


Animal Bookmark

Overall Details


Objective	<p>To educate the public on Singapore's native biodiversity namely:</p> <ul style="list-style-type: none">• White-collared Kingfisher (<i>Todiramphus chloris</i>)• Bat Hawk (<i>Macheiramphus alcinus</i>)• Oriental Whip Snake (<i>Ahaetulla prasina</i>) <p>To enable participants to explore their creativity by trying their hands at making bookmarks of other animals not listed here via the NParks Flora & Fauna Web.</p>
Summary	<p>To educate the public on the native species through the use of a handmade bookmark. It also encourages the public to read more.</p>
Duration	<p>15 mins</p>
What Participants will need:	<p>Materials:</p> <ul style="list-style-type: none">- Recycled coloured paper (from magazines/newspaper)- Black marker- Scissors- Glue- Ruler 
Remarks	<ul style="list-style-type: none">- Parental supervision when using scissors- Let your creativity flow by exploring other native species of plants and animals on the NParks Flora & Fauna Web:

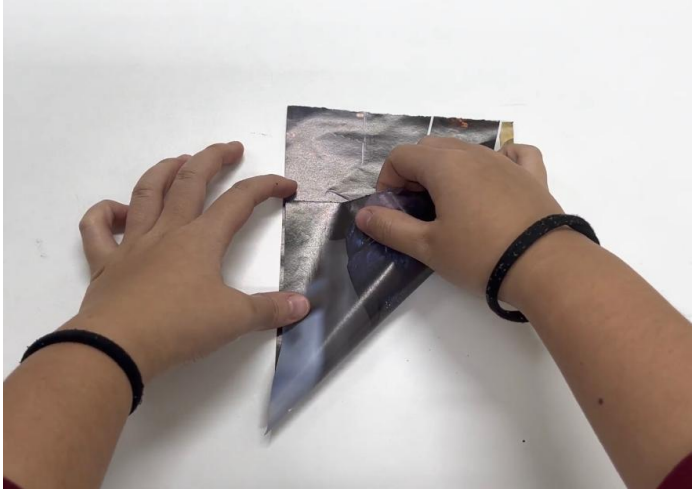
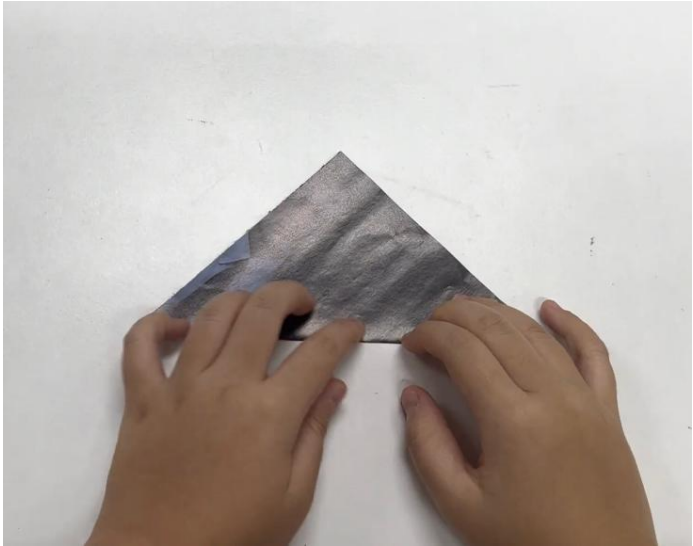
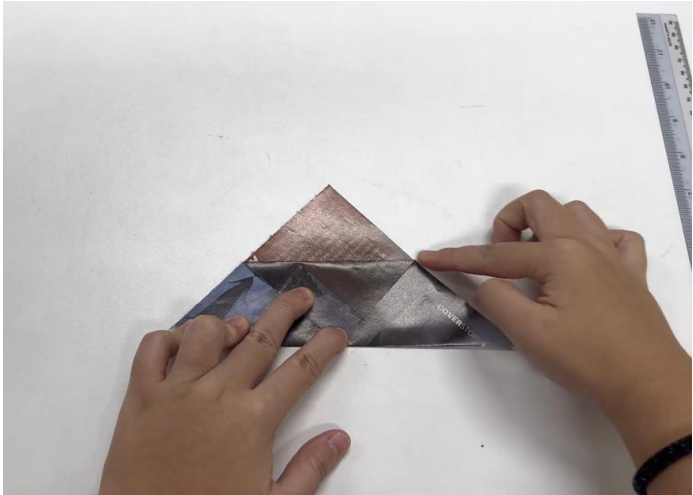


