



Fantastic animals of India and where to find them

Teacher Plus Worksheet

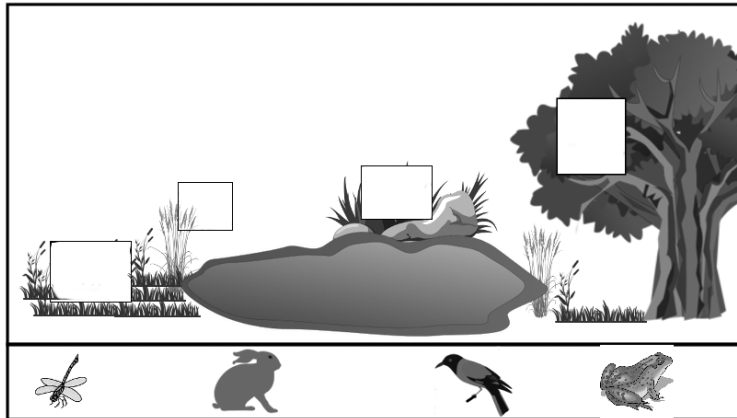
Prepared by -

Suhridam Roy and Jenis Patel

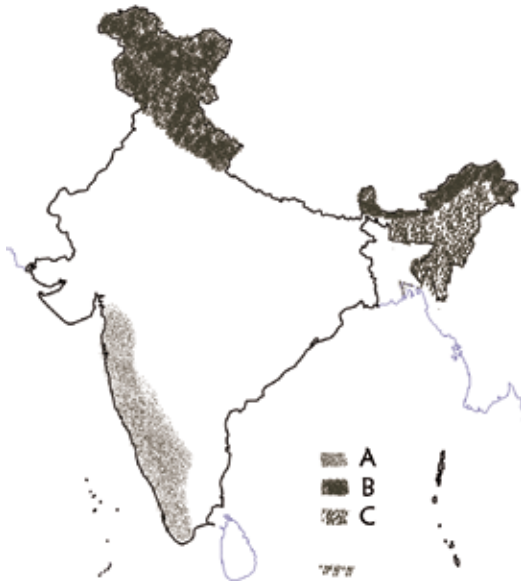
Biodiversity is the variety of different animals and plants found in a particular region or habitat. Just 17 countries in the planet contribute to 70 percent of the world's biodiversity. They are called "Megadiverse" countries. India is one of them, containing 7-8 percent of the world's biodiversity. Indian species checklist contains 410 mammals, 1267 birds, 197 amphibians and 408 reptilians. And more species are being discovered every year!

Additionally, India has a high number of endemic species, which are species that are restricted to our country and found nowhere else. In all, 12.6 percent of our mammals, 4.5 percent of our birds, 45.8 percent of our reptiles, and 55.8 percent of our amphibians are endemic to India.

Can you match the animals and bird to their closest habitat type (e.g. A fish's habit is a pond/water body):



Through this worksheet we would like to introduce you to some of the fantastic animals in India and where you can find them!



What is a biodiversity hotspot?

A biodiversity hotspot is a region that supports high biodiversity and a high number of endemic species and also threatened with destruction because of human activities. Global biodiversity hotspots host 60 percent of the world's species diversity. India has three biodiversity hotspots – The Himalayas, The Western Ghats and The Indo-Burma region (North-East India).

Can you identify the region on the map that represents the biodiversity hotspots?

Write your answer:

Region A: _____

Region B: _____

Region C: _____

Find two charismatic animals from each region (One is given as an example, find two more):

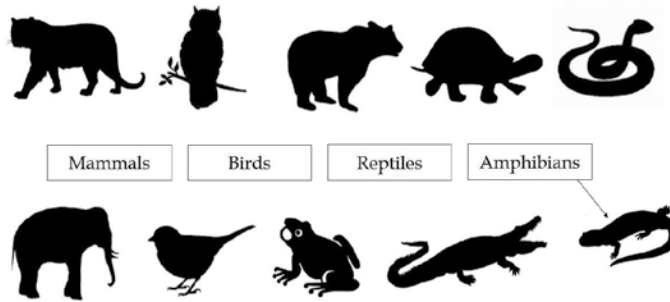
Region A: Lion tailed macaque

Region B: Snow leopard

Region C: Hoolock gibbon

Can you match the following animals with their Class?

