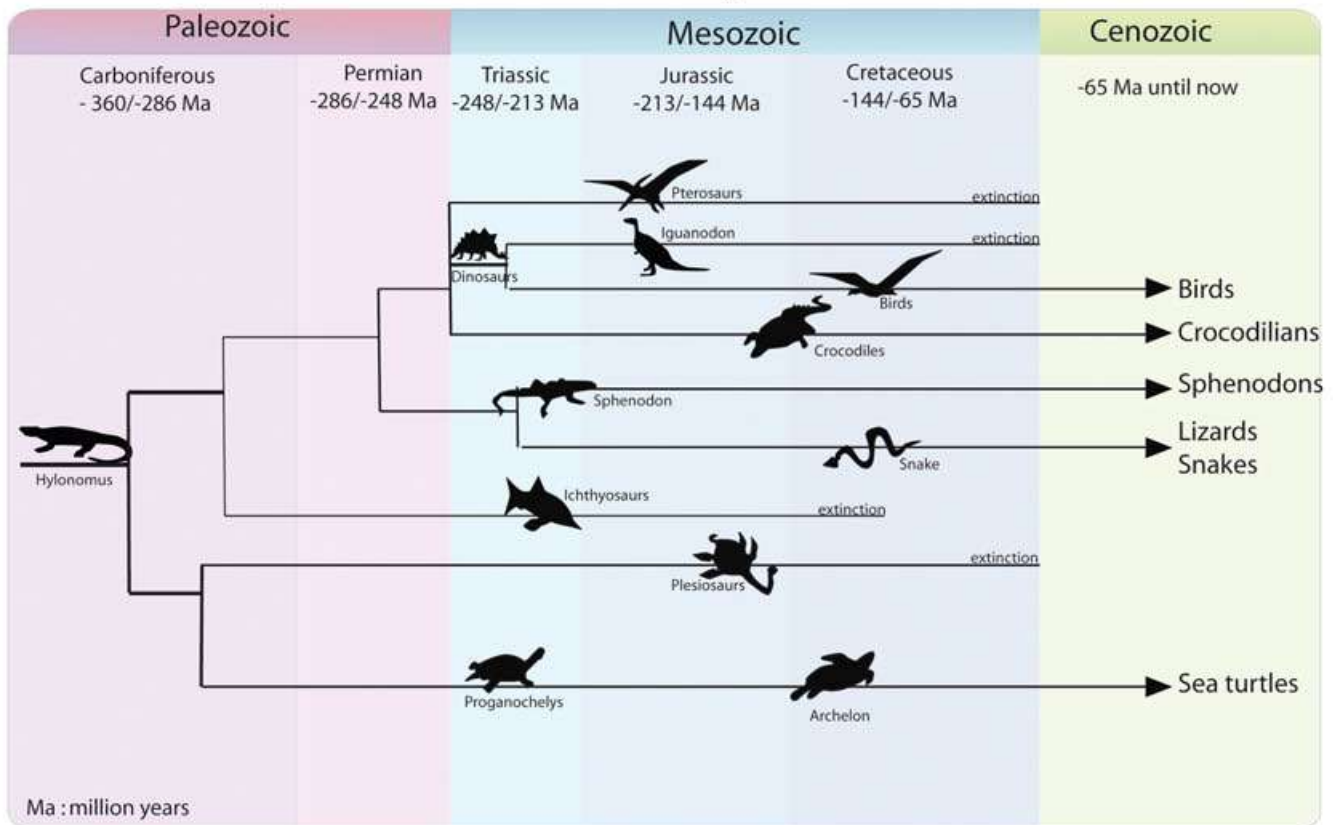
From these primitive amphibians evolved the Sauropsids. The oldest fossils date to about 300 million years ago, during the Late Carboniferous period. The first known reptile, *Hylonomus*, resembled a small lizard.

The true conquest of land was made possible by the development of scale-covered skin and amniotic eggs. These eggs, surrounded by two additional membranes, and thus protected from desiccation, have allowed sauropsids to be recognized as the first true terrestrial animals.





# Teacher's Guide



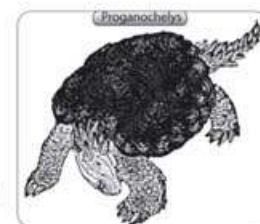
**Figure 2: Simplified diagram of the evolution of sauropsids.**

Sauropsids share the following characteristics:

- they have a bony skeleton with and a backbone,
- they have 4 limbs (this characteristic has disappeared in some species, such as snakes)
- they breathe with lungs,
- internal fertilization and the presence of sexual organs,
- they lay amniotic eggs,
- they have a thick skin, covered with scales (made of keratin) welded together,
- most have variable body temperature (poikilothermic) that is determined by their environment (ectothermic).

## 3. The first turtles

Turtles have survived for millions of years thanks to their great adaptability to various environments. Their origin is still subject to controversy. Turtles are the only vertebrates whose skeleton has a bony carapace. The oldest fossils showing these characteristics date from the Triassic period, about 230 million years ago. Even at that time, they were very diverse and widely distributed around the world. The most primitive, to date, is the *Proganochelys*.



**Figure 3: Drawing of *Proganochelys quenstedtii***

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It had a tail that ended with a club and small spines protect its neck. It can not retract its head into its carapace and it still had teeth on its palate. It is believed that *Proganochelys* was an herbivore.

Also from that period, lived the *Proterochersis* who folded its neck to the side to retract its head and also presented a pelvis that was fused to its carapace. Its presence during the end of the Triassic period indicates that differentiation between Pleurodires and Cryptodires occurred at that time. Fossils of marine Cryptodires are common in many parts of Europe and Asia.

Marine turtles evolved during the Lower Cretaceous period, about 110 million years ago. These turtles possessed elongated fingers (phalanges), which supported substantial flippers. They probably lived in lagoon and coastal zones.

*Archelon* was one of the largest species of sea turtle to exist. It measured close to 4 meters in length. It is also believed that its carapace was covered by thick leather-like skin, instead of bony plates, to reduce its body weight.



Figure 4: Photograph of an *Archelon ishiros* skeleton (cc Arthur Weasley).  
Insert: Illustration of *Archelon ishiros*.

By the Late Cretaceous period, about 65 million years ago, there existed four distinct families of sea turtles. Two of these, the Dermochelyidae and Cheloniidae families, are still present today.

### 4. Sea turtle anatomy

Sea turtles do not have an external ear. Their skin, which is covered with scales, serves two functions: protection and thermoregulation. Their jaws lack teeth, but have a sharp horn-like surface, which forms the beak. Sea turtles possess lungs and need to come up to the surface to breathe. Their lungs have adapted to permit rapid gas exchange, to minimize the animal's time at the surface.

They also have a shell, which is made of bony plates that are fused to the skeleton and is covered by scutes (with the exception of the leatherback turtle). The shell consists of two parts: the carapace, which covers the back, and the plastron, which covers the stomach.



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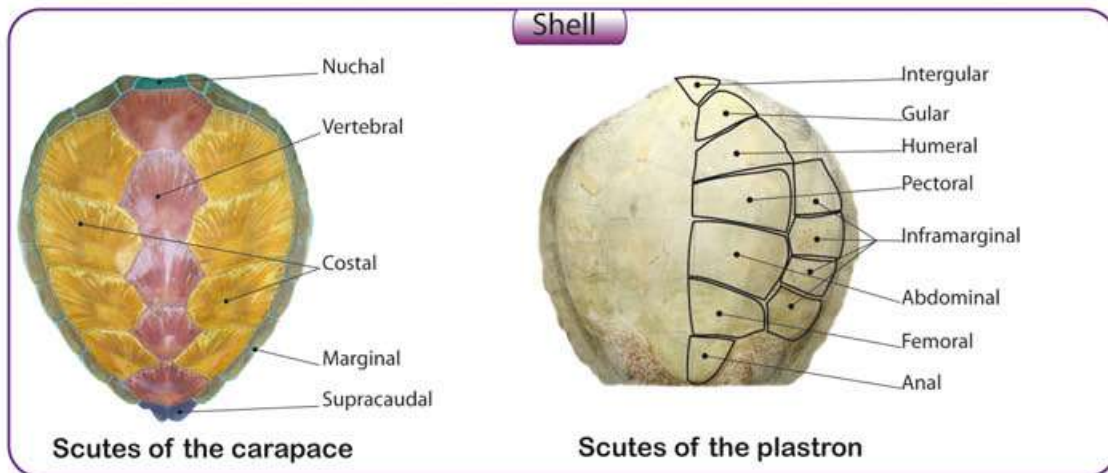


Figure 5: Scutes on the carapace and plastron.

As sea turtles evolved, to return to life in the ocean, they underwent numerous adaptations:

- The front flippers adapted for propulsion in through the water;
- Males developed claws on their front flippers to allow them to grab onto the female, to facilitate mating;
- The carapace flattened, to provide the animal with a more hydrodynamic form;
- They acquired well developed pectoral muscles to allow them to swim quickly;
- These adaptations have resulted in the loss of the turtle's ability to retract its neck and head into its carapace.
- If threatened, sea turtles have only one means of defense: escape. The fastest can reach speeds of 35 km/h.
- All sea turtles are oviparous, and their eggs must be incubated.
- Their cloaca, the posterior opening, serves as the only outlet for the digestive, urinary and genital tracts.