<https://go.gov.sg/ffweb>

Activity Description

a) Instructions (General)

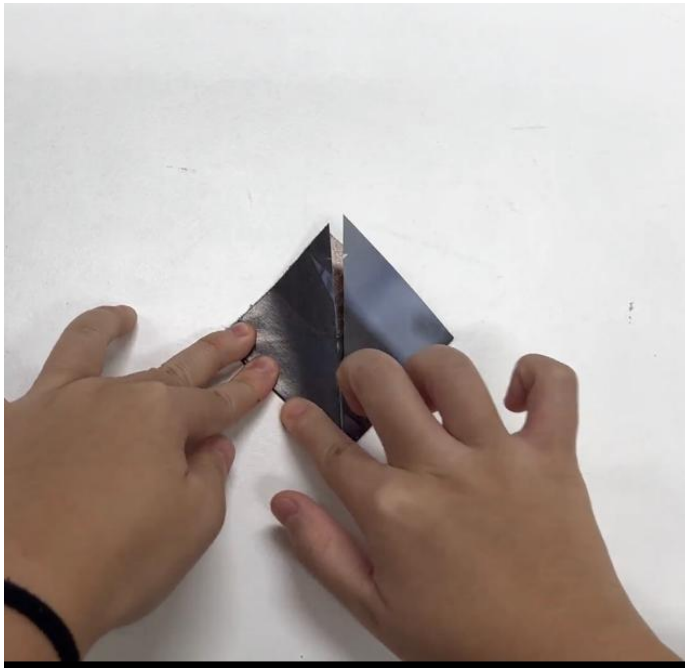
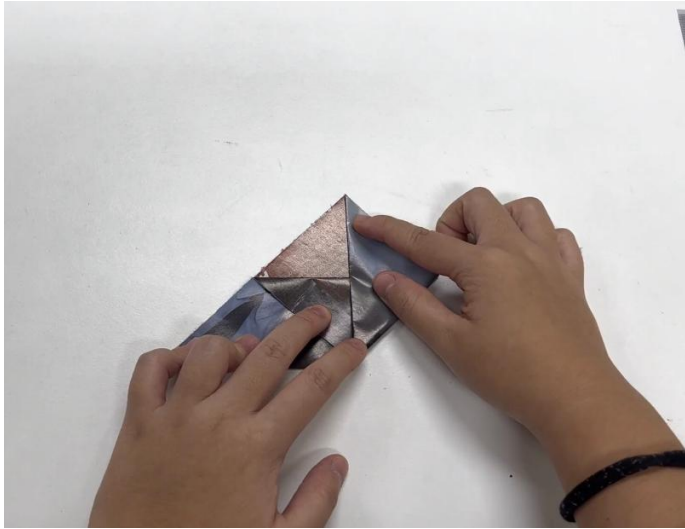
How to make the Bookmark Base		
No.	Instructions	Comments
1	<p>Flip through a magazine and find the corresponding colours of the Bat Hawk:</p> <ul style="list-style-type: none"> - Black/Dark Brown - Yellow - White - Grey <p>Tear out the pages containing the colours above.</p> 	<p>Try your best to find the colour shade which matches your chosen animal!</p>
2	<p>Cut your piece of black/dark brown coloured paper into a square by:</p> <ol style="list-style-type: none"> 1) Bringing the corner of the shorter side to the length of the longer side and aligning them. Crease the paper to form a triangle. 2) Tear off the excess paper. 	<p>Skip this step if you already have a square-shaped piece of coloured paper.</p> <p>Feel free to use any square paper size of your choice.</p> <p>You can refer to the video tutorial for greater clarity.</p>

		
3	<p>Rotate your triangle so the long edge is at the bottom, parallel to the edge of the table.</p> 	You can refer to the video tutorial for greater clarity.
4	<p>Take the top corner of the triangle (1 layer of paper) and bring it down to the long edge.</p> 	You can refer to the video tutorial for greater clarity.

