

ADELAIDE  
ZOO



# Animal Behaviour



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## Acknowledgements

This resource was developed by:  
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# For the Teacher

## General Information

Welcome to Adelaide Zoo!

The Zoo is a great place for learning. Adelaide Zoo Education aims to support student learning by providing resources to assist classes to have educational and enjoyable experiences at the Zoo.

This booklet will provide a range of activities which may be undertaken by your students during their visit to the Zoo. A map and suggested order of activities is provided to give a logical circuit to travel during the visit.

Animal species change from time to time, and sometimes animals are “off limits” or out of sight during visits, so a flexible approach to completion of activities is recommended.

In planning, please consider whether

- ◆ you would like your class to regroup for lunch, animal feeds, the Discovery Zone or at the Entrance at the end of the visit. If so, relay the times and meeting places to students or supervisors (in writing if possible.)
- ◆ you would like to see the Pandas or use the Nocturnal House: if so, book a time when making the Zoo booking so your students are not disturbed by other school groups.
- ◆ you would like a session with a Zoo Education Officer to support your study theme. Lesson requests are met wherever possible, though at busy times of the year you may need to have a few options with dates to enable a time to be negotiated. Again, this time is arranged at the time of booking your class visit.

If your class is not booked in to a program involving an Education Officer, we will attempt to meet your class at the Entrance on arrival at the Zoo. At this meeting the group will be welcomed and given some information about the Zoo to assist their visit. General behaviour expectations will also be outlined.

Specific information relating to this Zoo Trail will follow for the teachers and for adult supervisors. Please ensure that supervisors have a copy of the relevant pages **before they come to the Zoo** so they can also be mentally prepared to maximise the learning for the students in their care.

# Animal Behaviour – Upper Secondary

## TEACHER INFORMATION

This resource consists of 2 parts:

**General Animal Behaviour Activities:** Information and activities relating to animal behaviour in a variety of species, which is often observable at Adelaide Zoo.

**Specific Animal Behaviour Study:** Information and proforma sheets for a more detailed study on a particular animal (of a particular species.) Students should attempt to complete 3 x 15 minute observation sessions with their chosen animal.

Students should organize their time to include:

Specific Animal Behaviour Study – Observation Session 1

General Animal Behaviour Activities

Specific Animal Behaviour Study – Observation Session 2

General Animal Behaviour Activities

Specific Animal Behaviour Study – Observation Session 3

### Time required

Teachers should consider how much time is available on the day for the General Animal Behaviour Activities. Estimated time for completion of the **General** section is apx 1.5 hours. (including movement about the Zoo, and back and forward to the site of the students' Specific Animal Behaviour Studies). If available time is insufficient, it may be necessary to select some of the activities in this section only. The "Successful breeding behaviour – Spotto!" section could be completed at school.

The Specific Animal Behaviour Study is easiest to complete if students work in pairs. One student can be timekeeper whilst the other records. Both can observe the behaviour and decide how best to categorise it.

Estimated time for the **Specific** section:

3 sessions (30 observations each) with 30 second intervals = 3x15min = 45 minutes

**Limits should be put on the number of students/pairs studying a particular species to prevent large congregations at certain enclosures.**

### Teacher preparation

Teachers should find out which animals will be intensively studied by students before coming to the Zoo and photocopy 3 copies of the relevant Behaviour Study Sheet for each. The proformas for these sheets are at the end of this resource: they are A5 size, with 2 for the same animal on each page.

The choice of animals for which sheets have been prepared are:

- Primate
- Hoofed mammal
- Parrot / pigeon
- Otter
- Penguin
- Mallee fowl
- Meerkat
- Wallaby
- Carnivore (other than Giant Panda)

If students wish to study an animal which is not listed, they should choose a sheet that is “closest” and add relevant behaviours and codes (any not listed on the sheet) as they are observed.

Students should first read the “Background Information” about animal behaviour.

Testing a hypothesis: The “Specific Animal Behaviour Study” could be used by students to test a hypothesis about the animal. Eg. Hypothesis: “During the day time the Giant tortoise will spend the majority of its time eating.” If this is the aim of the study, students should be encouraged to keep their hypotheses simple and testable. Hypotheses should be written down before the students commence this study.