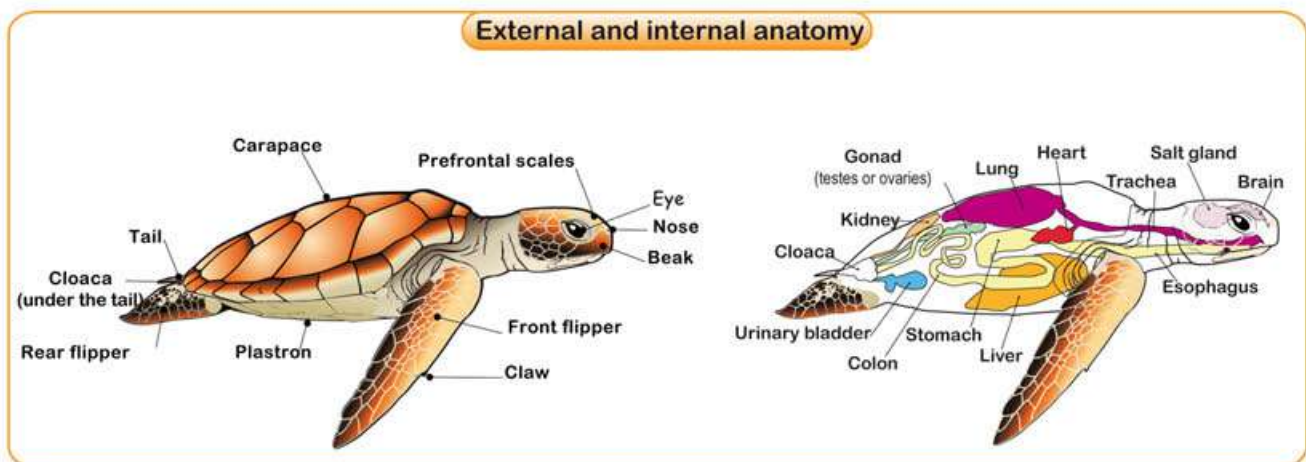


Figure 6: Simple view of a sea turtle's organs.

## II- THE LIFE CYCLE OF SEA TURTLES

As they mature, sea turtles will go through the following different stages:

- Incubation (eggs): The incubation period is about 2 months on average. Sex is determined by the sand temperature. Warmer temperatures produce females, and cooler ones produce males.
- Hatchling stage: Hatchlings use their temporary egg tooth, called the *caruncle* (which disappears after hatching) to break the shell of the egg. They usually emerge from the nest as a group. Opening their eyes for the first time, they head for the protection of the ocean. Once in the water, they swim vigorously for several days, as they get to high sea.
- Pelagic juvenile stage: This stage begins when hatchlings abandon their vigorous swimming behavior. They will drift along the ocean currents, and focus on feeding. Observations during this stage are extremely rare, that is why this stage is also known as "the lost years". Behavior may vary according to the species. For example, flatback juveniles usually remain near coasts.
- Benthic juvenile stage: Juveniles settle in benthic zones (except for leatherbacks). Their feeding habits seem to change, as do their predators. They remain in these zones until sexual maturity.
- Sub-adult stage: This stage starts at puberty, when secondary sexual characteristics appear. Sea turtles of the same species do not necessarily become sexually mature at the same size. This stage may cover a period of 10 years.
- Adult stage: Adults migrate from feeding to reproduction/nesting zones. Each species of sea turtle is faithful to its nesting zones, with some variations, depending on the species. These migrations may extend over thousands of miles and require a great amount of energy. For these reasons, and for most species of sea turtles, an interval of two to three years between nesting seasons may occur.





## Life cycle

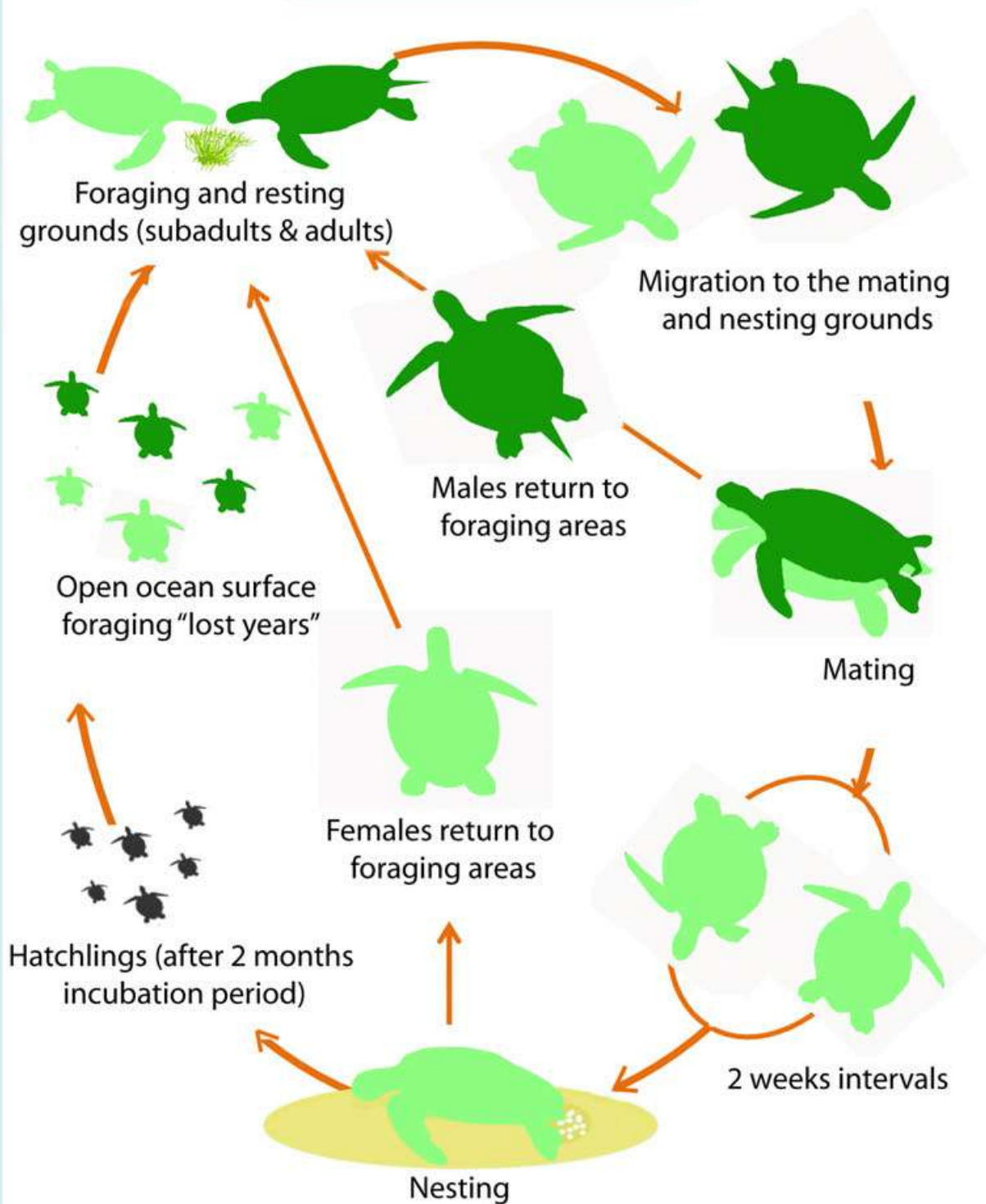


Figure 7: Explanatory diagram of a green sea turtle's life cycle.

### III- SEA TURTLES FOUND AROUND THE WORLD

#### 1. Hawksbill turtles

Hawksbill turtles were named for the shape of their beak, which is pointed and hooked, much like that of a hawk. They are easily identified by their carapace, which has large, overlapping scutes. Its carapace is brown with yellow markings, while the plastron is light yellow. Adults measure between 2½-3 feet in length, and weigh about 100-150lbs.

There are 4 pairs of costal scutes on the carapace, which over-lap each other, like shingles on a roof.

The plastron has 4 pairs of inframarginal scales.

The head is distinguished by a pointed, hooked beak, and by two prefrontal scutes.

There are 2 claws on each of its front flippers.

##### Range and habitat:

Adult hawksbill turtles live mainly in the tropics. They rest near coral reefs. During migrations, they can be found in mangroves, lagoons, and estuaries. They feed and mate in different zones.

##### Diet:

Adults are carnivores, and travel along the coasts to feed on crabs, fish, sponges, and shells. Along the coral reef, hawksbill turtles feed mainly on sea sponges. Some sponges can be toxic, which may then render a sea turtle unfit for human consumption.

Juveniles, however, are mainly herbivores.

##### Reproduction:

Hawksbill turtles reach sexual maturity at about 20 years of age. Females prefer isolated beaches, lined with vegetation. Nests are dug anywhere from 5 to 25 inches deep. Each nest may contain between 50 to 200 round eggs (34-44 mm in diameter), depending on the size of the female. Females may lay 2 to 3 clutches at intervals of 3 to 45 days during one nesting season. Incubation lasts for about 58 to 75 days, depending on the temperature of the sand. Hawksbill females are generally faithful to their natal beach.

#### 2. Green sea turtles

Green sea turtles are named from the color of their fat. They reach adulthood at about 20 to 30 years of age, measure from 2½ to 5 feet in length, and can weigh between 200 and 450 lbs. It is the largest species amongst those that have scales.

The carapace color varies from pale to dark-green with yellow, brown, and green marks. The sub-species *Chelonia mydas agassizii* has a carapace that varies from brownish-green to black. The plastron is yellow.

Green sea turtles have 4 pairs of costal scutes on their carapace, and 4 pairs of inframarginal scutes on their plastron.

The head is small with a rounded, serrated beak, and a pair of prefrontal scales.

Each front flipper has one claw.





# Teacher's Guide

## Range and habitat:

Green sea turtles are widely distributed in waters where the temperature exceeds 68°F. They can be found in the Atlantic, Pacific, and Indian Oceans, as well as the Sea of Japan, and the China and Mediterranean seas.

Juveniles, under three years of age, live in pelagic waters, and eventually return to the coast.

## Diet:

Adult green sea turtles are herbivores, which accounts for their slow development in comparison to other species of turtles, which feed mainly on other marine animals. Instead, they graze on algae and sea grass. Juveniles, on the other hand, are omnivores, with a strong carnivore tendency.

## Reproduction:

When females reach sexual maturity, at about 15 to 25 years of age, they reproduce every 3 to 6 years, on the beach where they were born. Green sea turtles mate near their nesting beaches, and will lay up to 6 clutches per season. These females are extremely faithful to their nesting zones.

They dig a narrow nest about 30 inches deep, and lay between 80 to 200 eggs (about 45 mm in diameter). The incubation period lasts from 45 to 70 days, depending on the temperature of the nest.

## **3. Kemp's Ridley turtles**

Kemp's Ridley turtles are the smallest species of sea turtle. Female adults measure about 2½ feet in length with an average weight of 100lbs.

The plastron is white to yellow in color, with pores on the 4 pairs of the inframarginal scutes.