Hints: Mammals have hair, birds have feathers and two legs, reptiles have scales and are cold blooded, amphibians spend a part of their life in the water and another part on land, i.e., they are adapted for land as well as water. Draw an arrow (→) from each animal to their respective Class. (For example, Salamander is an amphibian and shown below)



Now, guess a place where you can find mammals like the lion, rhino, elephant, wild buffalo and Hyena.

Everyone thinks of Africa when these animals are spoken about. But did you know that all these animals are also found in India?

Are the Indian animals similar to their African counterparts? Let's explore!

Lions: African lions are heavier, larger (150-250 kg) and with a bigger mane. The Asiatic lion, which is found only in the Gir National Park in the state of Gujarat, is smaller (120-190 kg), has a sparsely formed mane and a distinguished longitudinal skin fold along the belly.

Elephants: African elephants are larger and heavier (4000-7000 kg), have bigger ears, and have much more wrinkled skin. Their highest point of their body is on the shoulder (10-13 ft.), but for Asian elephants, it is on its back (6.5-9 ft.). Asian elephants are smaller (3000-6000 kg) and have smoother skin compared to their African cousins. Both male and female African elephants have tusks. Only male Asian elephants have tusks, and some males have none. African elephants have single dome on the head, but Asian elephants have twin domes. Asian elephants are found throughout Indian forests, from northeastern grasslands to central and southern evergreen and semi evergreen forests. However they are not found in high altitudes.

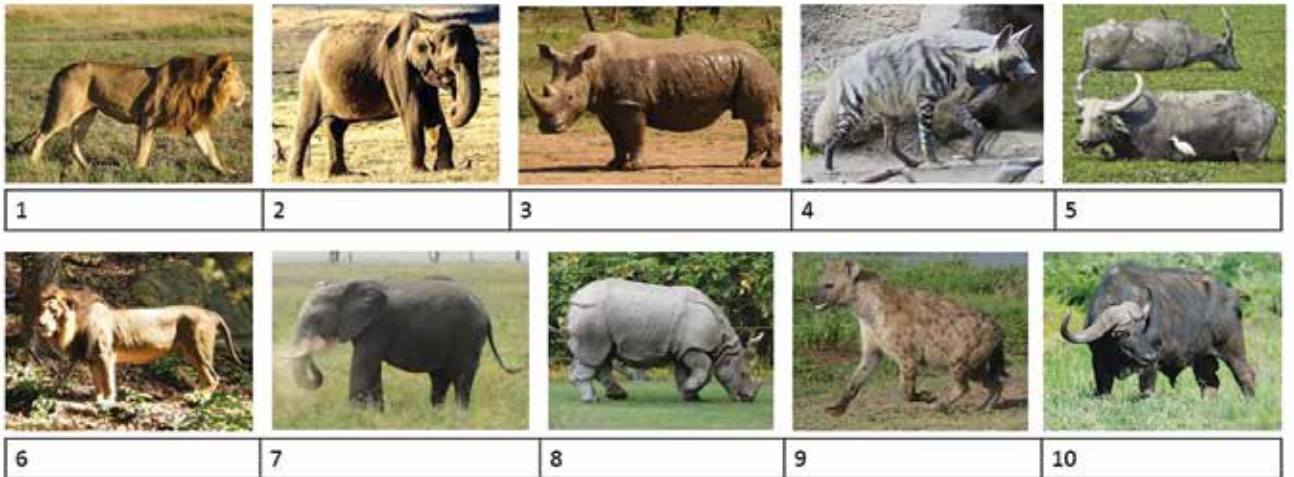
Hyenas: Of the three hyena species in the World, India is home to only the striped hyena, which mainly feeds on the kills of larger predators. Africa has the spotted hyena, striped hyena and brown hyena. The spotted hyena is larger (40-70 kg) than

the striped hyena (22-55 kg) in size and it is an efficient hunter, like lions and leopards. There are many superstitions and misbeliefs regarding hyenas, however they are intelligent and social animals, with females leading the pack. The eerie laughing sound that they are famous for is just part of their social conversation. Hyenas occur in low densities in the arid forests (forests with low rainfall and dry conditions) of northern and north western India.

