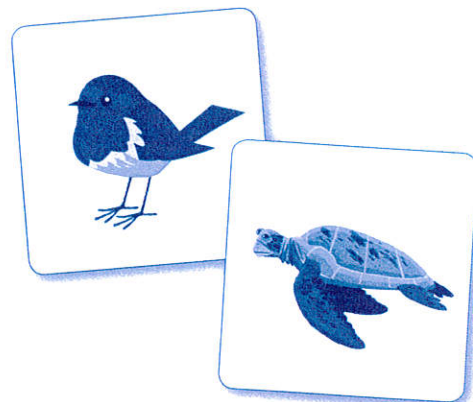


These materials for language development and discovery of the physical world provide a playful approach to learning about the biodiversity of 6 natural environments.



## Age range

4 years +.

## Objectives developed

- Encourage children's natural curiosity.
- Observe and describe the various environments.
- Recognize and memorise the plant and animal species.
- Learn and use precise vocabulary.
- Describe sensations, ask questions, and compare experiences and knowledge.

## Box contents

- 6 illustrated boards.
- 48 illustrated cards.
- 1 teacher's leaflet.

## Discovering the materials

- Provide an opportunity for children to use each board to express what they know about both plants and animals.
- Encourage the children to recall past experiences: vacations, school trips, visits or research.

## Activities

- Sort cards by living environment.
- Sort cards by species, flying animals, crawling animals, those with hair, feathers, etc.
- Sort by type of feeling, such as pleasure or displeasure, fear or fright.
- Make comparisons or identify differences between the different boards (e.g. between the river and the pond).

## Language games

- Differentiate the various landscapes.
- Enrich their vocabulary and knowledge.
- Lead children to a better understanding of the environment.
- Teach the children to place a high value on the diversity of living beings, since it guarantees the continuation of life on earth.

## Observation game

Distribute one sheet to each child.

Take the cards and shuffle them, illustrated side down.

Each child takes a turn to draw a card. If the card belongs to his board, he or she keeps it. Otherwise it is returned to the deck.

The first player with 8 counters is declared the winner.

*To simplify game play, the adult may reduce the required number of counters per board.*

## Further activities

- Explore and observe the child's immediate environment: embark on an expedition with materials such as boxes, magnifying glasses, camera, etc.
- Foster children's sense of discovery and delight in observing the world around them.
- Encourage children to return with (gently) collected plants or small insects found during their walks and to share their treasures.
- Use the library as a resource for finding books and documents.
- Discuss the notions of protection and preservation.
- Introduce the concept of living and non-living.

## Boards

### • In the Garden

1. **Colorado beetle:** harmful beetle frequently found amongst potato plants. It is distinguished by its black and yellow striped elytra. It spends the winter underground. Females can lay up to 1000 eggs.

2. **Slug:** shell-less gastropod mollusc, with four tentacles, including two with eyes. The mouth contains two jaws with small teeth and a toothed tongue. Slugs are hermaphroditic.

3. **Mole:** small insectivorous mammal that lives underground and digs long tunnels that can be seen on the surface as small mounds of earth. While moles have bad eyesight, their sense of hearing and smell are highly developed.

4. **Shrew:** omnivorous mammal that is related to the mouse without being a rodent. Its diet is based on insects and gastropods. Beware of its venomous bite.

**5. Robin:** small songbird related to the nightingale, with a bright red throat and breast. It is frequently found in gardens, sings throughout the year and feeds on earthworms and spiders.

**6. Bumblebee:** hymenopterous insect (2 pairs of wings) with a heavy, hairy body that gathers pollen like a honey bee. It only stings in self-defence. This great pollinator is essential for maintaining biodiversity and is even used in greenhouses and within sustainable agriculture operations.

**7. Carrion crow:** bird belonging to the same family as the crow, but of a smaller size. Its caw is hoarse and powerful. It feeds on insects and vertebrates and does not hesitate to rob other nests.

**8. Beech marten:** carnivorous mammal that attacks chickens in coops, especially their eggs. It moves nimbly, climbs with agility and is able to make great leaps.

#### Other vocabulary:

Cat – caterpillar – dahlia – ant hill – swallow – turnip – pick – potato – radish – fox – earthworm.

#### • In the Country

**9. Woodpecker:** bird that has a green upper front body, a yellow rump, a gray-green underside and a red crown. Its cry is very loud and sounds like laughter. It strikes its beak against tree trunks many times in succession.