The Kemp's Ridley turtle is distinguished by its medium-sized, triangular head, which has 2 pairs of prefrontal scutes.

The front flippers have two pairs of claws.

## Range and Habitat:

Kemp's Ridley turtles can be found in the eastern Atlantic, from Nova Scotia to the Gulf of Mexico. Sometimes, ocean currents can carry them across the Atlantic Ocean to Europe, and on rare occasions, to the Mediterranean.

## Diet:

Kemp's Ridley turtles are carnivores, with a diet that consists of mollusks, crustaceans, small fish, sea urchins, and jellyfish.



## Reproduction:

Sexual maturity is reached around 6 years of age. Females can take from 45 to 60 minutes to lay their eggs. This species may nest independently or as a group, with up to 100 to 1,000 individuals. Females dig bottle-shaped nests about 15 to 20 inches deep, containing 50 to 110 round eggs (40 mm in diameter). Females lay 2 to 3 clutches at intervals of 20 to 28 days per nesting season. Incubation lasts between 50 and 60 days, depending on the ground temperature.

## 4. Olive Ridley turtles

Olive Ridley turtles are the second smallest species of sea turtle (after the Kemp's Ridley turtle); they grow to about 2½ feet in length and weigh 10lbs. on average. They are easily identified by their flat, heart-shaped carapace, which is raised above the neck and olive-green in color. There are 6 or more costal scutes on each side of the carapace, whose number is sometimes uneven.

Like the Kemp's Ridley turtle, this species has a plastron that is white to yellow in color, with pores on its 4 pairs of the inframarginal scutes.

Olive Ridley's have a medium-sized, triangular head, with 2 prefrontal scales.

There is one pair of claws on the front flippers.

## Range and habitat:

This species is widely distributed, and can be found in the tropical waters of the Indian, Atlantic, and Pacific Oceans. It can also be found on pelagic continental shelves.

## Diet:

Olive Ridley turtles are carnivores, and feed on crustaceans, mollusks, sea urchins, jellyfish, tunicates, and small fish. As juveniles, they are herbivores.

## Reproduction:

Sexual maturity is reached around 7 to 9 years of age. Unlike other species of sea turtles that reproduce every two to three years, most Olive Ridley turtles, which have been tracked for observation, appear to nest every year. Females may also nest in groups with thousands of individuals, along the Pacific coast.

It can take females 20 to 40 minutes to lay their eggs. Nests are about 20 to 25 inches deep, and may contain 30 to 170 eggs. Females lay 1 to 3 clutches at intervals of 17 to 29 days in one season. Incubation lasts between 46 and 62 days, depending on sand temperature.





## 5. Loggerhead turtles

Loggerhead turtles are easily identified by their wide, thick heads, their powerful beaks, and by their short neck. Their carapace is orange-brown in color, while the plastron is yellowish-brown. The carapace varies from 30 to 40 inches in length. Their weight fluctuates, based on their geographic location, but is generally between 220 to 330lbs.

There are 5 pairs of costal scutes on the carapace.

The plastron is creamy yellow in color, with touches of orange, and has 3 pairs of inframarginal scutes.

Loggerhead turtles have a powerful beak, and two prefrontal scales.

Its front flippers are equipped with two pairs of claws.

### Distribution and habitat:

This species, usually frequents temperate waters, but may sometimes travel to tropical or subtropical regions, preferring lagoon, bays, and river mouths.

### Diet:

Loggerhead turtles are omnivores, but feed mainly on crustaceans, mollusks and echinoderms. Until the age of 4-5 years, their diet consists of crustaceans and mollusks, as well as sea grasses and algae.

### Reproduction:

Sexual maturity is reached between 10 and 30 years of age. Loggerhead turtles are not particularly loyal to a specific nesting beach.

The nest is dug to about 10 to 20 inches deep, and may contain between 95 and 150 round eggs (35 to 49 mm in diameter). Females can lay up to 7 clutches at intervals of 15 days per season. Incubation lasts between 46 and 71 days, depending on the temperature of the nest. Loggerhead turtles are the only species to nest outside the tropics, in temperate regions. Mating occurs during their migrations.

## 6. Flatback turtles

Flatback turtles are recognized by their flattened carapace, and marginal scutes, which are curved upwards. These medium-sized turtles have a carapace that generally measures 35 inches in length, and weigh about 220 lbs.

The carapace is olive-grey in color, and formed by 4 pairs of costal scutes.

The plastron is cream-colored, and has 4 inframarginal scutes.

There is one claw on each front flipper.



## Distribution and habitat:

Flatback turtles are endemic to the Australian continental shelf, and are mainly found on the northern, eastern, and western coast of the continent. They frequent the shallow water of bays and coastal areas. They don't migrate long distances.

## Alimentation:

Flatback turtles are carnivores, and feed on jellyfish, holothurians and soft corals.

## Reproduction:

Sexual maturity is estimated at about 10 years of age. Females dig their nests in two stages: first a hole, the size of its body, then the nest itself about 12 to 20 inches deep. Flatback turtles lay the fewer eggs than any other sea turtle, however they are larger. Females lay about 50 to 78 round eggs (62 mm in diameter). They will lay 1 to 4 clutches, at intervals of 15 days, in one season, and will return every 2 to 3 years to reproduce. Incubation lasts for an average of 42 days. Juveniles do not go through the pelagic stage, but will remain near adult habitats.

## **7. Leatherback turtles**

Leatherback turtles are unique amongst sea turtles. They are the largest of the seven species of sea turtles. They can grow up to 6½ feet long and weigh over 1,300lbs.

It is the only species that does not have scales or scutes. Instead, the carapace is covered with a thick skin, ranging in color from dark brown to black, with pink or white spots. There are also 7 ridges along its carapace. The plastron, which is a pale pinkish-white in colour, has 6 ridges. Unlike other sea turtles, the carapace is not attached to the skeleton, and has a layer of fat that is used for insulation. They do not have any prefrontal scales or claws on their flippers.

Leatherback turtles are excellent divers. The carapace can resist extreme pressure, which allows it to dive to depths of 4,200 feet for up to 80 minutes.

## Distribution and habitat:

They are widespread in the Atlantic, Indian, Pacific, and Arctic Oceans, as well as the Mediterranean, Red, and North Seas. They are able to tolerate cold-water temperatures.

## Diet:

Leatherback turtles are omnivores with a strong preference for jellyfish and gelatinous plankton (ie. salps). They travel thousands of miles to reach their feeding zones.





## Reproduction:

Sexual maturity occurs between 10 and 12 years of age. Females dig nests that are about 25 to 30 inches deep, where they lay between 50 and 170 round eggs (about 50 mm in diameter). Females will lay from 3 to 11 clutches at intervals of 10 to 15 days, during the mating season. Incubation lasts for about 60 to 70 days.

## IV- IDENTIFICATION KEYS FOR FRENCH POLYNESIA'S SEA TURTLES

One way to distinguish the different sea turtles is to count the number of prefrontal scutes located above their nostrils. The picture below shows the number of pairs of scutes for the green sea turtle and the hawksbill sea turtle.

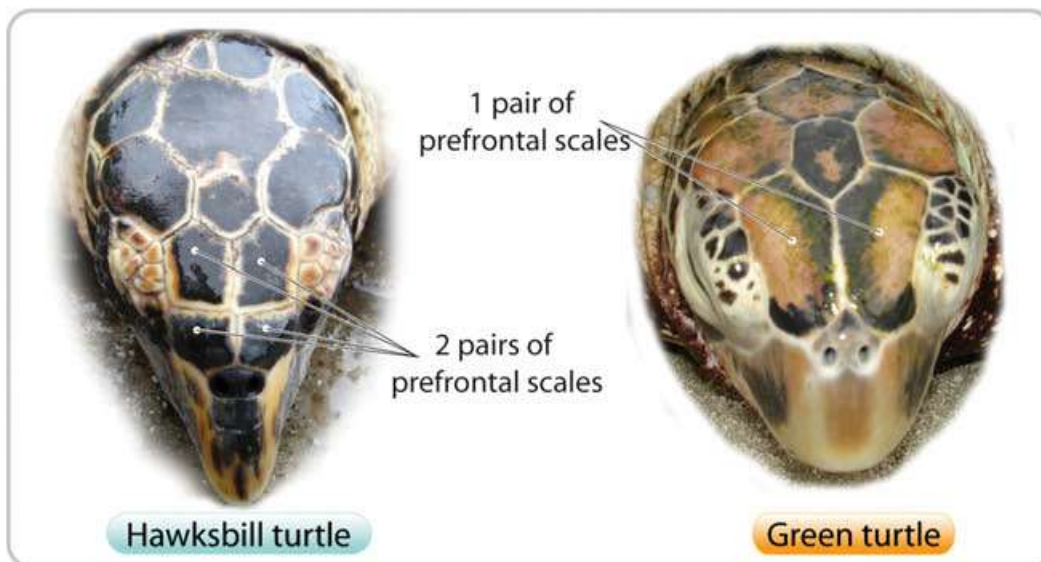
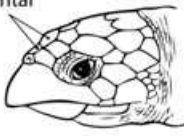
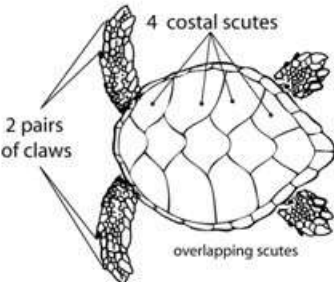
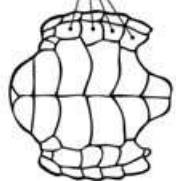
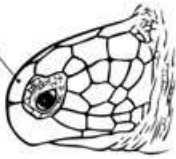
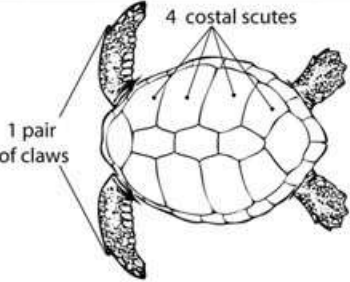
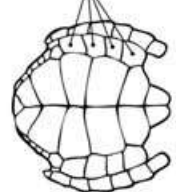
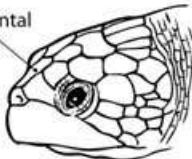
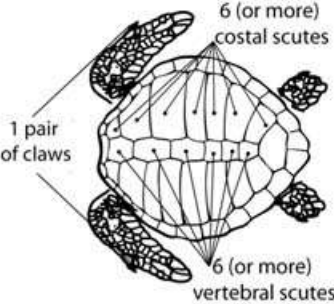
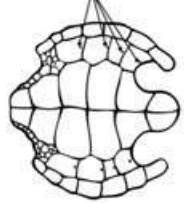
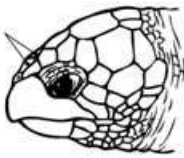
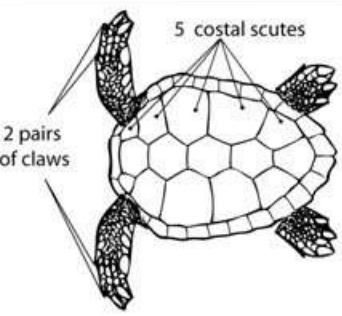
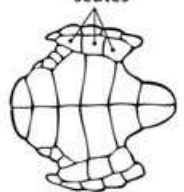