4

Fold the lower right corner up to meet the top right-angled corner. Repeat this for the lower left corner.

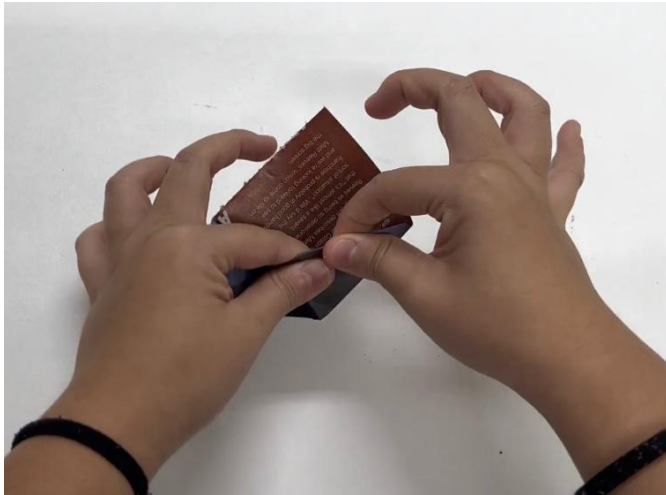
You can refer to the video tutorial for greater clarity.



5



Tuck the 2 corners under the flap created previously and crease.

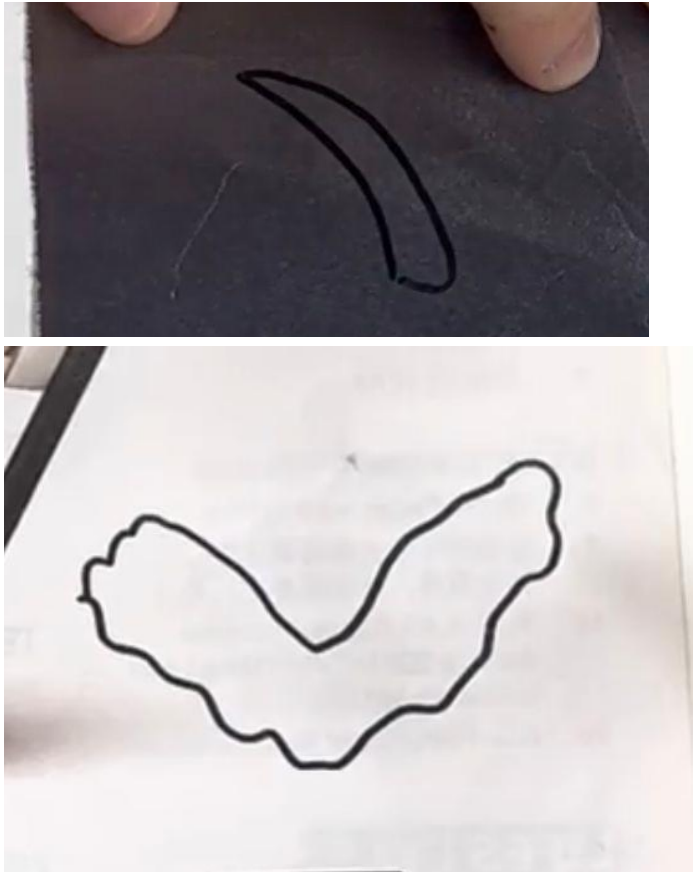
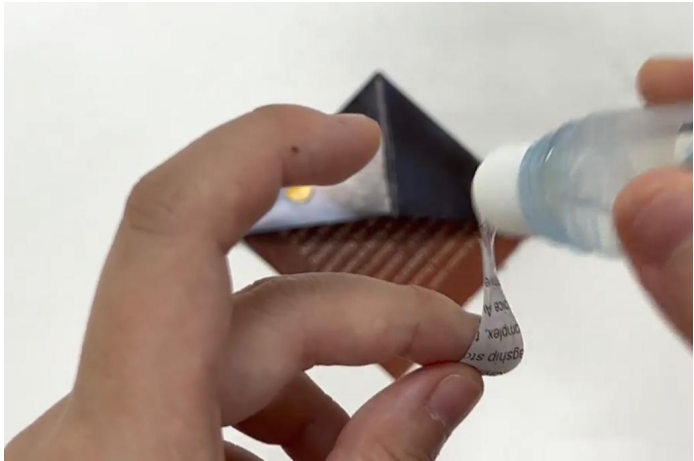
You can refer to the video tutorial for greater clarity.