**10. Fire salamander:** four-limbed spotted amphibian with an elongated body and a long tail. Its preferred habitat is cool, damp forest, with dead wood on the ground.

**11. Earwig:** a polyphagous insect that lives in crevices in the soil or under wood bark. It has two long antennae and a pair of forceps-like mouth parts. While it is equipped with small wings, it hardly ever uses them, except for gliding. It can fly, but rarely does so.

**12. Badger:** distinguished by the black longitudinal bands found on its snout. It can consume annually about one hundred kilograms of earthworms and is capable of building large family tunnels in the hardest of soils.

**13. Tawny owl:** this owl lives in the hollow parts of trees and feeds on rodents. It has two asymmetrically-placed ears, which provides it with excellent directional hearing.

**14. Weasel:** this small animal is easily confused with an ermine. It has a long, slender body, which allows it to squeeze into tiny holes. Its fur is brown on top and white on the lower parts. It feeds on small rodents that it pursues into its burrows and tunnels.

**15. Stag beetle:** beetle whose common name refers to the large mandibles of the male, which resemble deer antlers. It feeds

on dead wood, and is very useful for the decomposition of old stumps and dead roots.

**16. Earthworm:** a hermaphroditic and herbivorous worm that lives in the earth and moves by crawling. It plays a major ecological role, especially for soil aeration and drainage.

#### Other vocabulary:

White wagtail – penny bun – fern – wild boar – blue tit – field mouse – finch.

#### • In the Pond

**17. European tree frog:** this amphibian has bulbous sticky fingertips that enable it to live in the trees. It feeds on flying insects. The male's song sounds like little bells, but can be heard over a radius of 100 m.

**18. Coypu:** also known as the river rat or nutria. This is a very large rodent that can reach over a meter in length and has webbing on its legs. Its den is typically constructed in shallow burrows dug into shorelines. It feeds on grasses, aquatic plants, roots and fruits.

**19. Common moorhen:** also known as the gallinule. Its most recognisable feature is its red beak with yellow tip. Its plumage is dark blue to black, with brown wings and a white spot on each side of the rump. Its feet are not webbed. To feed, it pecks at the surface of the water in emerging vegetation.

**20. Pike:** a spindle-shaped fish covered with fine scales. The sides and back are usually greenish or yellowish. It is recognized as an excellent population regulator in ponds. It is a solitary, sedentary hunter.

**21. Polecat:** a close relative to the weasel, mink and otter. Dark brown with a lighter head. This silent, stealthy and rather discreet mammal feeds on frogs and voles. It dives and swims very well.

**22. Dragonfly:** insect with an elongated body, equipped with two pairs of membranous, generally transparent wings, and whose typically bulky eyes allow it to effectively hunt flies and mosquitoes.

**23. Grey heron:** large wading bird with predominantly grey plumage that is characterized by a long neck, a long, pointed beak and tall legs. It flies with the neck bent back, and feeds on fish, as well as insects and amphibians.

**24. Grass snake:** non-venomous snake that can be identified by the clear pattern on the nape of its neck. It is semi-aquatic and eats amphibians, as well as rodents and lizards. Its size varies from 65 cm to 2 m.

**Other vocabulary:**

Woodcock – harrier – wildcat – mallard – yellow iris – St. John's Wort – water lily – pikeperch – pond terrapin – palmate newt – bloodworm.

**• In and along the River**

**25. Kingfisher:** this bird can be identified by its blue-green plumage, white throat and orange-red chest. Its prevalence is a good natural indicator of the quality of an aquatic environment. Its metallic, sharp whistle is unlike any other bird sound.

**26. Sand Martin:** this bird, the only species of brown-backed swallow, is smaller than the Barn Swallow. It is a virtuoso flyer that generally nests and hunts in close proximity to rivers, feeding on insects.

**27. Muskrat:** a herbivorous rodent that is smaller than the coypu. It will also occasionally feed on fish left on the shore by fishermen. It is an excellent swimmer that can remain submerged and immobile for more than 15 minutes.

**28. Trout:** this fish lives in clear, running water. It is carnivorous and feeds mainly on worms and insects. Its lifespan varies from 7 years to several decades. Some individuals may grow to weigh thirty kilograms.

**29. Crayfish:** a crustacean resembling a small lobster that lives in cold, running water. It is a scavenger that will eat anything: dead leaves, small algae, animal remains and dead fish. It plays an important role in cleaning up river bottoms.