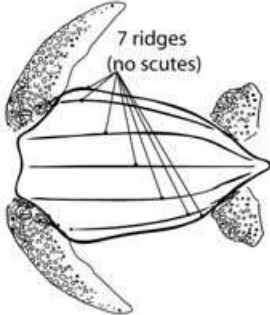
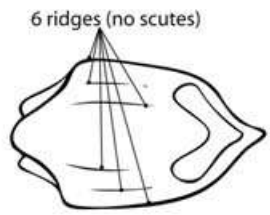


Figure 8: Prefrontal scutes

Counting the number of scutes on the carapace and the plastron and of claws on anterior flippers can be considered as other identification means as shown in the figure below.

Other means of identifying sea turtles are by counting the number of costal scutes on the carapace, the inframarginal scutes on the plastron, and the number of claws on the front flippers. This is illustrated in figure 9.

# Teacher's Guide

Head	Carapace&flippers	Plastron
<p>2 pairs of prefrontal scales</p> <p><b>Hawksbill turtle</b></p> 	<p>4 costal scutes</p> <p>2 pairs of claws</p> <p>overlapping scutes</p> 	<p>4 inframarginal scutes</p> 
<p>1 pair of prefrontal scales</p> <p><b>Green turtle</b></p> 	<p>4 costal scutes</p> <p>1 pair of claws</p> 	<p>4 inframarginal scutes</p> 
<p>2 pairs of prefrontal scales</p> <p><b>Olive ridley turtle</b></p> 	<p>6 (or more) costal scutes</p> <p>1 pair of claws</p> <p>6 (or more) vertebral scutes</p> 	<p>4 inframarginal scutes with pores</p> 
<p>More than 2 pairs of prefrontal scales</p> <p><b>Loggerhead turtle</b></p> 	<p>5 costal scutes</p> <p>2 pairs of claws</p> 	<p>3 inframarginal scutes</p> 
<p>No scales</p> <p><b>Leatherback turtle</b></p> 	<p>7 ridges (no scutes)</p> 	<p>6 ridges (no scutes)</p> 



## V- THREATS

### 1. Natural threats

#### a) On land (Threats specific to French Polynesia)

Female sea turtles come and nest on beaches where they can encounter different obstacles in which they can be trapped and will end up dying in the sun. Simple entangled branches can hold them captive and small cliffs made of sand or rocks can become impassable.

After laying eggs and filling up the nest, females venture back in the ocean leaving eggs unattended. They are easy preys for crabs that despoil nests. Besides those predators, mudslides, sand settlements or strong waves can damage or destroy nests completely.

Hatchlings are vulnerable and usually emerge at night as soon as the temperature drops. They will stop if the temperature rises. If they emerge during the day they will become easy prey for birds and crabs.

#### b) In the ocean

Once they reach their adult size, sea turtles have natural predators such as great white sharks, tiger sharks and bulldog sharks as it is shown by scars left on their carapace.

Hatchlings must reach the ocean as fast as possible after avoiding being caught by crabs and birds on land. Once in the ocean, they have to avoid big predators such as carnivorous fishes or marine birds.

### 2. Anthropogenic threats

#### a) On land

Tourism development or urbanization on nesting beaches is a severe threat to sea turtles. On Moorea, turtles used to lay eggs. The coast landscape has undergone such drastic changes in the last 10 years that all nesting sites have disappeared.

Light pollution is another cause of death. Lights interfere with baby sea turtles, which are distracted and unable to reach the ocean. Stray dogs destroy nests and eat hatchlings. Poaching and black market of meat and eggs remain a major problem worldwide.

#### b) In the ocean

Sea turtle populations seemed to have been wide spread in the past. Large scale hunting of sea turtles for their meat, fat and shell was common. Female and male sea turtles swim near shores during mating and nesting seasons and can become easy preys.

The biggest present threat is bycatch in the longline tuna fishery. Around 40 000 turtles are killed each year due to dragger's nets.



## Teacher's Guide

Other threats exist such as collision with boats. Floating waste such as disused fishing nets may trap sea turtles that drown in them; plastic bags are mistaken with food such as jellyfish and cause digestive occlusion. Chemicals (especially heavymetals reach organs such as liver, kidneys and muscles) also jeopardize sea turtles.

The accumulation of pollutants could be a factor in disease-spreading such as fibropapillomatosis responsible for tumours for instance.

### c) Global climate change

Effects of climate change might potentially affect sea turtles at every stage of their life cycle. Climate change affect them time-wise (seasonal cycle, growth rate, incubation period...), area wise (distribution areas, migratory routes...) and physically (physical conditions, morphology of hatchlings...) directly but also indirectly (for instance changing the quantity of available preys).

### d) Local context

During the period of pre-colonization, sea turtles were sacred animals in Polynesia and only males from royal families could eat them with high priests.

This *tapu* or prohibition reflected strong religious beliefs related to the symbolism and spirituality of this animal.

The traditional religion together with a number of *tapu (prohibitions)* were replaced with the arrival of Europeans and Christianization of Polynesians in the 18th century. On July 12th, 1812 the King Pomare II publicly demonstrated his contempt for tradition by eating in Moorea a turtle reserved to gods and priests. This privilege for the royal family of eating turtle's flesh survived until the beginning of the 20th century.

In French Polynesia, data on green turtle nestings are patchy.

The most documented data are related to Scilly Atoll and may conclude of an overexploitation of population all over Polynesia. Between the 1950s and 1960, around 1 000 turtles have been caught each year and sold on Papeete's market each year. Studies conducted in 1982, 1983 and 1991 have revealed that the number of females laying eggs on the beach was between 300 to 400. In the best case scenario the population is considered to have been divided by 2 in less that 20 years.

## VI- REGULATIONS

The primary regulation protecting green sea turtles in French Polynesia was passed in 1971<sup>1</sup>. Hunting was regulated: Fishing sea turtles (*Chelonia mydas*) with a carapace' length shorter than 65 cm was prohibited all over French Polynesia (disposition 1). Beyond this length, catches were regulated all year round.

Since 1982, all sea turtles are protected internationally. They are listed in Appendix I of CITES (Convention on International Trade in Endangered Species) which gives them the status of "species threaten with extinction".

<sup>1</sup> Délibération n°71-209 AT of December 23rd of 1971 regulating the fishing of the Green sea turtle (*Chelonia mydas*) in the French Polynesia territory.





## Teacher's Guide

On July 13th, 1990<sup>2</sup> in order to comply with international regulations, the Polynesian Government declared green turtles, leatherback turtles and hawksbill turtles declared protected species. Transport, detention, collection of eggs, captures at sea and on land, taxidermy, trade and exportation of any sea turtle are prohibited.

In February 2008, loggerhead turtles and olive Ridley turtles were added to the list of protected species.

Unfortunately this regulation is not sufficient in French Polynesia since poaching still exists and remains a major threat for population of green turtles living in surrounding waters. In fact sea turtle population decline is often not documented enough. Turtles can still be observed and it can be hard to believe that they are threatened with extinction in their entire habitat and that protection of eggs and mature females is a necessity for the sake of species.

In this context, it was urgent to design tools and increase young generations' awareness about the protection of threatened species.

That is the main objective of the « **Honu** » **toolkit** which contains numerous educational materials validated by the Direction of Primary Education (DEP). The toolkit provides teachers with tools to make students aware of the importance of sea turtles, biodiversity and environmental protection. Students will thereafter share their knowledge with their family and friends.

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<sup>2</sup> Délibération n°90-83 AT of July 13 of 1990 relatives to the marine turtles conservation.



## III CONTENTS OF THE CHEST

The chest provides various tools fit for the local Polynesian context in order to help teachers develop a school project throughout the year and therefore increase children awareness on the urge of sea turtles' protection.




The chest includes:

### 1 teacher guide

The guide was created in close collaboration with the educational team of Moorea-Maiao administrative district and gathers all necessary information for teachers to implement a class study of the educational "honu" toolkit on sea turtles.

### 1 exercise book

The booklet was created in close collaboration with the educational team of Moorea-Maiao and offers 30 educational activities under the form of exercise sheets to be studied collectively or individually. The main objective is to anchor the knowledge acquired while studying the "honu" toolkit.


Exercise sheets are organised by a colour code:  for Preschool,  for Kindergarten, 1<sup>st</sup> & 2<sup>nd</sup> grades and  for 3<sup>rd</sup>, 4<sup>th</sup> & 5<sup>th</sup> grades.

**11 sheets** are intended for Preschool and focus on graphics, visual recognition of words, distinction of a number of objects, comparison between quantities, drawing following a colour code, drawing simple path and piecing together different parts of animals I (*cf. part III. I.2. Teaching aids*).

**14 sheets** are intended for Kindergarten, 1<sup>st</sup> & 2<sup>nd</sup> grades and focus on reading, writing, problem solving, getting onto living organisms, discovering the biodiversity of French Polynesia and drawing (*cf. part III. II.2. Teaching aids*).

**14 sheets** for 3<sup>rd</sup>, 4<sup>th</sup> & 5<sup>th</sup> grades intend to make students use their skills in biology, civic education, mathematics, English, using different tools to look for answers, write, solve problems in order to expand their knowledge on sea turtles (*cf. part III. III.2. Teaching aids*).