#### Pre-visit ideas

- Students could research the **ethology** (behaviour in its natural environment) of the animal species which will be the focus of their “Specific Animal Behaviour Study”. They could also find out about its place in its natural ecosystem including its relationship to other living and non-living things (biotic and abiotic factors) in its environment.
- Compare the behaviour of two animals which have a similar niche, but in habitats on different continents. Eg. Two small plant-eating herbivores or scavenging birds or large carnivores.
- Consider the role of instinct and learning in the behaviour of animals. Compare the flexibility of behaviour patterns of animals that have no parental care (eg. Mallee fowl, lizards) with those that have extensive parental care (eg. Macaws, orangutans.)

The following words and terms would be useful as prior knowledge to your visit to the Zoo:

Ethology	Instinct	Resources
Dominant	Learning	Subjective
Submissive	Tactile	Objective
Aggressive	Acoustic	
Pecking order	Visual	
Alpha male / female / pair	Ecosystem	
Territory	Habitat	

### Post-visit ideas

- Students should use their raw data to generate results tables and graphs. This is best done using a spread-sheet program. Students should ensure that tables and graphs have good titles, are well presented and are easy to read. Eg. graphs should give summary information without the need for the reader to refer to codes or keys.
- Students should use their results to write a discussion and conclusion about their study.
- Students could write a report on their “Specific Animal Behaviour Study” in terms of the hypothesis they tested
- Students could find out what Zoos SA means by “Behavioural and Environmental Enrichment for Zoo Animals.” What is done for different species, why is it done and how effective is it? Did students notice items in the enclosures which were there to stimulate natural animal behaviour?

## Links to SACSA Framework

### Science- Life Systems

#### *Key Idea*

Students use explanatory models to research the interrelationships within and between individual cells and whole organisms, and the environments which sustain and influence them. [In] [T] [KC1]

- 4.5 Investigates and explains the functioning of living systems from the microscopic to the macroscopic. [F] [In] [KC1] [KC2]
- 5.5 Interprets and uses information about the structure and function of living systems and their relationship to survival of ecosystems. [In] [T] [KC1]

## Links to SACE STAGE 1 BIOLOGY

**Animal Behaviour** is a suitable study topic in either a 1 unit or 2 unit Biology course.

It is one of the possible topics suggested in SACE Board-accredited subject outline for Stage 1 Biology that falls within Area of Study 3: Ecology.

Completion of this zoo based activity will support the requirements for Practical Investigations:

### **Practical Investigations**

Students formulate questions and hypotheses, design and conduct practical investigations, identify variables, collect, analyse, and interpret data, evaluate results, draw conclusions, and communicate their knowledge and understanding of concepts.

. (2011 Biology Subject Outline Stage 1 and Stage 2)

## Background notes for teachers and students on the day.

This resource consists of 2 parts:

- **General Animal Behaviour Activities:** Information and activities relating to animal behaviour in a variety of species, which is often observable at Adelaide Zoo. The Giant Panda observations will need to be made during your class' booked time.
- **Specific Animal Behaviour Study:** Information and proforma sheets for a more detailed animal study on a particular animal (of a particular species.) Students should attempt to fit in 3 observation sessions with their chosen animal.

Students should be equipped with

- a booklet containing information and activities for the **General Animal Behaviour Activities**
- 3 observation sheets and
- a watch or timepiece with seconds, to complete for the **Specific Animal Behaviour Study.**


You will need to plan your time at the Zoo so you can complete the **General** section in between the 3 observation sessions of your **Specific Animal**. Use the Zoo map to help with your planning.


Students are encouraged to discuss their ideas with their partners, to use their observational skills, to read the signs and to talk to Zoo staff if possible.


Try to be as quiet and inconspicuous as possible when observing animal behaviour. This way your behaviour won't influence the results of your study.

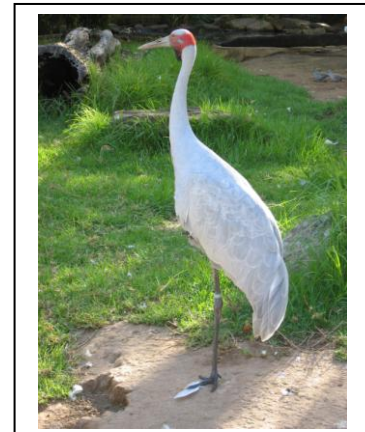
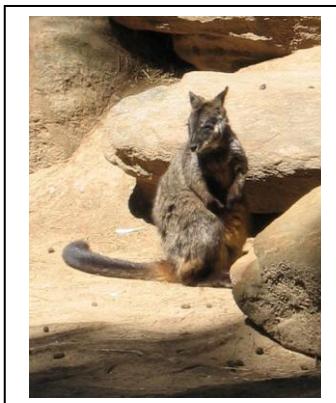
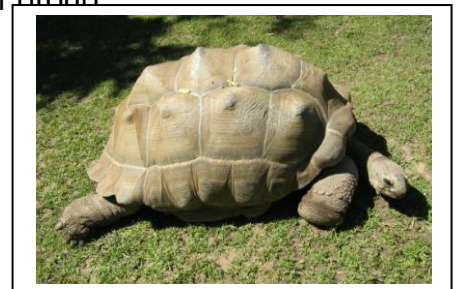
### Key

 Observe carefully

 Discuss and share ideas with your group

 Write down your thoughts

 Did you know?