b) Instructions

Note: This set of instructions only demonstrates how to create the Bat Hawk animal bookmark. You may use your creativity to create the Oriental Whip Snake and White-collared Kingfisher on your own! Photos are attached at the back of this document.

Designing the Bat Hawk animal bookmark		
No.	Instructions	Comments
1	<p>Use a black marker to draw the following shapes on the other coloured magazines you have cut out:</p> <p>Grey magazine paper: Almond-shaped, slightly elongated shape (Beak) Yellow magazine paper: 2 small, round circles (eyes) Black/Dark brown magazine paper: Thin hair strand-like shape (feather) White magazine paper: V shape, squiggly lines</p> <p>Cut out the shapes.</p>  	<p>Note: There is no fixed size for the size of the shapes. You just need to ensure that they are fitting to the size of your bookmark base.</p> <p>You can refer to the video tutorial for greater clarity.</p>

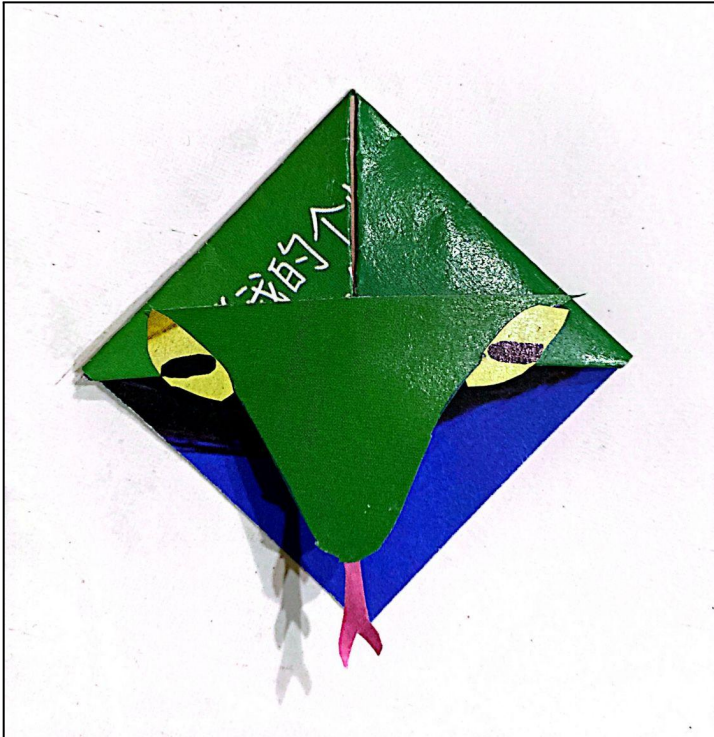
		
2	<p>Glue on the shapes at their respective positions on the bookmark base.</p> 	You can refer to the video tutorial for greater clarity.
3	<p>Use a black marker to draw on the pupils of the Bat Hawk.</p>	You can refer to the video tutorial for greater clarity.



