

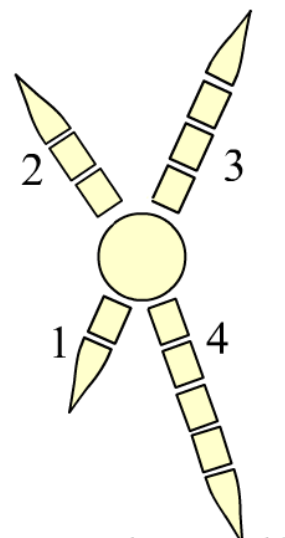
Information Desk

1. Give information about parrots in general

To explain anatomic features and behavioural adaptations plain and simple, it is important to create an illustrative presentation. Listed below you can find some examples on how this can be implemented.

➤ **Mounted birds**

- Skeleton of a whole parrot
 - you can show the **sternum** to explain its role for flying
 - ➔ The disproportionately developed sternum is the base for the strong chest muscles which the birds need to fly
 - show the specialized **claws**
 - the two small claws point towards the centre of the body and the two long claws point away from the body (zygodactyl)
 - this type of feet is evolved in parrots, owls and woodpeckers
 - they use these specialized feet to climb and to handle their food
 - Parrots prefer one foot to manipulate their food just like humans are right- or left-handed



- **beak**
 - is very strong and specialized; the upper beak is curved and downwardly tapered
 - parrots use their beak for climbing, communication, cracking of shells, to eat and strip off plant fibres



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- like humans parrots use their tongue to speak
- in most parrot species there is a horn plate at the end of the tongue
- Lories have a specialized tongue, the end is formed like a brush to feed nectar and pollen



- **beaks compared with tools**
 - different groups of birds evolved different beaks as an adaptation to their diet
 - the beaks can be compared with tools e.g. parrot beaks work like tongs



- different sizes of parrot beaks are adapted to different food
→ use small, medium and big tongs/pliers to compare what kind

of

seeds parrots can feed

- small tongs/pliers are like budgie beaks → for sunflower seeds



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- medium tongs/pliers are like black-capped-parrots → for walnuts
- big tongs/pliers are like macaw beaks → for brazil nuts

→ Another possibility is to have a little competition

- For this, you will need a trained parrot because the bird should be calm and used to people.
- Who can crack the nut faster, a parrot or a human?

➤ **Feathers**

- use different feathers to explain their function, e.g. feathers to fly are asymmetric (wings), the other feathers are symmetric (tail and body)
 - retrices → are used for navigation
 - remiges → allow the parrot to fly
 - plumages → protect the body from cold and rain
- parrot feathers are really colourful
 - **blue** results from melanin
 - in mammals melanin is not blue but it is a dark colour
 - **yellow** results from a special pigment only found in parrots. It is called psittacofulvin
 - psittacofulvin also protects the feathers against bacteria
 - <https://www.sciencedirect.com/science/article/pii/S1096495904001022>
 - **green** is a mixture of yellow and blue
- Reasons for colourful feathers
 - Many parrots live in rainforests. The colourful feathers camouflage the birds, e.g. lorries, if they sit in plants, they look like colourful blossoms
 - Parrots with stronger colours have a better chance of finding a mate
 - Strong colours protect the bird against bacteria



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➤ **Breeding Behaviour**

- Most parrots are cavity breeders. Therefore they use tree hollows.
 - you can use a nest box for demonstration
 - they strip off plant fibres to pad the nest
 - in many parrot species only the female incubates the eggs
- if you do not have parrot eggs in your education department, you can also use plaster eggs
 - Usually they are used by bird keepers if the parrots are not allowed to breed. The keepers exchange the real eggs with plaster eggs



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2. Give Information about threats

The order 'parrots (Psittaciformes)' consists of roughly 390 species. The IUCN lists 170 species (43%) as Near Threatened or higher. Because of that most parrots are listed in CITES Appendix II and some are listed in CITES Appendix I. Parrots are endangered for different reasons. They are poached for their feathers and are sold as pets. Another problem is habitat loss.

➤ **Habitat Loss**

- Most of the parrots live in rainforests. But they also inhabit savannas, mountain forests and plateaus.
 - Especially **rainforests** are going to be destroyed by deforestation.
 - **Some facts:** 30. 000 000 ha will be destroyed every year = 42 soccer fields
 - Where rainforests disappear, large monocultures emerge.
 - palm oil, mostly grown in Asia, especially Indonesia
 - soya, mostly grown in South America
 - ananas, mostly grown in Costa Rica
 - Rainforests in Africa are also going to be destroyed for ores e.g. gold and bauxite.
 - Bauxite is the raw material for aluminium
- Use different cards or models to show how fast the rainforests declined over the previous years.



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→ To explain the influence of habitat loss you can play the **“Catch me!”** game. You can find them in the document **“Activities for children”**

Sort packages:

- prepare a box with a lot of different packages, e.g. chocolate, cookies, care products etc.
- it is important that there are a lot of packages with palm oil but also alternative products without it
- now let the visitors sort the packages
 - they will learn how much palm oil is used in their products at home.



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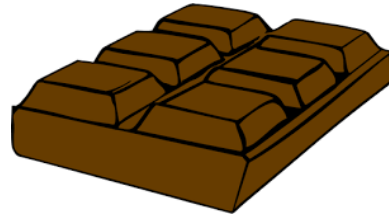
- One of the most common products with palm oil is chocolate cream. Everyone loves them, especially children.
- Therefore try to experiment with different self-made chocolate creams and let your visitors taste them. You should have the recipe available for them.

Chocolate cream:

(one example)

Ingredients:

- about 50 g cocoa
- 100 g almond paste
- 100 g coconut oil
- 50 to 100 g coconut flour
- honey for sweetening as desired



Store everything at room temperature because the coconut oil will be solid. If you mix all together be careful because the coconut flour will thicken the cream very fast.

Sweetness depends on the amount of sugar. We recommend two spoons of honey. You can vary with different kinds of honey. Vegans can use agave syrup instead.

Instead of coconut and almond paste you can also use butter or olive oil and ground almonds or roasted hazelnuts.



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➤ **Poaching**

- In many regions parrots are poached for their feathers and are sold as pets. In order to transport the birds illegally across the country borders the poachers come up with different ideas. For example, they put parrots into empty water bottles.
 - You can show this practice to your visitor's with cuddly parrot toys
- take a scissors and cut off the lower third of the bottle. Now you can put the cuddly parrot toy in the bottle. To close the bottle again push the cut off part back into the upper part.



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