A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

- M3 Leopard
- K4 Lion
- L11 Lyrebird
- M7 Malaysian Tapir
- P6 Mandrill
- G7, O8 Meerkat
- E12, G6 Otter
- P5 Orangutan
- M13 Peccary
- J8 Pelican
- U13 Penguin
- H5 Pheasant
- L12 Quokka
- S9 Sealion
- K3 Serval
- K7 Squirrel Monkey
- L6 Sun Bear
- I6 Tamarin
- H9 Tasmanian Devil
- P3, M5 Tiger
- N9 White-cheeked Gibbon
- D10 Wallaby
- R9 Water Dragon
- P10 Westpac Envirodome
- G8 Wombat

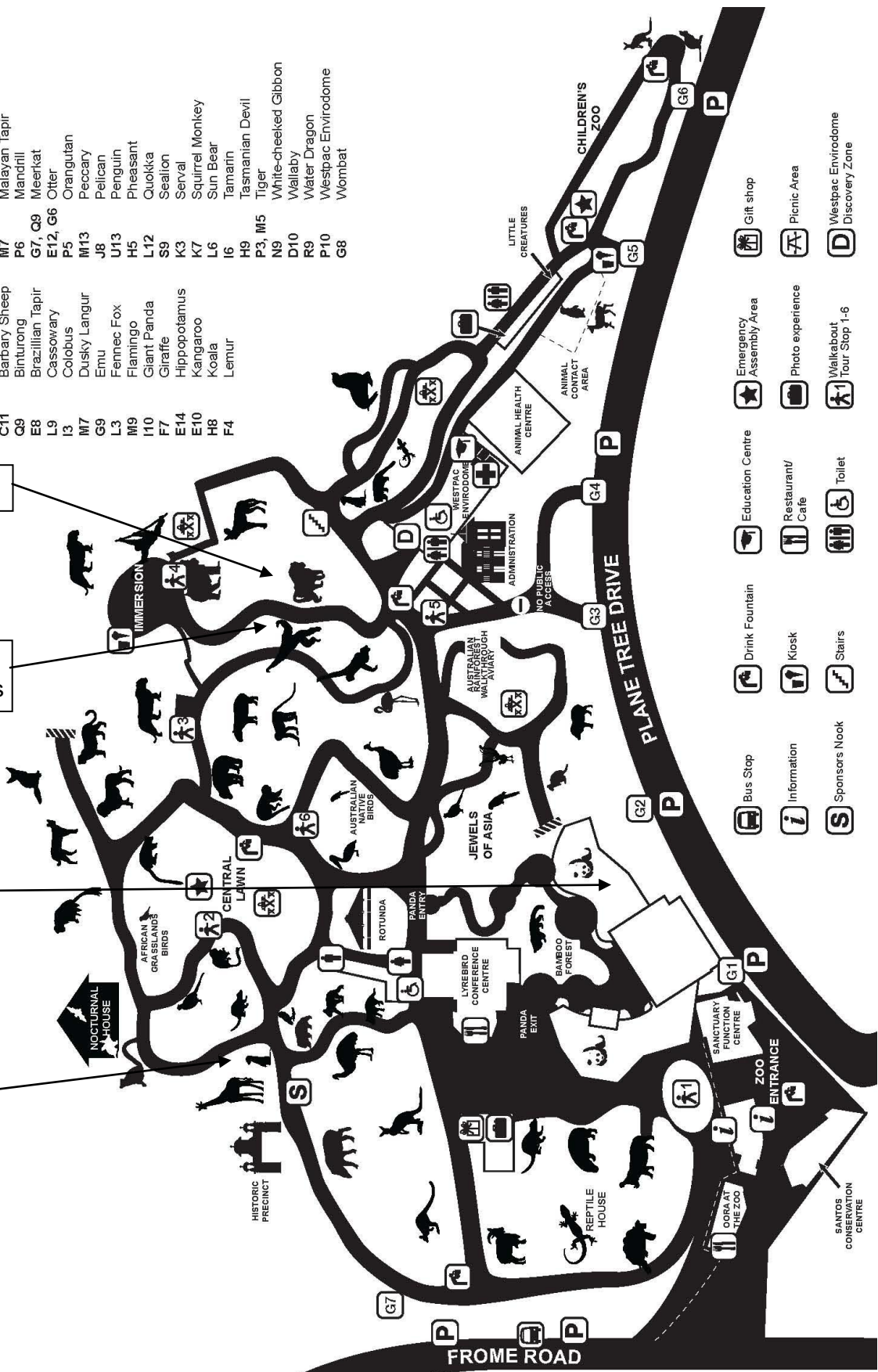
Hamadryas baboon

Siamangs and White cheked gibbons

Giant Panda

Meerkats

1 2 3 4 5 6 8 9 10 11 12 13 14 15 16 17 18



- Gift shop
- Emergency Assembly Area
- Photo experience
- Walkabout Tour Stop 1-6
- Westpac Envirodome Discovery Zone
- Education Centre
- Restaurant/Cafe
- Toilet
- Drink Fountain
- Bus Stop
- Information
- Sponsors Nook
- Kiosk
- Stairs

## ANIMAL BEHAVIOUR – UPPER SECONDARY

### GENERAL ANIMAL BEHAVIOUR ACTIVITIES

#### Background Information

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#### A STRUGGLE FOR SURVIVAL.....

Living in the wild is a risky business. For all species, most of the animals that are born do **not** survive to adulthood.

How do they die?

- Eaten by predators
- Starvation – not able to find or catch enough food
- Drought , flood, extreme temperatures, fire, natural disasters
- Unable to get a suitable shelter
- Diseases and parasites etc..

Animals that are alive in the world today have been born to a long line of SURVIVORS AGAINST THE ODDS. How did they succeed where so many others failed?

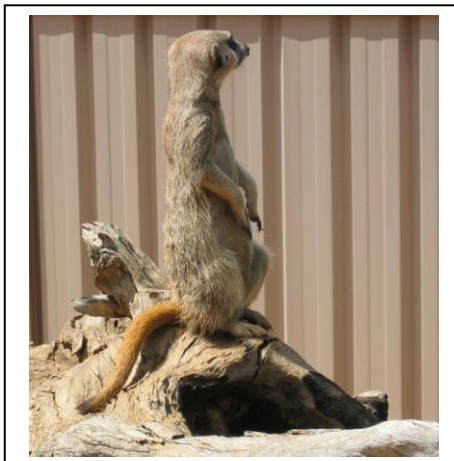
All living things have adaptations which help them to survive and to reproduce in their particular habitat. Being well adapted does not guarantee survival, but it increases the chances.

Adaptations can be thought of as being **Structural** (eg. feathers for flight), **Physiological** (eg. Ability to live without the need to drink water) or **Behavioural**.