c) Other Animal Bookmarks

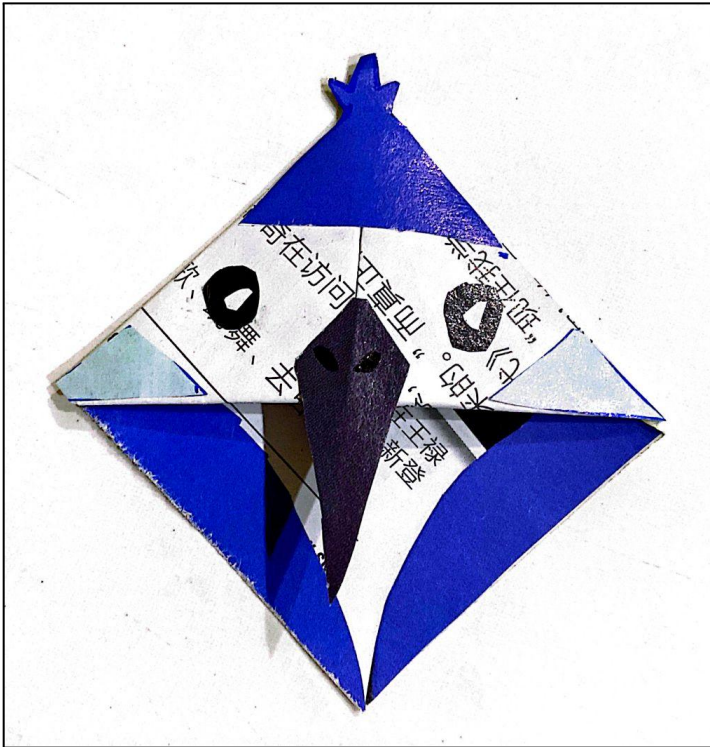
Have a go at making the other animal bookmarks below!

Oriental Whip Snake



Magazine colours needed + Shapes
Bookmark base (Body of snake): Light green/Green Frontal portion of the snake's head: Same colour as bookmark base, triangle with a rounded tip Eyes: Yellow, x2 tear-drop shapes Tongue: Pink, fork-like shape

White-collared Kingfisher



Magazine colours needed + Shapes

Bookmark base (Body of kingfisher): White

Beak: Grey, kite-shaped

Eyes: x2 black, round circles, x2 smaller white, round circles

Body: x2 elongated dark blue semi-circles, x2 small light blue triangles

Top of head: Dark blue, triangle-shaped with 3 "feathers" sticking out from the top of the triangle

Background Information & Fun facts

White-collared Kingfisher (*Todiramphus chloris*)

Physical Characteristics

- Has:
 - An aquamarine/shining cobalt blue upperparts and head
 - Black bill and feet
 - A thick white collar
 - An entirely white underparts
- Medium-sized kingfisher: Measures around 24-25 cm in length
- Both male and female White-collared Kingfishers resemble each other, but the female is more greenish in colour compared to the male



Fig. 1 White-collared Kingfisher perched on a log
(Photo Credit: Saurabh Sawant)

Behaviour/Habitat

- Most commonly sighted kingfisher in Singapore
- Originally a bird of the coast, but it showed great adaptability towards the urban landscape → can now be sighted all over Singapore
- Can also be found in various parts of the world, such as the coastal Middle East, the Indian subcontinent, and Southeast Asia
- Calls produced may vary, but most commonly sound like a series of 5 to 6 harsh 'kip' notes/maniacal laughter

- Often sighted in mangrove habitats and coastal areas such as Sungei Buloh Wetland Reserve and St. John's Island
- Feeds on fish, crabs and other crustaceans near coastal areas
- Areas further inland: Its diet switches to lizards, small snakes, frogs, earthworms and insects like beetles and grasshoppers
- Uses its strong bill and neck to beat larger prey against a branch
- Often dives to pick up exposed animals on the seashore

Conservation Status

- Listed as a species of Least Concern according to the Singapore Red Data Book (RDB) Version 3

Supplementary Information on kingfishers

- One of the brightest coloured birds but are difficult to spot due to:
 - Their ability to fly quickly and low across the surface of the water to hunt for freshwater fish and aquatic invertebrates from riverside perches
- Usually reside near slow-moving river banks or by the side of lakes
- Not all kingfishers in Singapore are native
 - Some of them are migratory¹, such as the Common Kingfisher (*Alcedo atthis*), which is only observed near water bodies locally from August to March annually