### 2 Posters and 1 Pledge

 « Poster of the 7 species of sea turtles ».

Displayed in the classroom, the poster shows differences between species and helps children to memorize this information with fun.

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Living together – Discovering the world – Sensitivity, imagination and creativity.





# Teacher's Guide

Kindergarten, 1st & 2<sup>nd</sup> grade: Language arts – Living together – Discovering the world – Arts & crafts.

3<sup>rd</sup>, 4<sup>th</sup> & 5<sup>th</sup> grade: Language arts – Social studies (History & Geography – Living together) – Math skills.

## **1 Poster « What am I ? »**

This A2 poster should enable students to become familiar with the « scientific methodology » behind « the classification of the animal kingdom » and also help them understand it. The purpose of this poster is to help students build a common base of understanding and they also should be able to go with no hassle from working out its meaning to putting it in words.

**The following subjects and skills can be developed accordingly:**

Preschool: Language arts – Living together – Discovering the world – Sensitivity, imagination and creativity.

Kindergarten, 1st & 2<sup>nd</sup> grade: Language arts – Living together – Discovering the world – Arts & crafts.

3<sup>rd</sup>, 4<sup>th</sup> & 5<sup>th</sup> grade: Language arts (literature – grammar and vocabulary) – Scientific studies – Social studies (History & geography – Living together).

## **2 « Pledges to protect our sea turtles »: (1 Pledge poster and 1 A4 Pledge to be signed up).**

The 2 Pledges contained in the toolkit are educational tools designed so that teachers can start formalizing minutes of the debate related to life in common (Living together). The first pledge takes the form of a poster and could be displayed in class in order to initiate a discussion between students and their teacher. The second pledge (A4 format in the DVD) gives students the opportunity to think responsibly, as eco-citizens about what can be done at school, at home, in their city to efficiently protect sea turtles and their habitats.

**The following subjects and skills can be developed accordingly:**

Preschool: Language arts – Living together – Discovering the world – Sensitivity, imagination and creativity.

Kindergarten, 1st & 2<sup>nd</sup> grade: Language arts – Living together – Discovering the world – Arts & crafts.

3<sup>rd</sup>, 4<sup>th</sup> & 5<sup>th</sup> grade: Language arts (literature – grammar and vocabulary) – Social studies (History & geography – Living together) – Civic education.

## **2 Booklets**

### **Sea turtle colouring book**

The book introduces the 7 sea turtle species found around the globe. Children from Preschool to 2<sup>nd</sup> grade can study animal diversity with the help of illustrated pictures and understand the text. Students from 3<sup>rd</sup> to 5<sup>th</sup> grade can consolidate their acquired knowledge of the diversity of living organisms (and their main functions: birth, growing-up, mating, feeding, moving, interaction with their habitat).



## Teacher's Guide

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Living together – Discovering the world – Sensitivity, imagination and creativity.

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Polynesian culture – Living together – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

### **Booklet on the 5 sea turtle species of French Polynesia.**

This illustrated booklet shows the distinction between the 5 sea turtle species found in French Polynesia thanks to simple identification keys. It enables to access a more precise identification of common characteristics of animals as well as inside the same species.

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Living together – Discovering the world – Sensitivity, imagination and creativity.

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Polynesian culture – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Scientific studies – Social studies (History & geography – Living together) – Civic education.

## 12 Games

### **« Around Moorea »**

The purpose of this board game is to understand better the complexity of sea turtle survival.

**The following subjects and skills can be developed accordingly:**

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Math skills – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

### **« Tag the turtle »**

The objective of this workshop is to learn and master vocabulary related to sea turtles and their anatomy.

**The following subjects and skills can be developed accordingly:**

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Math skills – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.





## « Adventures of a green sea turtle »

In this workshop, students will learn about the life cycle of a green sea turtle.

**The following subjects and skills can be developed accordingly:**

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Math skills – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

## « Turtles on the swim »

This game aims to understand the complexity of sea turtle survival during the mating season against poaching.

**The following subjects and skills can be developed accordingly:**

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Polynesian culture – Living together – Math skills – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

## « Eco-island »

This game teaches how to become an eco-citizen through good daily practices.

**The following subjects and skills can be developed accordingly:**

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Polynesian culture – Living together – Math skills – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

## « Turtles of the world »

This game aims at memorizing existing differences between the 7 sea turtle species.

**The following subjects and skills can be developed accordingly:**

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Math skills – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.



## « Saga of juvenile sea turtles »

This game aims to raise awareness of the complexity of the reproduction of the species and the importance of its survival.

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Living together – Physical expression – Discovering the world – Sensitivity, imagination and creativity.

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Math skills – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

## Anatomy of a sea turtle

The purpose of this game is to learn the different anatomical parts of a sea turtle.

**The following subjects and skills can be developed accordingly:**

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Discovering the world.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

## Migration of sea turtles

This game aims at understanding and applying the « scientific methodology » to the migration of sea turtles.

**The following subjects and skills can be developed accordingly:**

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Math skills – Discovering the world.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

## Lotto

With the lotto, students will discover the different animal species belonging to the Class Sauropsida.

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Discovering the world – Sensitivity, imagination and creativity.

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Math skills – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

## Who am I ? game

The purpose of this game is to compare anatomical characteristics, lifestyles and reproduction of animals belonging to the vertebrate category.





## Teacher's Guide

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Living together – Discovering the world – Sensitivity, imagination and creativity.

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

### **Sea turtle species Memory game**

This game aims at memorizing visually the 7 different sea turtle species found throughout the globe.

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Living together – Discovering the world – Sensitivity, imagination and creativity.

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

### **3 Videos :**

#### **« Monitoring sea turtle nesting sites ».**

The video presents nesting beach monitoring on an uninhabited atoll of French Polynesia. It aims to study the life cycle of sea turtle and enables students to become aware of the difficulty of survival of the species and the importance of preserving it.

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Living together – Math skills – Discovering the world – Sensitivity, imagination and creativity.

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

#### **« Example of care at the sea turtle clinic in Moorea »**

The video of the sea turtle clinic in Moorea shows cares provided to wounded sea turtles; it enables to create a relationship between humans and animals that make up living organisms. It highlights the different stages of sea turtle care (arrival at the Clinic, care and release into the ocean).

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Living together – Math skills – Discovering the world – Sensitivity, imagination and creativity.

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Discovering the world.



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3rd, 4th & 5th grade: Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.



### « Beach clean-up on an uninhabited atoll »

This video aims to educate students about marine environmental protection. The location of the operation has been chosen to raise awareness on the fact that waste is transported by winds and ocean currents. This video can also teach about waste product decomposition time. .

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Living together – Math skills – Discovering the world – Sensitivity, imagination and creativity.

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Polynesian culture – Living together – Maths skills – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.

### 1 DVD

In addition to the videos mentioned above, the DVD includes all the "honu" toolkit content in both French and English as PDF files: game boards, game cards, teacher guide, exercise book, slide shows for Te mana o te moana and all activities books movies or posters from others centers, museums and institutes from different regions of the world. Furthermore this DVD is an additional educational resource for teachers as it helps to discover computer science and to study foreign languages ... In computer sciences, it helps master the basics of information technology and establish a first approach with the main functions of a computer. It also enables to behave as a responsible citizen in front of the information conveyed by the tools. Finally, the DVD helps develop individual research, teach how to gather information. Please note that all materials on the DVD can be printed out by teachers, and are subject to internal non-commercial use for educational purposes only.

**The following subjects and skills can be developed accordingly:**

**Preschool:** Language arts – Living together – Discovering the world – Sensitivity, imagination and creativity.

**Kindergarten, 1st & 2<sup>nd</sup> grade:** Language arts – Living together – Maths skills – Discovering the world – Arts & crafts.

**3rd, 4th & 5th grade:** Language arts (literature – grammar and vocabulary) – Scientific studies (Maths – Biology – Science experiments) – Social studies (History & geography – Living together) – Arts & crafts – Civic education.





## II- PRESCHOOL

Preschool aims to provide children with means to learn a common base of knowledge necessary to build up essential skills. The various educational workshops and activity sheets provided are oriented accordingly mixing learning and fun. They enable students to discover new habitats, exchange with each other, their families and explore the wonders of our world. The various educational materials also allow to explore a variety of situations, the use of tools and various methodologies.

### Exercise booklet.

The various fields of activities that can be addressed in provided worksheets are the following:

**Sheet n° 1 :** *Cut-out words* : « *Match words with pictures* » :

The following skills can be developed accordingly:

Language arts – Discovering the world – Sensitivity, imagination and creativity.

**Sheet n° 2 :** *Link up pictures to words* : « *Find appropriate words* » :

The following skills can be developed accordingly:

Language arts – Discovering the world.

**Sheet n° 3 :** *Drawing* : « *Draw a turtle* »

The following skills can be developed accordingly:

Language arts – Discovering the world – Drawing.

**Sheet n° 4 :** *Practice the Tahitian language*: « *Practice Tahitian* » :

The following skills can be developed accordingly:

Language arts – The Polynesian language.

**Sheet n° 5 :** *Protect the environment* : « *Help the turtle find its way* » :

The following skills can be developed accordingly:

Living together – Discovering the world – Sensitivity, imagination and creativity.

**Sheet n° 6 :** *Quantities and numbers* : « *Count the turtles* » :

Les domaines d'activités qui pourront être développés ici sont:

Discovering the world.

**Sheet n° 7 :** *Count elements* : « *Count the animals* » :

The following skills can be developed accordingly:

Language arts – Discovering the world.



**Sheet n° 8 : Connect and colour :** « Colour the turtle » :

The following skills can be developed accordingly:

Discovering the world – Sensitivity, imagination and creativity.

**Sheet n° 9 : Means of transport :** « Piece the animals together » :

The following skills can be developed accordingly:

Discovering the world – Sensitivity, imagination and creativity.

**Sheet n° 10 : Reconstitute a shape :** « Reconstitute the turtle » :

The following skills can be developed accordingly:

Discovering the world – Sensitivity, imagination and creativity.

**Sheet n° 11 : Find the right habitat :** « A home for every animal » :

The following skills can be developed accordingly:

Living together – Discovering the world.