Animal Behaviour must be appropriate to each animal's lifestyle. There is no advantage in possessing the genes for a superbly fit and well adapted body if an animal cannot:

- hunt effectively, (if a predator)
- react suitably if predators are around
- defend its territory to obtain sufficient resources, (if a territorial animal)
- communicate with other members of the group, (if a social animal)

Such animals will not survive in the wild.



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## The purpose of animal behaviour

Some of the most important reasons for particular animal behaviours, seen in both wild and captive animals include :

- Getting food
- Claiming and keeping a territory
- Avoiding predators
- Cleaning and grooming
- Communicating with members of the same species
- Group living
- Successful breeding



## Getting food – Giant Pandas



Despite being descended from carnivorous animals, and being classified in the Order “Carnivora,” the Giant Panda’s main food source (about 99%) is bamboo .

Bamboo is plentiful in the Giant Panda’s natural habitat, but it is very low in nutrients, so Giant Pandas must

- eat enormous volumes per day (about 9 – 14 kg)
- sleep or rest for many hours per day whilst digestion occurs
- Exert little energy on unnecessary activities


 Watch these animals for a few minutes.

Comment on their level of activity and what they are doing in the enclosure.



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 Can you see any “behaviour enrichment” structures or items in the enclosure? Draw and label one below and explain what you think its purpose is.



Purpose \_\_\_\_\_





## Territorial Behaviour

Most species live in circumstances where some resources such as food, shelter or water are limited. If an animal cannot find sufficient resources it will not survive.

Animals in many species claim, mark and defend a “territory”. The territory has sufficient resources for the animal and its mate to survive and raise offspring.