**30. Eel:** fish in the shape of a snake about one meter long. The top of its body is dark in colour and its belly is yellowish. It spends most of its life in freshwater but breeds in the ocean. A scavenger and predator, it shuns the light and therefore feeds at night.

**31. Minnow:** omnivorous and voracious little fish that feeds on algae, as well as worms and insects. Its sides are silvery, its belly is white, and it lives in banks in clear, fresh water.

**32. Otter:** mammal characterized by short legs, webbed and clawed fingers and a long tail. Its diet consists mainly of fish. This is a very fun loving animal that often plays with its prey.

**Other vocabulary:**

Wagtail – sculpin – chinese mitten crab – water snail – ash – iris – dragonfly – duckweed – shrew.

**• Along the Seashore:**

**33. Razor shell:** also known as the Razor Clam. An elongated bivalve mollusc that lives and moves vertically buried in shallow sand. When disturbed, the razor shell buries itself in a fraction of a second. It reveals its presence by way of a small crater.

**34. Common Pied Oystercatcher:** a very noisy bird that is black with a contrasting white belly. It uses its bright red beak to perforate shells. Its nest is located near the seashore and the bird lives in colonies.

**35. Limpet:** edible mollusc with a conical shell. Its head is equipped with two large tentacles to which are attached the eyes. It clings to rocks and crawls to feed on algae.

**36. Hermit-crab:** this is a kind of small, soft-shelled crab that takes shelter in empty shells. There is often a sea anemone on its shell, which it protects in exchange for food. It lives along both rocky and sandy shores, and feeds on dead animal debris.

**37. Jellyfish:** a carnivorous predator that appeared on Earth long before the dinosaurs. The medusa jellyfish consists of an umbrella and tentacles that are covered with filaments that inject a venom that paralyses its prey and causes itches or stings in humans.

**38. Starfish:** marine animal that can be identified by its star shape and 5 arms with suction cups. It feeds on molluscs. When a starfish loses an arm, it sometimes happens that the arm does not properly grow back -- sometimes the arm that grows back is too short or it even grows extra arms.

**39. Flatfish:** with an oval, red-spotted body. It lives on sandy bottoms and feeds on worms and crustaceans. A female flounder can lay up to 500,000 eggs.

**40. Seahorse:** it uses its mouth as a powerful vacuum to catch small crustaceans. It is the male that carries the eggs.

**Other vocabulary:**

Sea anemone – shell – scallop – green crab – smelt – sea – strawberry – gull – lobster – sea urchin – clam – seaweed.

**• On the Seabed**

**41. Shag:** marine bird with black plumage and bottle-green reflections, with a short crest folded forward. It is the king of underwater fishing.

**42. Portuguese Man O' War:** it does not swim, but instead drifts on the ocean's surface using its gas-filled umbrella, pushed by the wind that strikes its crest. It is named after its resemblance to a former Portuguese sailing hat and has very long tentacles that can exceed 40 meters in length and cause severe burns.

**43. White-spotted octopus:** octopus with eight long red arms, dotted with white fluorescent spots. It has a horned "parrot beak" that delivers a strong bite. This nocturnal species feeds on crustaceans and fish.

## Nature Games

**44. Ocean sunfish:** also known as the common mola, it is a large flat fish, with a circular body but no tail, measuring 2 meters and weighing 1 ton. It mainly feeds on jellyfish and fish. Despite its huge size, it is a poor swimmer that gets carried away by the currents.

**45. Thresher shark:** it can measure up to 6 meters and weigh 400 kg. Its identifying features are its large eyes pointing upwards and a tail measuring half its total length. Its body is gray or brown, with a white belly. It sometimes jump out of the water to catch birds.

**46. Sea turtle:** marine reptile that spends its entire life at sea, with the exception of the female, that emerges briefly lay its eggs. It can take up to 50 years for a sea turtle to reach the age of reproduction. This species is able to quickly cross entire oceans. It is also vulnerable and threatened.

**47. Right whale:** this whale is massive, imposing and of a blue-black colour. Its head features a series of odd-looking horny growths. It has large spatulate pectoral fins but no dorsal fins. It can measure up to 18 meters and live 70 years.

**48. Thornback ray:** this ray's distinguishing feature is its flat, diamond-shaped body with wing-like fins, and a row of large spines on its body and tail. It lives on the bottom of the sea and feeds on crustaceans and fish.

**Other vocabulary:**

Beaked whale – sperm whale – coral – dolphin – elephant's hide  
sponge – gurnard – mackerel – penguin – cuttlefish – pout.