## III- KINDERGARTEN, 1ST & 2<sup>ND</sup> GRADES

**Kindergarten, 1st and 2<sup>nd</sup> Grades** aims to provide students with a common core of skills and knowledge through the introduction to writing techniques and making sustainable acquired knowledge of oral language. Thus the various teaching tools and worksheets have been designed for that purpose, while providing fun ways to address the basic learning provided at this level. They allow students to consider how they use the language, practice writing, develop an autonomy, socialise, respect each other, build their personality, open to the world, adjust in their surroundings, write numbers, differentiate shapes. The teacher can accordingly implement its programme with all those varied and fun educational tools.

### Exercise booklet

The various fields of activities that can be addressed in provided worksheets are the following:

**Sheet n°1 : Illustrate a text with drawings :** « Puzzled words » :

The following skills can be developed accordingly:

Language arts – Discovering the world – Arts & crafts.

**Sheet n°2 : Understand and use a Polynesian legend :** « The legend of Punaauia » :

The following skills can be developed accordingly:

Language arts – Polynesian culture – Discovering the world.

**Sheet n°3 : Connect dots :** « Recreate the turtle » :

The following skills can be developed accordingly:

Maths skills – Arts & crafts.





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**Sheet n°4 : Practice addition, part 1 : « Count the turtles » :**

The following skills can be developed accordingly:  
Maths skills – Arts & crafts.

**Sheet n°5 : Practice addition, part 2 : « Count the turtles » :**

The following skills can be developed accordingly:  
Maths skills – Arts & crafts.

**Sheet n°6 : Write in cursive script : « Practice writing » :**

The following skills can be developed accordingly:  
Language arts – Discovering the world.

**Sheet n°7 : Practice writing : « Explain your choice » :**

The following skills can be developed accordingly:  
Language arts – Discovering the world – Living together.

**Sheet n° 8 : Place pictures in the correct order: « Learn the life cycle of a sea turtle » :**

The following skills can be developed accordingly:  
Maths skills – Discovering the world – Living together.

**Sheet n° 9 : Discover new habitats : « A home for every animal » :**

The following skills can be developed accordingly:  
Language arts – Discovering the world – Living together – Arts & crafts.

**Sheet n° 10 : Food maze : « Help the turtle find its way » :**

The following skills can be developed accordingly:  
Maths skills – Discovering the world.

**Sheet n°11 : Associate a word with a picture : « Understand pollution » :**

The following skills can be developed accordingly:  
Language arts – Maths skills – Discovering the world – Living together.

**Sheet n°12 : Use pictures : « Recreate the turtle » :**

The following skills can be developed accordingly:  
Arts & crafts.

**Sheet n°13 : Understand a text in Tahitian : « Express yourself through drawing » :**

The following skills can be developed accordingly:  
Polynesian language and culture – Discovering the world – Arts & crafts.

**Sheet n° 14 : Cut various shapes: « Make up your own turtle »:**

The following skills can be developed accordingly:  
Language arts – Maths skills – Living together – Arts & crafts.



## IV- 3RD, 4TH & 5TH GRADES

**3rd, 4th and 5th Grades** aim to prepare students for Primary school. Therefore the educational tools are designed to provide students with teachings that can contribute to the acquisition of a common base of knowledge and skills. The priorities are mastering the English language as well as key elements of mathematics. Students continue to develop foundations of their education (master language skills and the English language, civic education, mathematics) but in the spirit of a more personalized and thoughtful approach. Students also discover new teachings such as science, history or geography. Therefore, the educational tools available at this stage are oriented accordingly, providing teachers with various exercises related to the areas previously mentioned.

### Exercise booklet.

The various fields of activities that can be addressed in provided worksheets are the following:

**Fiche n°1 : Interpretation of a text :** « *Legend of the birth of the turtle, the hen and the pig* ».

The following skills can be developed accordingly:

Language arts – Languages and Polynesian culture – Scientific studies – Science experiments – History – Geography – Civic education.

**Fiche n°2 : Encryption of a text :** « *What is a sauropsid ?* » :

The following skills can be developed accordingly:

Language arts – Scientific studies – Science experiments – History – Geography.

**Fiche n°3 : Crossed words Environment:** « *Threats to sea turtles* » :

The following skills can be developed accordingly:

Language arts – Scientific studies – Science experiments – Civic education.

**Fiche n° 4 : Dictation in the Tahitian language:** « Extract from the tale *Honu iti e* » :

The following skills can be developed accordingly:

Language arts – Languages and Polynesian culture – Civic education.

**Fiche n°5 : Connect dots :** « *Draw a turtle* » :

The following skills can be developed accordingly:

Language arts – Scientific studies – Arts&crafts.

**Fiche n°6 : Solving problems :** « *Count the turtles* » :

The following skills can be developed accordingly:

Language arts – Scientific studies.





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**Fiche n°7 : Calculation and problems** : « *Learn the life cycle of a sea turtle* » :

The following skills can be developed accordingly:

Language arts – Scientific studies – Science experiments – Arts&crafts.

**Fiche n°8 : Write words** : « *What is hydrodynamism?* » :

The following skills can be developed accordingly:

Language arts – Scientific studies – Science experiments – Arts&crafts.

**Fiche n° 9 : Read and caption a text** : « *The life cycle of a sea turtle* » :

The following skills can be developed accordingly:

Language arts – Scientific studies – Science experiments.

**Fiche n° 10 : Understand a text with illustrations** : « *Help Manua become an eco-citizen* » :

The following skills can be developed accordingly:

Language arts – Civic education.

**Fiche n° 11 : Caption a diagram** : « *Compare 2 anatomies* » :

The following skills can be developed accordingly:

Language arts – Scientific studies – Science experiments.

**Fiche n° 12 : Understand a food chain** : « *Discover who eats who ?* » :

The following skills can be developed accordingly:

Language arts – Scientific studies – Science experiments – History – Geography – Civic Education.

**Fiche n° 13 : Understand a text on the environment** : « *Consequences of climate change* » :

The following skills can be developed accordingly:

Language arts – Scientific studies – Science experiments – History – Geography – Civic Education.

**Fiche n°14 : Reconstitute a shape** : « *Make up your own turtle* » :

The following skills can be developed accordingly:




Language arts – Scientific studies.



## V- GAMES : CONTENTS AND RULES

### 1. Board Game: Saga of juvenile sea turtles.

#### Contents :

-  container
-  100 ping-pong balls (standing for eggs).
-  20 plastified juvenile sea turtles

#### Course of the game :

Explain to the students that sea turtles lay between 100 and 150 eggs, 2 to 3 times every 5 years. Then put in practice what you have just explained with the ping pong balls.

Students will be asked to find obstacles and all predators from the moment where eggs are still in the nest up to when juvenile sea turtles reach the ocean.

- First of all, the female sea turtle swims out of the ocean, crawls onto the beach and lays around a hundred eggs in a nest the female has freshly dug in the sand: use the container in which the ping pong balls are.
- After covering up the eggs with sand, the female sea turtle returns to the ocean as she will not look after her eggs and will not take care of baby turtles. Babies are therefore left unattended. Loss is high but as a compensation there are lots of baby sea turtles: it is referred to as the « mass strategy ».

***The game can start: (students have to find by themselves the possible different predators encountered by juvenile sea turtles in the eggs, out of the nest and once they reach the ocean).***




- Some eggs are infertile or are going to go bad without properly developing: 10 students take out 2 balls each (20 balls in total) and put them in the container "rotten eggs".
- Other threats are animals such as dogs because they can dig out eggs from the sand and eat them: 10 students take out 2 balls each (20 balls in total) and put them in the container "predators".
- in some islands, people actually dig in nests and steal turtle eggs to eat them (in some regions, this is strictly prohibited, yet people are still hiding to do so, it is called poaching) : 10 students take out 4 balls each (40 balls in total) and put them in the container "poaching".
- Then, take the lid off and show that there are only 15 to 20 eggs left in the nest. Emphasize that it is the reality; only 20% of all eggs (20 out of 100 laid eggs originally) will hatch after 2 months. Replace the 20 balls remaining in the container by 20 juvenile sea turtles.
- Tell students that after birth, a baby turtle is only 5 to 6 cm long, weighs 25 to 30 grammes, its shell is still soft. Eggs usually hatch at night that avoids baby turtle from suffering of high temperatures and dehydration. They have to reach the ocean. As they cannot see the ocean, they wait until sunrise as the rising sun stars shining on the horizon.
- ***Threats are still present.***
- After emerging, baby turtles follow the natural sunlight.
- If there is a source of artificial light nearby (street lights, car lights, flashlights), baby turtles can mistake them for natural light and go in the wrong direction, opposite to the ocean: take out 5 baby turtles and put them in the container "off-limits".
- Animals such as dogs, crabs and birds also catch baby turtles to eat them : take out 5 baby turtles and place them in the container "predators".
- Some babies on the shore can be crashed under some rocks because of strong waves or can even drown: take out 5 baby turtles and place in the container "drowning".
- In the end there are only 5 baby sea turtles left, they have succeeded. It is important to emphasize that only 2 to 5 baby sea turtles managed to reach the ocean out of 100 eggs laid. Fortunately, a female green sea turtle lays eggs 2 to 4 times during one nesting season.





## 2. Board Game : « Around Moorea ».

### Contents :

-  1 board game « Around Moorea »
-  1 dice
-  4 pawns of different colors.

### Course of the game:

Gather students around the board. Each student picks a pawn. The first player reads out loud the instructions; the one with the lowest number given by the dice can start the game. Each student rolls the dice in turn and moves forward accordingly while answering questions or following the instructions given. The first to reach the "arrival" cell wins the game.

#### Other cells:

- « Blue cells » with the « turtle symbol »: move forward of the number of cells given by the dice.
- « Red cells » or « green cells »: carefully read the instructions.

---

## 3. Board Game: « Tag the turtle »

### Contents:

-  1 board game « Tag the turtle »
-  25 words on magnets.



### Course of the game:

Gather students around the board. All magnets shall be gathered in one corner of the board. Each student picks up a word, reads it out loud and places it onto the related image.