Without a territory, most male animals cannot attract females, so will not be able to have offspring. In some wild species, eg.Cheetah, the females are the ones to establish a territory for raising their young.

Territorial behaviour is very common in animal species and in extreme cases, territorial fighting can lead to death. In most cases the animal which is weaker will “give up” – i.e. behave in a submissive manner, which ends the fight and allows the stronger animal to claim the territory.

Animals may mark their territory with smells (urine, faeces, musk), sounds (bird songs, Gibbon family calls), or visual signals (swooping magpies, chest beating chimpanzees.)

## Territorial displays - Gibbons

In the South East Asian rainforest area, two gibbon species, Siamangs and White-cheeked Gibbons, live on neighbouring islands.

Although they are not the same species, they are in close proximity and the 2 groups frequently display territorial behaviour towards each other.



Spend five minutes on the boardwalk where you can see members of both groups.



Describe any behaviour you see which you believe may be territorial. (If you are extremely lucky you may witness their calls as well.)



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In the wild, vision through the rainforest trees where gibbons live is poor, but their voices travel for kilometres. Apart from telling other families to “keep away from our food”, can you see any other important roles of the gibbons’ calling behaviour?

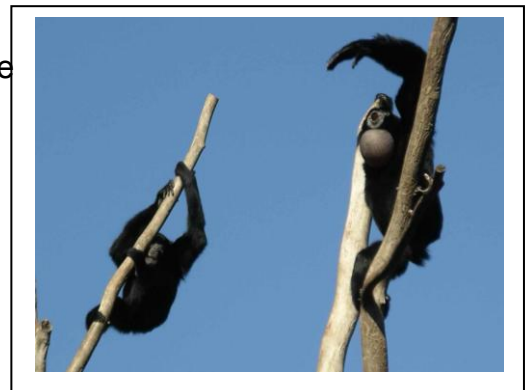


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## Avoiding predators

All animals must behave in a way which minimizes their chances of being taken by predators. Even predators at the top of food chains are born small and vulnerable and easy prey for other predators.

Behaviour which offers protection from predators includes:

- Baby animals staying in their nest or den or close to parents
- Mother (and sometimes fathers, siblings or other group members) being especially protective of young
- Members of social groups taking turns to be “lookout”, while the rest of the group forage or graze
- Nocturnal behaviour
- Being highly alert to unusual sounds, sights and smells – ears twitching, constantly glancing about, sniffing the air, prepared to make a dash to safety.
- Staying hidden and still when not required to do otherwise. This is particularly so in reptiles which require far less nourishment than warm-blooded animals.

## Avoiding predators – Meerkats

Meerkats are small African carnivores which have many natural predators.

They live in colonies or “gangs” which usually comprise an alpha breeding pair and their offspring from a number of litters.



Observe the Meerkats for 5 minutes and describe behaviours that you notice which would help individuals or the group avoid being killed by predators.

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When the alpha female has a litter (usually 2-4 babies) it is mostly the older siblings that bring the babies out of the den, keep them warm, cover them if they sense danger and play with them as they grow. The mother is mainly involved in feeding.



Can you see any advantage in the siblings undertaking these traditionally “mothers” roles?

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## Communication – Why?

Communication between members of a species is essential for many reasons:

- To attract or to locate mates of the correct species and sexual maturity and readiness
- To successfully raise offspring – e.g. feed, protect and teach them survival skills
- To indicate territorial ownership without the necessity for fighting, which would put all participants' lives at risk.

And for social species

- To indicate that an animal accepts its position in the “pecking order” or hierarchy
- To let other group members know where food / water etc are located
- To warn group members of predators
- To combine forces in the face of predators, perhaps protecting young as well
- To enable cooperation and the most efficient use of group resources for the common benefit.



## Communication – How?

Communication may involve any of the senses:



- Visual. This is very important in birds, which have good colour vision. Colours often communicate gender, sexual maturity and breeding readiness. Movement patterns are used to indicate aggression or courtship behaviour. Primates often use body stances, bristling hairs and facial expressions to communicate information.



- Smell (Olfactory). Important throughout the animal kingdom. Pheromones are chemicals released by females of many species from insects to carnivores to indicate readiness to copulate. Many animals mark territories with urine, faeces or musk – a chemical produced in musk glands e.g. on the face of male antelopes or the chest of male Ring tailed lemurs. These species have a much better sense of smell than humans.



- Taste. Ants “taste” each other on meeting to ensure they are from the same colony. Bee behaviour in a hive is dependent on the taste of the queen. Males of hoofed animals, e.g. giraffe, taste the urine of females in their group to determine when they are in oestrus – the only time the female will allow copulation to occur.