Fig. 2 Common Kingfisher (*Alcedo atthis*) eating a fish
(Photo Credit: Ebird)

¹ Migratory: Travel in large numbers to a different place

References:

<https://www.nparks.gov.sg/nparksbuzz/issue-40-vol-1-2019/conservation/meet-the-%E2%80%9Ckings%E2%80%9D-of-singapore%E2%80%99s-skies>

https://eresources.nlb.gov.sg/infopedia/articles/SIP_1509_2009-04-21.html#:~:text=The%20white%2Dcollared%20kingfisher%20is%20widely%20distributed%20geographically%2C%20over%20a.Australia%20and%20the%20Samoan%20islands.

Bat Hawk (*Macheiramphus alcinus*)

Physical Characteristics

- Family: Accipitridae
- Falcon-like bird with angular wings
- Yellowish eyes
- Overall blackish-brown plumage with varying amounts of white on the underside
- Colour of juveniles:
 - Mottled brown
 - Have more white plumage than adults
- Contrasting whitish throat
- Pale legs
- Adults can grow up to 46 cm



Fig. 1 Bat Hawk perched on a branch
(Photo Credit: Amar-Singh)

Behaviour/Habitat

- Inactive during the day, hunts at dawn and dusk
- Inhabit open areas in or near forest and vicinity of bat caves
- Diet comprises mainly of bats, hence its name - also eat small birds such as nightjars
- Feed on the wing and swallow its prey whole
- Display rapid ingestion rates
 - Average of 6 seconds for its prey to reach its stomach after capture
- Has been sighted at Lim Chu Kang and Macritchie Reservoir
- Sightings of it have been rare in Singapore

Conservation Status

- Listed as a species of Least Concern according to the Singapore Red Data Book (RDB) Version 3

Supplementary Information on hawks

- More than 50 different species
- Diurnal (active by day) predatory birds
- No difference in plumage between sexes
- Found on 6 major continents of the world - Africa, America, Antarctica, Asia, Australia and Europe
- Most nest in trees, but some nest on the ground or on cliffs
- Often confused with eagles - eagles are much larger than hawks, but otherwise, they are quite similar
- Generally have sharp talons on their feet, and sharp curved beaks



Fig. 2 Bat Hawk's nest on a tree
(Photo Credit: Ebird)

References:

<https://www.britannica.com/facts/hawk-bird>

<https://animals.net/hawk/>

<https://singaporebirds.com/species/bat-hawk/>

<https://ebird.org/species/bathaw1>

<https://singaporebirds.com/species/bat-hawk/#:~:text=Identification%3A%20A%20falcon%20like%20bird,Diet%20comprises%20mainly%20bats.>

<https://www.nss.org.sg/wildbirdsingapore/indexC.html>

Oriental Whip Snake (*Ahaetulla prasina*)

Physical Characteristics

- Adult: Striking green colour
- Juvenile: Yellow to pale brown
- Adult Oriental Whip Snake can grow up to 2 m long
- Longest species of whip snake
- Eye pupil is horizontally elongated



Fig. 1 Oriental Whip Snake
(Photo credit: Ecology Asia)

Behaviour/Habitat

- Feeds on vertebrates such as lizards, frogs and small birds
- Is mildly venomous, but the venom is too weak to kill humans
- Is active during both day and night
- Extending of tongue suggests that it feels disturbed
- Eggs are retained and hatched in the mother snake's body
- Can be found in the trees and bushes of gardens and parks such as Singapore Botanic Gardens
- Widely distributed in Asia

Conservation Status

- Listed as a species of Least Concern according to the Singapore Red Data Book (RDB) Version 3

Supplementary Information on snakes

- More than 3000 species of snakes in the world
- Carnivorous
- Do not have eyelids
- Smell with their tongues

References:

<http://www.wildsingapore.com/wildfacts/vertebrates/snakes/prasina.htm>

<https://www.nparks.gov.sg/nparksbuzz/jan-issue-2021/facts/oriental-whip-snake#:~:text=The%20Oriental%20Whip%20Snake%20>

<https://australian.museum/learn/animals/reptiles/yellow-faced-whip-snake/>