---

## 4. The world of turtles

### Contents :

-  7 small sleeves
-  7 « identification tags » per sleeve: 42 tags in total





### Course of the game:

Divide students in 7 groups (standing for the 7 sea turtle species on the planet) and give each group one sleeve in which 6 identification tags per sea turtle species can be found. Each student of the group reads out loud one of the tags (numbered 1 to 6). Together, students must identify the sea turtle they have. To know the answer, students turn tags over and check the identified sea turtle species: the image of the species is displayed (students can use the Poster on the 7 sea turtle species). Once each group has identified its turtle, the teacher, if he/she has a worldmap, can ask students to place each turtle species in its geographical habitat.



## 5. Sea turtles on the swim!

### Contents :

-  1 board game « Sea turtles on the swim! »
-  1 pack of cards « Questions » (50)
-  1 pack of cards « Poachers » (20)
-  4 pawns







### Course of the game :

After choosing a pawn, students place them on the cell « Start ». Meanwhile, the teacher has to explain that **poachers** are getting ready to go fishing and will catch not only fish but also sea turtles trapped in their nets. The objective is to move pawns as quickly as possible so that poachers do not catch them in their nets! To do so, students have to answer to “Questions” from the stack. If the answer is correct, the pawn moves forward to the next cell and the player waits for its turn to take another « Questions » card. If the answer is false, a card “Hunters/Poachers » must be taken and will help them get ready. Once poachers are ready to go at sea, sea turtles remaining on the board will be trapped in nets. The game is over! The goal of the game is to answer correctly to as many questions as possible to prevent poachers from getting ready.

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## 6. Eco-island

### Content :

-  1 board game « Eco-island »,
-  1 dice
-  4 coloured pawns
-  Images of plastified shells: 200 big / 200 medium / 500 small
-  50 « question » cards
-  20 « chance » cards

### Course of the game :

Give to each child the amount of 150 000 CFP. Each child rolls the dice in turn and moves forward of the number cells indicated by the dice. Every time a student reach a cell “question”, he/she must answer the question written on the card; if the answer is correct, the student play again; if the answer is false, he/she has to wait the next turn to move forward. All fines are placed in the middle of the board; gains are given by the

Bank. The first player to reach the “Eco-citizen” cell wins the amount in the middle. The first player to reach the “**arrival**” cell receives the amount of 20 000 CFP. Once all players’ finish, they count their amount; the one with the most wins the game: the winner is the best “eco-citizen”.



The banker and the Bank: the Bank gives to each player the amount of 150 000 CFP split as follows: 9 shells of 10 000 CFP – 10 shells of 5 000 CFP – 10 shells of 1 000 CFP.





## 7. Anatomy of a sea turtle

### Contents :

-  1 soft toy turtle with velcro scratches on the different parts of the body.
-  6 velcro tags bearing the name of the different body parts: head, eye, carapace, plastron, cloaca, anterior flipper, posterior flipper, vertebral scutes, marginal scutes, coastal scutes, tail...



### Course of the game:

Each student holds one velcro tag and must place it on the relevant part of the turtle while reading out loud the word written on each tag.

---

## 8. Migration of sea turtles

### Contents :

-  2 information cards showing migrations of different sea turtles.
-  2 sheets with blank data (to be filled in by students).

### Course of the game:



Each player picks an information card displaying a migration recorded via satellite. On each card are listed geographical points related to a turtle.

On the blank sheet, students must reconstitute the journey of their turtle. Winners are those who have managed to retrace the migration of the turtle for which they have the journey.

---

## 9. Lotto

### Contents :

-  4 boards: sea turtles, crocodiles, snakes and lizards.
-  24 images showing different animals from the 4 boards.



### Course of the game:

Each student holds a board. Images are placed face down; each player must turn an image over and place it quickly on its board. The first one who manages to complete a line (column, row or diagonal) wins the game.

---

## 10. 7 details

### Contents :

-  1 board game « 7 details »
-  35 images showing different anatomical parts of animal grouped by categories (land mammals, marine mammals, fish, birds, reptiles, amphibians).



## Course of the game:

Children shall sit around the board. Distribute the different images to the students. They have to place the images at the right spot of the board. This exercise should be done in a group.

---

## 11. Sea turtle species memory game

### Contents :

- 🐢 7 pairs of identical cards with the picture of sea turtle specie and its denomination (total of 14 plastified cards).

### Course of the game:

Shuffle the cards and place them face down (the image should not be visible). Each player in turn turns over two cards of its choice. All players look at the cards and try to memorise their place. The player who finds two identical cards removes them without touching the others and plays again. The winner is the one with most pairs of cards in the end.

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## 12. Sea turtle colouring book

### Contents :

- 🐢 1 colouring book on sea turtles.
- 

## 13. Booklet on the 5 sea turtle species of French Polynesia

### Contents :

- 🐢 1 identification booklet on the 5 sea turtles species of French Polynesia.
- 

## 14. Poster of the 7 species of sea turtles

### Contents :

- 🐢 1 poster displaying the 7 sea turtle species in the world (habitats, food...).
- 

## 15. Pledges

### Contents :

- 🐢 1 A4 Pledge to be signed up
  - 🐢 1 A2 poster Pledge to be wall hung in the classroom
- 





## IV WEBOGRAPHY

[www.euroturtle.org](http://www.euroturtle.org)

[www.graines-des-iles.org](http://www.graines-des-iles.org)

[www.ioseaturtles.org](http://www.ioseaturtles.org)

[www.mcsuk.org/marineworld/turtles](http://www.mcsuk.org/marineworld/turtles)

[www.medasset.org](http://www.medasset.org)

[www.nmfs.noaa.gov](http://www.nmfs.noaa.gov)

[www.reseau-tortues-marines.org](http://www.reseau-tortues-marines.org)

[www.seaturtle.org](http://www.seaturtle.org)

<http://seaturtlestatus.org/>

[www.tortuesmarinesantilles.org](http://www.tortuesmarinesantilles.org)

[www.unep.org](http://www.unep.org)

[www.wikipedia.org](http://www.wikipedia.org)

[www.dep.pf](http://www.dep.pf)

[www.education.gouv.fr/bo/2002](http://www.education.gouv.fr/bo/2002)

[www.tcpsrilanka.org](http://www.tcpsrilanka.org)

[www.kelonia.org](http://www.kelonia.org)

<http://www.wansmolbag.org>



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## VI – FINANCIAL SUPPORT AND PARTNERS



 **Te mana o te moana : “honu toolkit” project initiator**  
*State-approved environmental organization of public interest*  
*IUCN member –World Ocean Network member.*

The “honu toolkit” project got support from a range of different partners listed below. Thanks to their generosity, this awareness-raising project has been carried out successfully and will contribute to sea turtle conservation and to gathering information on these endangered species.

**Thank you, Maururuu, to our financial partners:**



**“Nature et Découvertes” foundation**  
**Under the aegis of Fondation de France.**  
*IUCN member (International Union for Conservation of Nature).*



“Founded in 1990, Nature & Découvertes shop chain offers to kids and adults a « reconnection to nature » (...)”

“Nature & Découvertes foundation was created in 1994. The company “Nature & Découvertes” donates 10 % of its net revenue to the Foundation”. “Nature & Découvertes foundation is a “voluntary tax for the planet” chosen by the team of Nature & Découvertes for the living and beautiful nature. The contribution we are happy to make to future generations”. **François Lemarchan, President and founder of Nature et Découvertes.**

The Foundation supports field projects of organizations acting for environmental protection in France, in French overseas territories and in French-speaking African countries. It offered its precious support to Te mana o te moana for “honu toolkit” environmental education project.

*Official website:* [www.natureetdecouvertes.com](http://www.natureetdecouvertes.com)



**French Global Environment Fund**  
**Small initiatives programme**



The FGEF is a bilateral fund that was set up in 1994 by the French government following the Rio Summit. Its aim is to promote protection of the global environment in developing and transitional countries. The FGEF is a



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tool of the French policy for development and cooperation. It supports a range of partners and is a part of strategic priorities of the French aid. It contributes to funding sustainable development projects in various world environmental fields: biodiversity, greenhouse effect, international waters, desertification, organic pollutants and ozone depletion.

Since 2006, the FGEF started the « Small Initiatives » program to support the South NGOs and implement projects on biodiversity conservation and local development. Today, 56 projects, mainly located in French-speaking African countries, have been funded and are monitored by the French Committee of IUCN. Each project comprises a development part to support local community activities thanks to biodiversity conservation (for example, by ecotourism) and sustainable resource use. These small projects directly managed by NGOs give efficient results for biodiversity conservation and local communities' mobilization.

Official website: [www.ffem.fr](http://www.ffem.fr)

### InterContinental hotel group French Polynesia



The InterContinental group in French Polynesia is committed to sustainable development through Green Globe sustainable tourism program. In 2005, InterContinental Moorea Resort and Spa achieved the prestigious Green Globe Benchmarked level and just received, in October 2009, its full certification. Committed to sea turtle conservation, the hotel accepted to fit out a part of its private lagoon for the Sea Turtle Clinic managed by Te mana o te moana. The Clinic shelters and treats sick and wounded turtles. Turtles are released back to the ocean by children.

Official website: [www.tahiti.intercontinental.com](http://www.tahiti.intercontinental.com)

### The Moorea Dolphin Center



Moorea Dolphin Center is not only a commercial entity; it is first and foremost a responsible business concerned about the protection of the environment and the preservation of the marine world. The 7 interactive programs have been carefully developed with the help and expertise of specialists - biologists and vets - in order to protect the quality of life of its four dolphins. Aware of its pedagogical role and educational mission, the Center welcomes elementary schools from Tahiti and Moorea for free of charge educational programs. It enriches its programs with the essential values that will help to raise awareness on marine environment protection. Moorea Dolphin Center tourism activities have a double aim: educational and environmental offering to its visitor the pleasure of touching dolphins and learning more on Polynesian marine environment.

Official website: [www.mooreadolphincenter.com](http://www.mooreadolphincenter.com)

### Air Tahiti company



Air Tahiti is the main airline company in French Polynesia offering airline connection between islands. Flights on administration, educational or medical purposes between Tahiti and her islands contribute to the economic and social development of the country. Since 2005, Air Tahiti transports sea turtles to Moorea Sea turtle clinic and supports educational missions of Te mana o te moana in the islands.