Wild buffalos: The wild buffalo in India is the wild water buffalo, whereas Africa has the cape buffalo. Water buffaloes are larger (700-1200 kg, body length: 2.4-2.7 m) in size than cape buffaloes (500-900 kg, body length: 1-2 m) and are often found near water. Their horns are erect and point backward and then up, whereas the horns of a cape buffalo are smaller, curved and upward. Wild water buffalos are mainly found in the Bastar region of Madhya Pradesh, Assam, Arunachal Pradesh, and possibly in Meghalaya, Orissa and Maharashtra.

Rhinos: There are five species of rhinoceros that exist today. In India, we can find the one-horned rhino. Its horn is made up of keratin, the same element that forms our hair! The Sumatran rhino was once found in India, but poaching and loss of habitat caused their extinction. The Indian rhino has one horn, while the African rhino has two horns. African rhinos are larger. A fully grown African white rhino can be as heavy as 3600 kg. Indian rhino is smaller and weighs around 2000-2500 kg. Indian rhinos are found in Uttar Pradesh, North Bengal and the Brahmaputra River basin, with the largest population being in Assam.

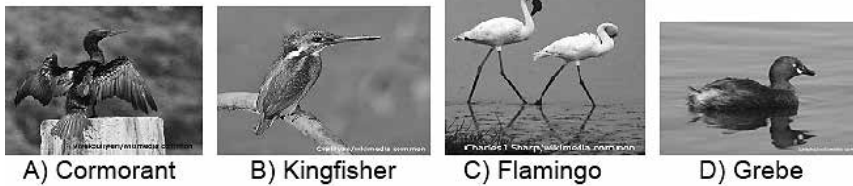
Which one is found in Africa and which one in India? Write India or Africa in the box under each animal.



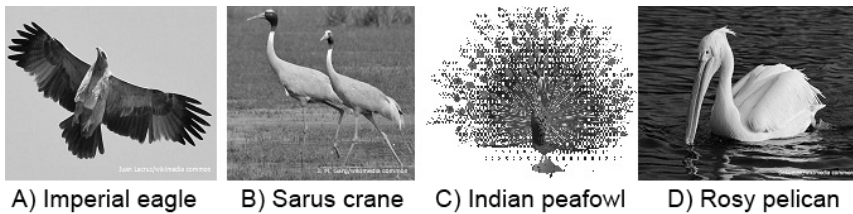
Photos: 1) Swissfrog, 2) Venkat Mangudi, 3) Gossipguy, 4) Just Chaos, 5) Chintamanvik, 6) Edukeralam, 7) D. Gordon E. Robertson, 8) Darren Swim, 9) Amboseli, 10) Gouldingken. All photos are from Wikimedia Commons.

Let's move on to birds and play another game. Can you choose the correct option?

1) Which bird cannot dive?



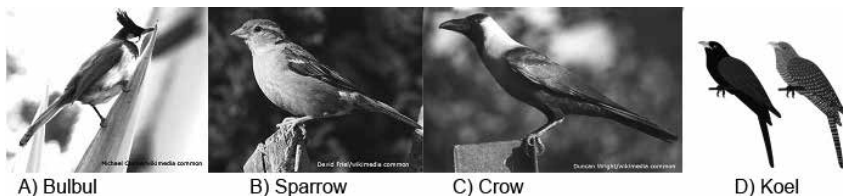
2) Which is the tallest bird in India?