- Hearing (Acoustic). Used extensively in the animal kingdom (from crickets to whales) to communicate aggression, territory claims, sexual readiness, submission, warnings and group membership.



- Touch (Tactile). Grooming, stroking, mutual preening etc are often used to communicate group membership, submission, breeding readiness, parental care. This is often seen in social groups e.g. Primates, and in breeding pairs of animals.

## Communications in a group – Baboons

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Hamadryas baboons have a complex social structure. Their survival in Africa – a continent with many species of large predators – is dependent on establishing strong bonds and hierarchies within the group.

In wild groups, harems consist of a dominant male with up to 10 submissive females and some younger non-breeding males. Several harems live together forming a “clan”. At night and when travelling, several clans normally come together forming a “band.”

When threatened by much bigger predators, the dominant males of the clan come together to fight or intimidate them.

They are aggressive animals, capable of inflicting a lot of damage. They are considered one of the most dangerous species in the Zoo.



Observe the baboons in their enclosure for at least 5 minutes. Their red buttocks are an important tool in communication.



Describe the way baboons use their buttocks when approaching another member of the group.



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Do any of the females (smaller with brown fur) have enlarged buttocks? \_\_\_\_\_

This indicates to the male that they are in oestrus and ready to mate. (Mating at this time should result in a pregnancy). Once pregnant, the female’s swelling subsides.

How would you classify these 2 examples of communication? (See the descriptions in the box on the previous page.)



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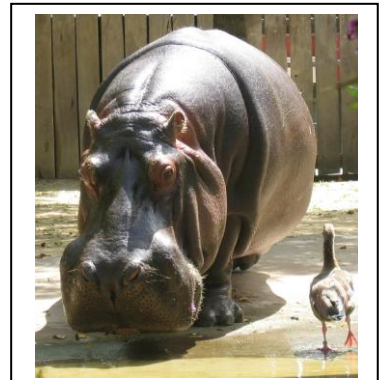
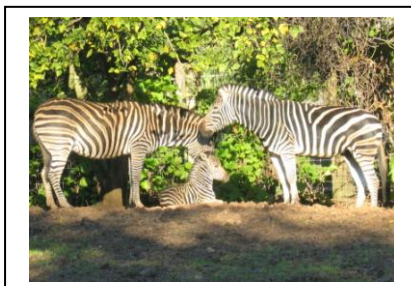
Describe other types of communication used amongst the baboon group.

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## Successful breeding behaviour – Spotto!



Successful breeding in a species involves many aspects.

- A. (For many species) establishing a territory with sufficient resources to survive and raise offspring
- B. Healthy, sexually mature males and females of the same species, finding / attracting each other and mating at a time when the eggs are most likely to be fertilized.
- C. Finding or making a suitable, safe location to lay eggs or to give birth to live young
- D. Giving appropriate parental care to young until they are independent
- E. A way to disperse the young so the chance of inbreeding (breeding with close relatives) is minimal.

Each of these aspects is achieved by sets of behaviours which differ from species to species.



You may observe the behaviours below as you move about the Zoo.

For each one, explain how it assists the species to breed successfully:

Species	Behaviour	Role in successful breeding
Peacock	Display of tail feathers: fanned out, vibrating as peacock slowly turns around.	
Barbary sheep	Young males challenge father. The father clashes horns hard enough to show that he is too strong for the sons (without hurting them while they are immature).	
White cheeked gibbon	Female follows the male as he swings through the tree, then when he sits down, she sits immediately in front of him, leaning against him.	
Tamarin species	Babies (usually twins) cling to father's back as he searches through the branches for food. They are regularly swapped onto the mother for milk feeds.	
Finch species	Males jump up and down on a branch with long pieces of straw or twig in their beaks.	



# SPECIFIC ANIMAL BEHAVIOUR STUDY

## Background Information

It can be difficult to study animal behaviour objectively, rather than subjectively (where the feelings and biases of the observer influence their records).

Scientists have devised a variety of ways to obtain objective data in behaviour studies. You will use one of these methods.

This method requires you to collect a random sample of observations of the animal by recording the behaviour at specific pre-determined times, (ie. every 30 seconds) not when you feel like it or find it interesting. After many of these recordings, the picture of the animal's "normal" behaviour begins to emerge. More observation sessions, including ones at different times of the day and in different seasons, would give better information still.

### Procedure

You should be equipped with 3 Animal Behaviour Study sheets and a watch or way of keeping accurate time.