Official website: [www.airtahiti.pf](http://www.airtahiti.pf)





## Tikiphone company



The Tikiphone company is the mobile operator in French Polynesia. Since its creation in 1994, Tikiphone promotes new technologies and contributes not only to the economic, but also to the human and social development of the country. It supports school contests by offering various prizes to kids. Committed to sea turtle conservation, the company offers special raising-awareness phone cards, rulers and T-shirts with the slogan "let's protect sea turtles".

Official website: [www.vini.pf](http://www.vini.pf)

## Ministry for the Environment



The team of the Ministry for the Environment organizes various events in partnership with the Department for the Environment and companies promoting environment and sustainable development.

*"Protecting our islands is our major challenge. Our government is committed to sustainable development. Environment is a part of our culture, health, energy, research, tourism, sport events and economy..."(...) "...my Ministry encourages the initiatives of environmental NGOs volunteering for the noble cause of environmental protection and sustainable development. The future of our environment depends on us! We can and must preserve it every day by small daily actions and eco-citizen attitude! (...)"*. Georges Handerson, Minister of the Environment.

Official website: [www.environnement.gov.pf](http://www.environnement.gov.pf)

## Department for Primary Schools of French Polynesia

The Department for Primary Schools created by the resolution n° 2001-160 APF on the 11<sup>th</sup> of September 2001 replaces the Service for Education. Its primary mission is to manage primary schools and their personnel.

Official website: [www.dep.pf](http://www.dep.pf)



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**Thank you, Maururuu,  
to all partners of the DVD who authorized us  
to use and to translate their various educational resources:**

## **la Rochelle Aquarium**



The activities carried out by the Care and Research Sea Turtle Center of La Rochelle Aquarium implement four main missions: create an observatory of leatherback turtles on the Atlantic coast; shelter, treat and release sea turtles; share its experience (during conferences and in scientific publications) and finally raise public awareness (during environmental events such as nature festival, World Oceans Day...).

*Official website:* <http://www.aquarium-larochelle.com>

**Contribution of la Rochelle Aquarium to « honu toolkit » project : video “La Rochelle Center » (cf.DVD: educational resources).**

*Version available:*



## **IOSEA**



The IOSEA Marine Turtle Memorandum of Understanding is an intergovernmental agreement that aims to protect, conserve, replenish and recover marine turtles and their habitats of the Indian Ocean and South-East Asian region, working in partnership with other relevant actors and organizations.

*Official website:* <http://www.ioseaturtles.org>

**Contribution of the IOSEA to the « honu toolkit » project: movie “Sea Turtles – Our Ocean Ambassadors” (cf.DVD: educational documents).**



*Versions available:*

## **CARIBBEAN CONSERVATION CORPORATION**



The Caribbean Conservation Corporation (CCC) is a not-for-profit, 501(c) 3 organization based in Florida with offices and projects in several other locations. CCC is the oldest and most accomplished sea turtle organization in the world! Since its founding in 1959, CCC's work has greatly improved the survival outlook for several species of sea turtles. CCC is a world-renowned leader in sea turtle research and conservation.

*Official website:* <http://www.cccturtle.com>

**Contribution of the CCC to the « honu toolkit » project: educational documents: “Quick fact sheets of the 7 species of the sea turtles” (cf.DVD: educational tools).**

*Versions available:*





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CENTRE D'INITIATION  
À L'ENVIRONNEMENT

## CIE (Center of Introduction to Environment)

The Center of Introduction to Environment, created in 1996, aims at promoting the development of educational and cultural activities for a better knowledge and preservation of Caledonian natural environment.

Official website: <http://membres.lycos.fr/cienc/>

Contribution of the Center of Introduction to Environment to “honu toolkit” project: video “*spot tortues*” (cf.DVD: videos) and « *Sea turtle toolkit* » (cf.DVD: multimedia, educational tools).

Versions available: video: 

toolkit:   \*

## Kelonia



Kelonia is the Observatory of marine turtles located in St Leu on the Reunion Island. Kelonia participates in research and conservation programs for marine turtles and their habitats on the Reunion Island and in the Indian Ocean. The sea turtle care center treats sick and wounded turtles.

Official website: <http://www.kelonia.org/>

Contribution of Kelonia to « honu toolkit» project: movie “*Between sky and land*” (cf.DVD : videos) and “*Educational guide for elementary and primary schools*” (cf.DVD: multimedia, documents educational resources).

Versions available: video: 

toolkit:   \*

## MCS (Marine Conservation Society)

The Marine Conservation Society (MCS) is the UK charity dedicated to caring for the seas, shores and wildlife. MCS campaigns for clean seas and beaches, sustainable fisheries, and protection for all marine life.

Official website: <http://www.mcsuk.org/>

Contribution of the Marine Conservation Society to the “honu toolkit” project: video « *Turtles in trouble*» (cf.DVD: videos).

Version available: 

## MEDASSET



Founded in 1988, MEDASSET (Mediterranean Association to Save the Sea Turtles) is an international not for profit NGO working for the study and conservation of sea turtles and their habitats throughout the Mediterranean, through scientific research, environmental education, political lobbying and raising public awareness.

Official website: <http://www.medasset.org>



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Contribution of the Medasset to the “honu toolkit” project: video «**Return to origin**» (cf. DVD : videos) and educational activities “**turtle skeleton – human skeleton**” – Explore – Quiz » (cf. DVD: multimedia, educational resources).

Versions available: movie:



activities:



## RAMSAR



The Convention on Wetlands, signed in Ramsar, Iran, in 1971, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. There are presently 159 Contracting Parties to the Convention, with 1847 wetland sites, totaling 181 million hectares, designated for inclusion in the Ramsar List of Wetlands of International Importance.

Official website: <http://www.ramsar.org>

Contribution of the RAMSAR to the “honu toolkit” project: educational document “**Turtles to color** (marine, freshwater and land) (cf. DVD: multimedia educational resources).

Versions available:



## MARINELAND



Marineland is a marine animal exhibition park in Antibes, France, founded in 1970. One of its missions is to create unforgettable encounters between kids and marine species. The educational team develops programs corresponding to the official school program. Kids admire and want to learn more on marine animals: “discover is to love, to love is to protect”.

Official website: <http://www.marineland.fr/>

Contribution of Marineland to the “honu toolkit” project: educational document “**poster on sea turtles – identification of the loggerhead turtle**” (cf. DVD: multimedia, educational resources).

Version available:



## SPREP(Pacific Regional Environment Programme) – PROE (Programme Régional Océanien pour l'Environnement).



People are the most important part of the Pacific Islands. The welfare of the people is a defining value that guides all of the work of the Pacific Regional Environment Programme (SPREP).

SPREP is a regional organisation established by the governments and administrations of the Pacific region to look after its environment. It has grown from a small programme attached to the South Pacific Commission





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(SPC) in the 1980s into the Pacific region's major intergovernmental organisation charged with protecting and managing the environment and natural resources. It is based in Apia, Samoa, with over 70 staff.

The Pacific island governments and administrations saw the need for SPREP to serve as the conduit for concerted environmental action at the regional level. The establishment of SPREP also sends a clear signal to the global community of the deep commitment of the Pacific island governments and administrations towards sustainable development, especially in light of the outcomes of the World Summit on Sustainable Development in the form of the Plan of Implementation, the Millennium Development Goals and Declaration, the Barbados Plan of Action and Agenda 21.

Official website: <http://www.sprep.org>

**Contribution of the SPREP to the "honu toolkit" project: educational document "sea turtle toolkit" (cf.DVD: multimedia educational resources).**

Versions available:



Kap'Natirel

in 2003 and the observation

### KAP NATIREL

Kap' Natirel was founded  
Guadeloupe sea turtle

network was created in 1999. RITMO is a portal of French and French-speaking countries NGOs working for sea turtle protection. This organization implements a lot of projects for marine turtle conservation through its three main activities within the strategy of sea turtle conservation in French Antilles: study of populations (egg-laying and foraging areas), threats control (accidental capture, sea turtle care center, coastal planning...) and raising public and children awareness by creating educational resources, organization of events and press releases.

Official website: <http://www.reseau-tortues-marines.org/Association-Kap-Natirel.html>

**Contribution of Kap Natirel to the "honu toolkit" project: educational document "Educational guide on sea turtles" (cf.DVD: multimedia, educational resources).**

Versions available:



\*

### KWATA

Kwata is a French Guyana environmental NGO created in 1994, approved by the Ministry for the Environment. Kwata is a member of the International Union for Conservation of Nature (IUCN) and of the French Committee of the IUCN.

Official website: <http://www.kwata.net>

**Contribution of Kwata to the "honu toolkit" project: educational document "Activity book on sea turtles" (cf.DVD: multimedia educational resources).**

Versions available:



\*



### NOAA (National Oceanic and Atmospheric Administration)



NOAA is an agency that enriches life through science. "Our reach goes from the surface of the sun to the depths of the ocean floor as we work to keep citizens informed of the changing environment around them. NOAA's mission touches the lives of every American and we are proud of our role in protecting life and property and conserving and protecting natural resources. I hope you will explore NOAA and how our products and services can enrich your own life".

Official website: <http://www.noaa.gov>



\*Translated in English by te mana o te moana



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Contribution of the NOAA to the "honu toolkit" project: educational document "Coloring book on sea turtles" (cf.DVD: multimedia educational resources).  
versions available:



### The Dolphin Experience

Since our research began, we have documented over 2000 encounters with marine mammals in The Bahamas and have recorded twenty-four different species, including endangered species such as sperm whales (*Physeter macrocephalus*), humpback whales (*Megaptera novaeangliae*) and West Indian manatees (*Trichechus manatus*).

Official website:

Contribution of the Dolphin Experience to the "honu toolkit" project: educational activities « protecting our marine environment » (cf.DVD: multimedia educational resources).

Versions available:



## VIII– SPECIAL THANKS

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\*\* Translation in French by Te mana o te moana and in  
Tahitian language by the Interpreter service of French Polynesia





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*"All those who contributed to this project from here or from afar, and all those who will distribute it".*

**Vie Jourdan.**

Education officer Te mana o te moana.  
Expert of the Commission on Education and  
Communication for the IUCN French  
Committee



*Together, let's preserve sea turtles!*