3) Find the odd one.



4) Which bird lays its eggs in the nests of other birds?



Let's play Bingo!!!

How many birds can you find from this list?

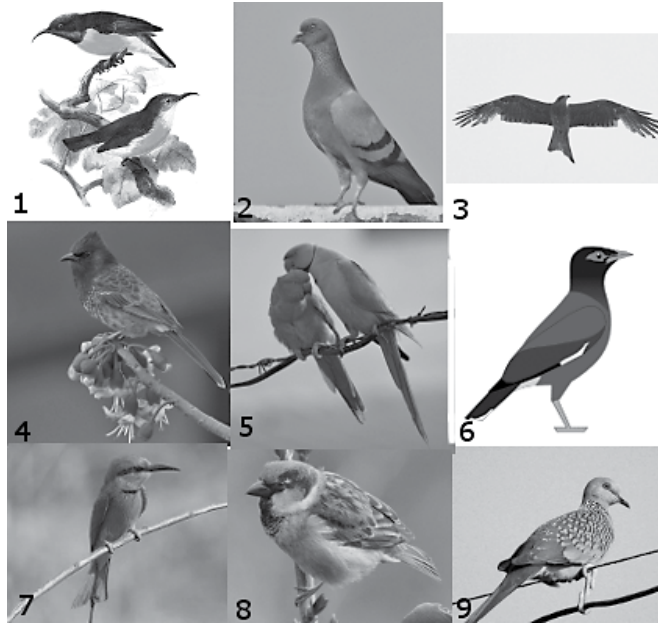


Photo credits: 1) Shelley G E, 2), 4) and 5) J M Grag, 3) Ruben Alexander, 6) Shyamal, 7) Elkhiki, 8) Philip Heron, 9) Ravivaidya. All the pictures were obtained from Wikimedia commons)

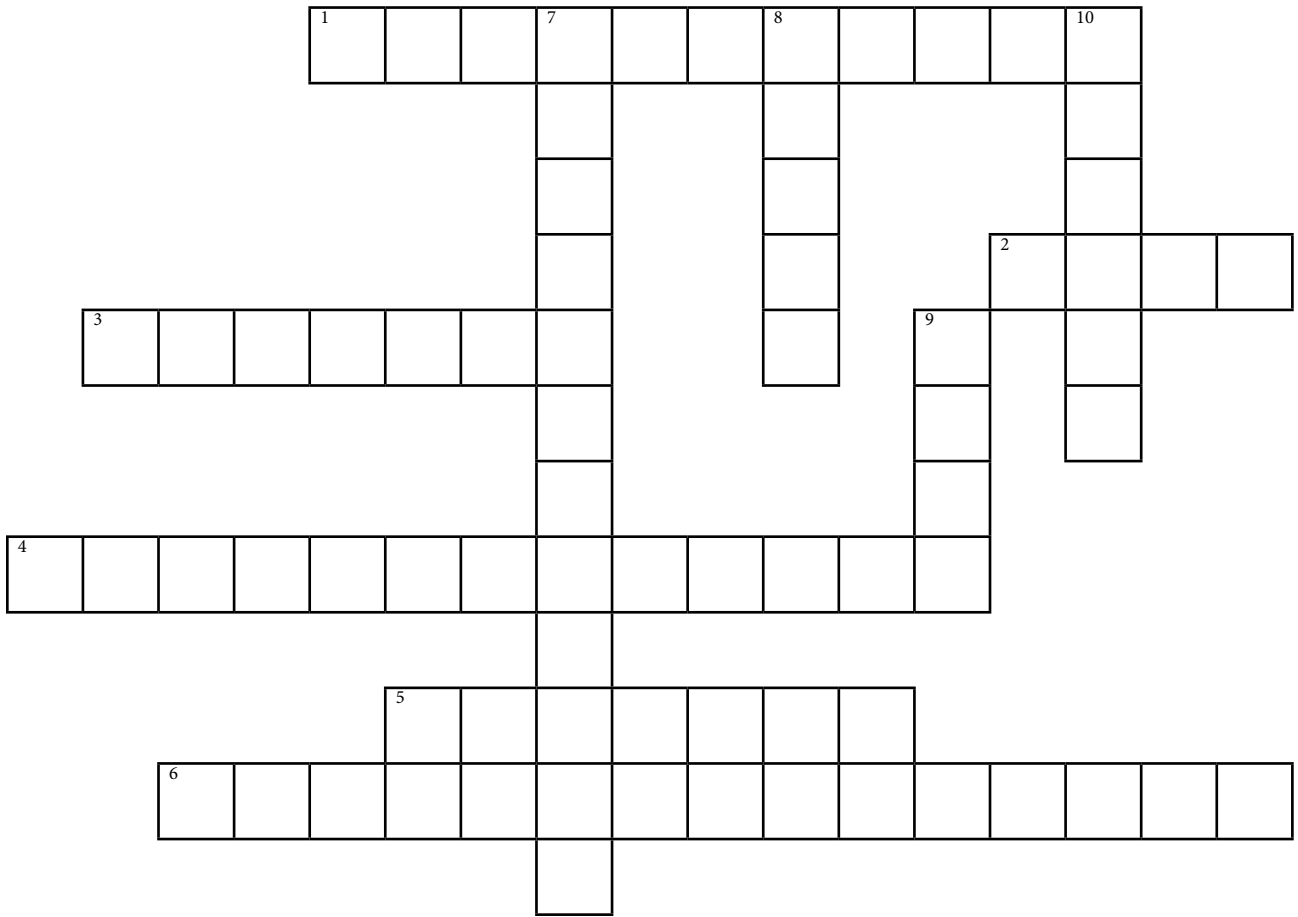
Put a tick mark on a bird that you find in your campus and don't forget to note down *where you found* it (Garden, Electric wire, Playground etc.) and its *behaviour* (preening, calling, feeding, flying, perching etc.)