You will be recording 30 behaviour observations, at 30 second intervals, each session. Organise your time so that the 3 sessions are broken up by intervals in which you do the **General Animal Behaviour Activities**.

Find a good location where you are fairly comfortable and where you can see the animal you have chosen to study most of the time. Try to be fairly quiet and inconspicuous during the study.

Decide which individual animal you will be studying. Make sure you can identify it from the others if they all come together. The same animal must be used for each session.

Fill in the information at the top of the each sheet before you start each session.

Check the codes for the different behaviours. Make sure you know what each behaviour means.

Check your watch and begin. What behaviour is the animal doing **at that moment**? Record the code next to number 1.

Watch your animal between recording times, but you will not be recording anything about this behaviour. At the end of the first time interval, e.g. at 30 seconds, record what the animal is doing at that moment only. Continue until you have 30 observations.

## **Back at School**

After 3 sessions you will have some interesting **raw data**. This needs to be processed to make it user-friendly. A spreadsheet program is ideal for you to make up summary tables of the behaviours (perhaps one for each session and a combined one). Graphs can be generated from these tables and printed. They provide a good basis for a discussion about your animal's behaviour.

### **Remember:**

Tables should

- have an accurate title
- have labels for the rows and columns
- be well-presented – borders, centred etc.

Graphs should

- look good: simple, neat and clear
- have an accurate title, labeled axes, scales etc.
- be easy to read – are different behaviours easy to “read” from the graph or do you need to consult codes or keys to understand the graph?

## **Results**

Your results should include:

- Completed raw data sheets
- Results tables
- Results graphs

## **Discussion**

Discuss your results in terms of :

- overall findings
- how the behaviours observed would assist the animal in a wild situation
- how you think the behaviours of captive zoo animals would compare with those of the same species in the wild
- variations you found in your 3 sessions and possible reasons for these
- whether these are the sort of results you were expecting – explain
- if you were testing a hypothesis, do the results support your hypothesis or not?
- any other comments or ideas you have which are relevant to this study.

## **Conclusion**

Try to summarise this study in a few sentences.

**PARROT / PIGEON BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- F – flying
- PS – preening self
- PA – preening another
- PB – being preened
- V – vocalising
- R – resting / sleeping
- E – eating
- N – in nest
- C – constructing nest
- X – other (specify)

\_\_\_\_\_  
\_\_\_\_\_

General Observations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**PARROT / PIGEON BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
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- C – constructing nest
- X – other (specify)

\_\_\_\_\_  
\_\_\_\_\_

General Observations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**OTTER BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- S – swimming
- W – walking
- B – bobbing / bouncing  
on the spot.
- V – vocalising
- E – eating
- R – resting / sleeping
- O – out of sight (in den)
- I – investigating
- D – defecating
- X – other (specify)

\_\_\_\_\_

\_\_\_\_\_

General Observations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**OTTER BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- S – swimming
- W – walking
- B – bobbing / bouncing  
on the spot.
- V – vocalising
- E – eating
- R – resting / sleeping
- O – out of sight (in den)
- I – investigating
- D – defecating
- X – other (specify)

\_\_\_\_\_

\_\_\_\_\_

General Observations: \_\_\_\_\_

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\_\_\_\_\_

## PENGUIN BEHAVIOUR STUDY

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still   
 Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- S – swimming
- W – walking
- ST – standing still
- P – preening
- V – vocalising
- B – out of sight (in burrow)
- A – alone
- C – contact with another
- G – group activity
- R – resting
- X – other (specify)

\_\_\_\_\_  
 \_\_\_\_\_

General Observations: \_\_\_\_\_

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 \_\_\_\_\_

## PENGUIN BEHAVIOUR STUDY

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still   
 Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- S – swimming
- W – walking
- ST – standing still
- P – preening
- V – vocalising
- B – out of sight (in burrow)
- A – alone
- C – contact with another
- G – group activity
- R – resting
- X – other (specify)

\_\_\_\_\_  
 \_\_\_\_\_

General Observations: \_\_\_\_\_

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 \_\_\_\_\_

## HOOFED MAMMAL BEHAVIOUR STUDY

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- S – standing
- L – lying down
- W – walking
- E – eating
- R – ruminating (chewing the cud)
- M – moving fast (running / jumping)
- SL – sleeping
- I – interacting with another
- X – other (specify)

General Observations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## HOOFED MAMMAL BEHAVIOUR STUDY

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- S – standing
- L – lying down
- W – walking
- E – eating
- R – ruminating (chewing the cud)
- M – moving fast (running / jumping)
- SL – sleeping
- I – interacting with another
- X – other (specify)