| Name | Place | Activity |
|------------------|-------|----------|
| 1. Sunbird | | |
| 2. Pigeon | | |
| 3. Black kite | | |
| 4. Bulbul | | |
| 5. Parakeet | | |
| 6. Mayna | | |
| 7. Bee-eater | | |
| 8. House sparrow | | |
| 9. Dove | | |

Match the bird to its food and habitat

- | | | |
|-------------------------|---|--------------------------|
| 1. Bee-eater | A. Agricultural field where rodents are abundant | <input type="checkbox"/> |
| 2. Kingfisher | B. Fig tree with its fruit | <input type="checkbox"/> |
| 3. Owl | C. Agricultural field with fresh crop | <input type="checkbox"/> |
| 4. Flamingo | D. Pond with fishes | <input type="checkbox"/> |
| 5. Hornbill | E. Electric wire from where it's easy to catch bees | <input type="checkbox"/> |
| 6. Scaly breasted Munia | F. Shallow lake with algae | <input type="checkbox"/> |

Now let's do a crossword

**Across**

- 1) Snow covered mountains of India are home of this tiger's cousin, but part of its name suggest that it's a leopard (11 letters).
- 2) Ancestor of the dog, this apex predator of the Indian Grassland ecosystem is known for its social bonding among its pack (4 letters).
- 3) Once this bald scavenger bird was common in India, but now almost 97 percent of its population has vanished due to a drug used as a muscle relaxant and pain reliever (7 letters).
- 4) Apart from humans, this is the only ape found in the

North-Eastern part of India. In Assam, one sanctuary is named after this arboreal mammal (13 letters).

- 5) One of the largest of crocodilians and it has a unique, narrow and elongated snout. The adult males have a large bulb like structure at the tip of their snout called the 'ghara' (7 letters).
- 6) This aquatic mammal is found in the Ganga and Brahmaputra rivers and that is why its name starts with Ganga. It finds its way in the murky waters using echolocation (15 letters).

Down

- 7) This region, considered a biodiversity hotspot, is situated parallel to the west coast of India, and is home to many endemic plant and animal species (12 letters).
- 8) Semi-aquatic, fish eating, furry mammal that has powerful webbed feet (feet like that of a duck) and a long tail, found in riverine habitats. This intelligent, playful animal is also known as a water dog (5 letters).
- 9) Gir forest (Gujarat) is the last Asian refuge of this majestic big cat, which is also known as the king of the jungle (4 letters).
- 10) This marine herbivorous mammal, also known as the sea cow, is the state animal of the Andaman and Nicobar Islands (6 letters).

You have worked hard! Read on for some fascinating facts about the animals of India

- Have you listened to the sounds of an insect known as cricket? A cicada, a type of bug, which inhabits bushes and forests, makes a similar sound but it is much louder and continuous. It produces this sound by rapidly expanding and contracting its exoskeleton! This song is so loud that it might cause temporary deafness if the cicada is too near!



Photo: Akhil Ashok kp

- The Southern Birdwing is the largest butterfly of India and the state butterfly of Karnataka. It is even bigger (14-19 cm) than some small birds like plain prinia (13-14 cm). These butterflies are found in Southern India.



- Have you seen the "Sorting Hat" in the Harry Potter movies? A new species of spider has been discovered from the Western Ghats which resembles this hat. Its appearance helps it to blend in with dry leaves and bark.

- How long can you stay awake? 12 hrs? 18 hrs? A dolphin can stay active for 15 days! It rests half of its brain at a time, thereby staying active for this long! The Gangetic dolphin is a threatened mammal which lives in the river Ganga. Many other species of dolphins are found in Indian seas. They communicate using echolocation. They send bursts of ultrasonic sound, which reflects back and delivers information to the dolphin!

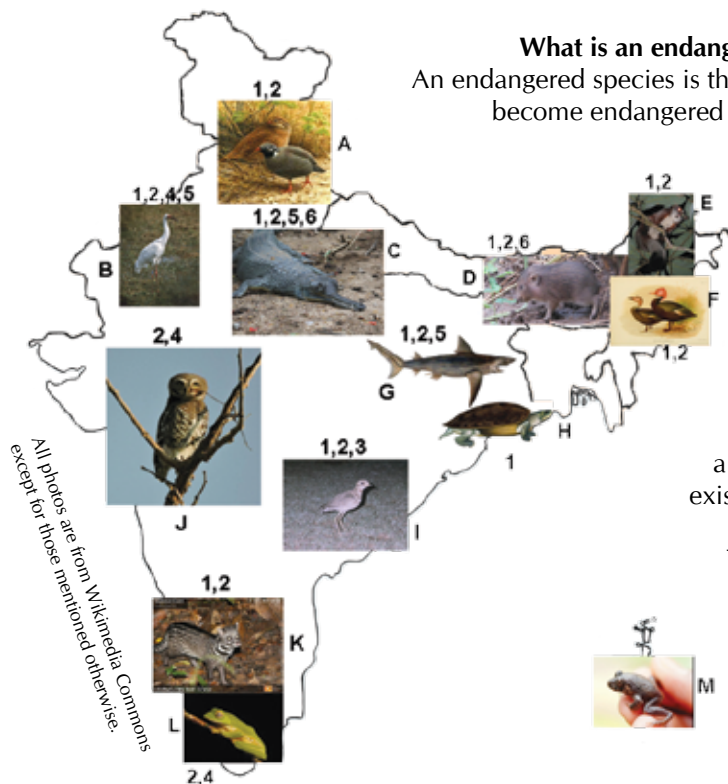


- Do you know that the character of Jatayu in Ramayana is a Red-headed Vulture (also called King Vulture)? Vultures, which were once among the most abundant birds of India, are now at the brink of extinction. Vultures do not hunt, they only eat leftover carcass. They clear the carcass very quickly, cleaning the place and also limiting the spread of diseases.

What is an endangered or critically endangered animal?