General Observations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**MALLEE FOWL BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- F – feeding / foraging
- I – inactive
- M – moving
- B – building mound
- T – temperature testing  
(probing mound with beak – male only)
- E – excavating mound
- D – drinking
- S – sexual behaviour
- V – vocalising
- X – other (specify)

\_\_\_\_\_  
\_\_\_\_\_

General Observations: \_\_\_\_\_

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\_\_\_\_\_

**MALLEE FOWL BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- F – feeding / foraging
- I – inactive
- M – moving
- B – building mound
- T – temperature testing  
(probing mound with beak – male only)
- E – excavating mound
- D – drinking
- S – sexual behaviour
- V – vocalising
- X – other (specify)

\_\_\_\_\_  
\_\_\_\_\_

General Observations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**PRIMATE BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

- Sunny  Overcast  Wet  Still   
 Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

**BEHAVIOUR KEY:**

- RA – resting alone
- RG – resting with others
- S – sexual behaviour
- A – aggressive behaviour
- Sb – submissive behaviour
- Av – avoidance behaviour
- P – play
- C – climbing
- W – walking
- Cy – contact with young
- Ca – contact with adult
- Gs – grooming self
- Ga – grooming another
- BG – being groomed
- F – feeding
- I – interacting with other species
- X – other (specify)

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

General Observations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**PRIMATE BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

- Sunny  Overcast  Wet  Still   
 Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

**BEHAVIOUR KEY:**

- RA – resting alone
- RG – resting with others
- S – sexual behaviour
- A – aggressive behaviour
- Sb – submissive behaviour
- Av – avoidance behaviour
- P – play
- C – climbing
- W – walking
- Cy – contact with young
- Ca – contact with adult
- Gs – grooming self
- Ga – grooming another
- BG – being groomed
- F – feeding
- I – interacting with other species
- X – other (specify)

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

General Observations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**MEERKAT BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

\_\_\_\_\_ Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- W – walking
- S – sitting on hind legs
- St – standing on hind legs
- V – vocalising
- E – eating
- R – resting / sleeping
- O – out of sight (in den)
- I – investigating/  
exploring
- D – digging
- G – grooming
- X – other (specify)

\_\_\_\_\_  
\_\_\_\_\_

General Observations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**MEERKAT BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

\_\_\_\_\_ Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- W – walking
- S – sitting on hind legs
- St – standing on hind legs
- V – vocalising
- E – eating
- R – resting / sleeping
- O – out of sight (in den)
- I – investigating/  
exploring
- D – digging
- G – grooming
- X – other (specify)

\_\_\_\_\_  
\_\_\_\_\_

General Observations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

## CARNIVORE BEHAVIOUR STUDY

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- R – resting
- G – grazing
- Gs – grooming self
- Go – grooming other
- BG – being groomed
- H – hopping
- S – sexual behaviour
- P – pouch cleaning / investigation
- X – other (specify)

\_\_\_\_\_  
\_\_\_\_\_

General Observations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

## WALLABY BEHAVIOUR STUDY

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

Time Interval Chosen: \_\_\_\_\_

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

**BEHAVIOUR KEY:**

- R – resting
- G – grazing
- Gs – grooming self
- Go – grooming other
- BG – being groomed
- H – hopping
- S – sexual behaviour
- P – pouch cleaning / investigation
- X – other (specify)

\_\_\_\_\_  
\_\_\_\_\_

General Observations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**CARNIVORE BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

**BEHAVIOUR KEY:**

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

- W – walking
- Rg – resting/sleeping on ground
- Rt – resting/sleeping in tree
- E – eating
- V – vocalising
- U – urinating
- D – defecating
- O – out of sight
- C – climbing
- I – investigating / exploring
- In – interacting with another
- X – other (specify)

\_\_\_\_\_  
\_\_\_\_\_

**CARNIVORE BEHAVIOUR STUDY**

Name of observer: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Species of study animal: \_\_\_\_\_

Individual observed (identifying features): \_\_\_\_\_

Sex: \_\_\_\_\_

**WEATHER:**

Sunny  Overcast  Wet  Still

Hot  Warm  Cold  Windy

**BEHAVIOUR KEY:**

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

- W – walking
- Rg – resting/sleeping on ground
- Rt – resting/sleeping in tree
- E – eating
- V – vocalising
- U – urinating
- D – defecating
- O – out of sight
- C – climbing
- I – investigating / exploring
- In – interacting with another
- X – other (specify)

\_\_\_\_\_  
\_\_\_\_\_