An endangered species is that which is at risk of becoming extinct. Species become endangered because of one of several reasons including poaching, hunting, habitat loss, pollution, and climate change. These animals require proper protection and conservation measures for their continued existence. Some species are considered critically endangered; this is when only a few individuals or groups currently survive, and their numbers are decreasing rapidly, so that they are very nearly extinct. Many of the critically endangered animals are feared to be extinct already as no proper evidence in favour of their existence has been found for long.

This is the map of India showing different critically endangered animals and their distribution. The animals are indicated by letters (A, BM) and their names are given on the next page.



The numbers above or below each photo of an animal represents its threat. Each number represents a different threat to that particular animal.

Now count the numbers and add them to the table below the map. For example, 6 is twice on the map, so write 2 in the table for the category of number 6.

| 1 Poaching and hunting | 2 Habitat loss | 3 Invasive* species | 4 Loss of breeding site | 5 Pollution | 6 Livestock grazing | 7 Natural extinction |
|---------------------------|-------------------|------------------------|----------------------------|----------------|------------------------|-------------------------|
| | | | | | | |

*invasive species: these are species which have come from other parts of the world and now occupy natural habitats. Invasive species sometimes compete with native (local) species for space.

From the table, what do you think are the major threats to the continued survival of these animals?

The names of the animals mentioned in the map are –

- A) Himalayan quail, Photo: P Dougalis
- B) Siberian crane, Photo: Bernard DUPONT
- C) Gharial, Photo: Narayan Tikare
- D) Pygmy hog, Photo: Kaus2012
- E) Namdapha flying squirrel, Photo: Prashanth N
- F) Pink headed duck, Photo: Biodiversity Heritage Library
- G) Gangetic shark, Photo: Müller & Henle
- H) Northern river terrapin, Photo: Philbert Charles Berjeau
- I) Jerdon's courser, Photo: P Jeganathan
- J) Forest owlet, Photo: Nimtan
- K) Malabar civet, Photo obtained from <https://causes-prod.s3.amazonaws.com/photos/>, ©2013, ds-lands.com
- L) Anamalai flying frog, Photo: Kalyanvarma
- M) Charles Darwin's frog, Photo obtained from <http://indiabiodiversity.org>

Think of an animal you like the most and write its name:

Now, do you think that animal is safe in its habitat? If not, what probable threats do you think it faces?

Conclusion

India has a diverse and fascinating congregation of biodiversity. Wildlife has been part of our Indian culture, religion, folklore and myths. Even our national emblem features a majestic mammal, the Asiatic lion! 24.16 percent of India's land is recorded as forest. But with increasing population (currently we are standing at more than 125 crore people) and increasing developmental aspirations, the last few remaining forest patches of India are diminishing. Habitat loss and poaching are two of the major threats to species survival in India.

Nature is in a delicate and fine balance, and if tampered, may cause regional as well as global catastrophe. As citizens of India, it is our fundamental duty as enshrined in our constitution to "protect and improve the natural environment including forests, lakes, rivers, and wildlife and to have compassion for living creatures".

With this worksheet, we hope we have taken you on a journey on discovering some of the fascinating wildlife in India and the places they are found. If you would like to share any of your observations and stories on wildlife with us do get in touch with us at edu@ncf-india.org.

Some books and online resources on wildlife in India:

To explore more about fascinating animals and Indian biodiversity you can refer to these books

- 1) Secret lives of Indian Mammals – By Vivek Menon
- 2) The Secret Garden – By Shruthi Rao
- 3) The Book of Indian Birds – By Salim Ali
- 4) Snakes of India, The field guide – Romulus Whitaker, Ashok Captain

Online Resources

- <http://www.Conservationindia.org>
- <http://www.sanctuaryasia.com>
- <http://saevus.in>

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- Ahmed, Javed, Rajashree Khalap, and J N Sumukha. "A new species of dry foliage mimicking *Eriovixia archer*, 1951 from central western ghats, india (araneae: araneidae)." *Indian Journal of Arachnology* 5.1-2 (2016): 25.
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- <http://www.livescience.com>
- <https://animalcorner.co.uk/animals>
- <http://www.animalfactencyclopedia.com>
- <http://indiabiodiversity.org>
- <http://www.iucnredlist.org>
- <http://www.animalplanet.com>
- <http://en.upali.ch>
- <https://www.britannica.com>
- <http://www.worldwildlife.org>
- <https://en.wikipedia.org/wiki>

Jenis Patel and Suhridam Roy are PhD scholars at the Nature Conservation Foundation (NCF), a Mysore based NGO that works in diverse landscapes all over India, from the Western Ghats to the high altitudes of Ladakh and Spiti, and from the Eastern Himalayan forests to the coral reefs of Lakshadweep. NCF conducts scientific research and carries out conservation programs in association with local communities. To know more about NCF visit: <http://ncf-india.org>. The authors can be reached at <edu@ncf-india.org>.

Answers

Can you match the animals and bird to its closest habitat type

- In grass – Hare
- On top of the Grass – Dragonfly
- On rock – Frog
- On tree branch – Bird

What is a biodiversity hotspot?

- Region A: Western Ghats
- Region B: Himalaya
- Region C: Indo-Burma

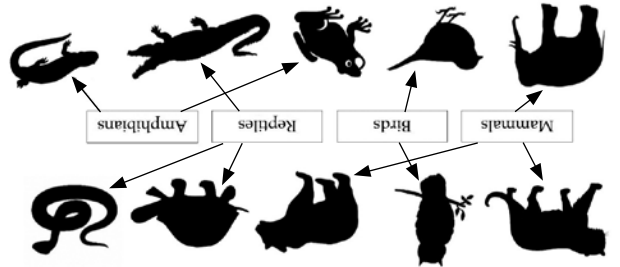
Find two charismatic animals from each region:

- Region A: Malabar civet, Great Indian Hornbill, Bengal Tiger, Indian Leopard, Indian Wild Dog,
- Indian Elephants, Indian Bison, Indian Giant Squirrel etc..

Region B: Lynx, Pallas's cat, Wolf, Red fox, Brown bear, Tibetan antelope, Bharal, Ibex, Tibetan argali, Ladakhurialetc.

Region C: Clouded leopard, Red panda, Sangai, Golden langur, Pygmy hog, Hispid hare, Assam roofed turtle, Rufous necked hornbill, Greater one horned rhino etc.

Can you match the following animals with their class?



Which one found in Africa and which one in India?

- 1. Africa
- 2. India
- 3. Africa
- 4. India
- 5. India
- 6. India
- 7. Africa
- 8. India
- 9. Africa
- 10. Africa

Let's move on to birds and play another game. Can you choose the correct option?

- 1) Which bird cannot dive? Ans: C) Flamingo

Match the bird to its food and habitat

- 1 - E
- 2 - D
- 3 - A
- 4 - F
- 5 - B
- 6 - C

Crossword

- Across:
- 1) Snow leopard
 - 2) Wolf
 - 3) Vulture
 - 4) Hoolock gibbon
 - 5) Charial
 - 6) Gangetic dolphin
- Down:
- 7) Western ghats
 - 8) Otter
 - 9) Lion
 - 10) Dugong

Quiz time

1) Name an amphibian which is looks like a snake and commonly found in the Western Ghats during monsoon?

Ans: Caecilian

2) Is a Himalayan newt a reptile? Ans: No, it's an amphibian

3) Is a turtle a reptile? Ans: Yes

4) Can crocodiles breathe through its skin? Ans: No

5) Where do crocodiles lay their eggs? Ans: Sand

6) Where do frogs lay their eggs? Ans: Water

8) Where do baby frogs (tadpole) spend their time? Ans: Water

2) Which is the tallest bird of India? Ans: B) Sarus crane

3) Find the odd one. Ans: C) Woodpecker

4) Which bird lay it's eggs in the nest of other bird's? Ans: D) Koel