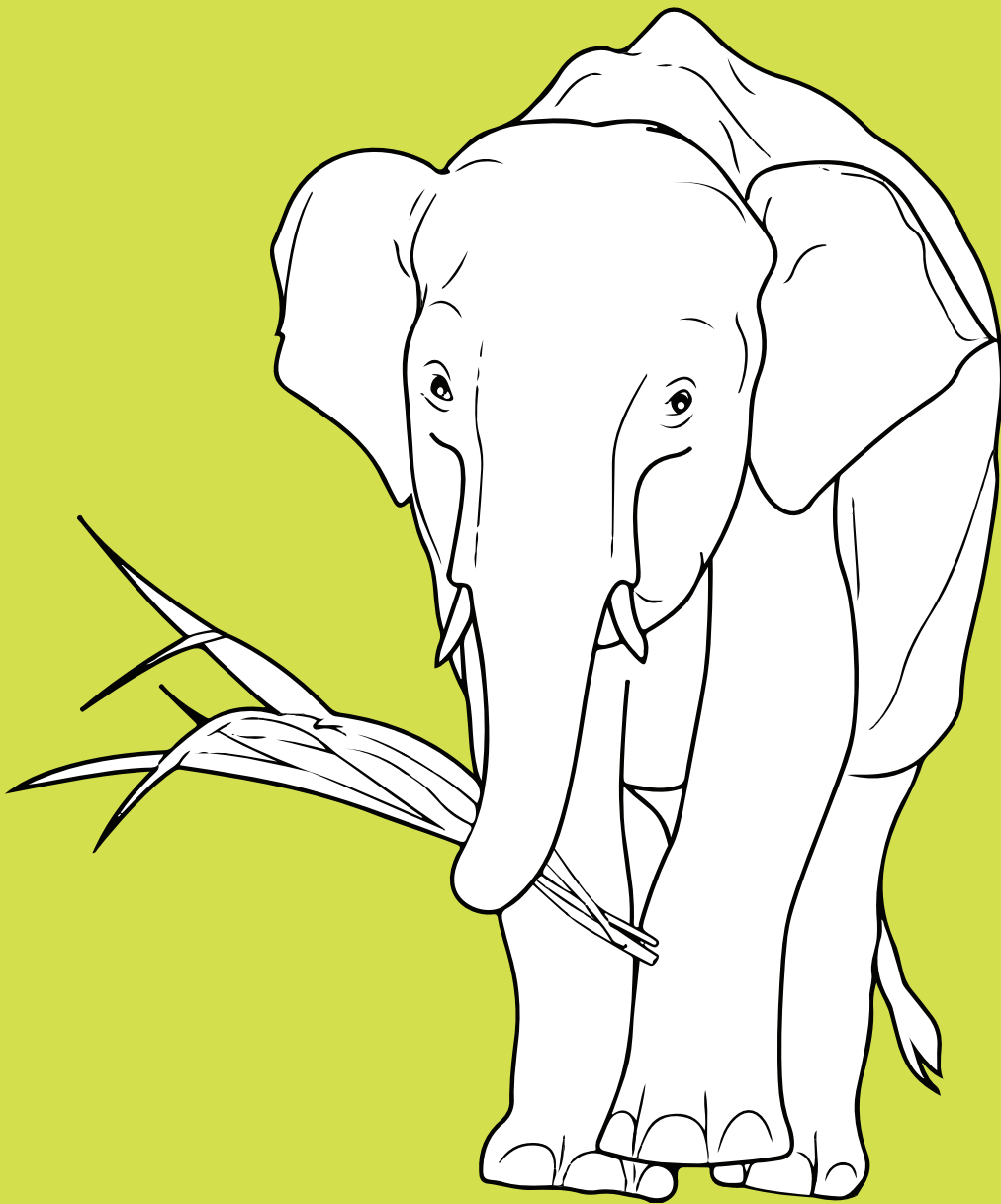


Auckland Zoo Education Pack

Secondary



Theme: Food at the zoo

Zoo Lesson plan

Theme: Secondary (ages 12-17) **FOOD AT THE ZOO**

What will I learn: How both nutrition and behavioural enrichment are important for all animals!

Inspire

Nutrition is important for animals because it gives them all of the nutrients they need to stay healthy. Behavioural enrichment provides animals with stimulating opportunities and challenges to enhance welfare at the Zoo.

- Watch zookeeper Georgia feed our [quirky and curious longfin eels](#), and zookeeper [Sam prepare a summer treat for squirrel monkeys!](#)
- Something as simple as mud can be perfect enrichment for animals like rhinos. [Watch Inkosi enjoy a wallow in his mud bath.](#)
- Our endemic kea require special enrichment to keep their clever brains working hard. Watch birdkeeper Devon prepare some [tricky enrichment items for our curious kea!](#)
- Watch Ian, our stores coordinator [take you on a tour](#) to find out what it takes to provide food for all of our animals at the Zoo.

Explore

Not all animals eat the same food. Explore [Auckland Zoo's website](#) and discuss the words "**herbivore**", "**carnivore**" and "**omnivore**". How are they different and why? Use the template **Our Food-Fill Your Buckets** to fill in what types of food three of our animals may eat in a day. (Resource attached)

Log the foods you eat in our **Eat Me Rainbow** and see what superpowers you are getting. What vitamins and nutrients are provided for by the rainbow? How does our bodies use these vitamins and nutrients? (resource attached)

What happens after the animals eat their food? Your understanding of different diets might help. Can you guess **Who's Poo?** (Resource attached).

Zookeepers at Auckland Zoo take exceptional care of their animals. To do this, they need to understand an animal's needs and adaptations. They use the [5 Domains model of Animal Welfare](#) to help them get a complete understanding of the animal they are caring for and then use that information to design appropriate behavioural enrichment and diets.

Choose an animal to investigate and find out:

- What does it need? *Consider as many of the points under the 5 Domains model of Animal Welfare as you can to make your understanding as comprehensive as possible.*
- What does it have on its body to help it get what it needs?

Create

Behavioural enrichment provides our animals with variety and challenges.

Browse this Auckland Zoo [Animal Enrichment playlist](#) and find out just how different enrichment can be. What do Zookeepers have to think about when designing enrichment for their animals? Using the information you gathered above, design an enrichment item for your chosen zoo animal and explain why it suits your animal.

Create a behavioural enrichment item for your pet at home! Follow the steps in our [make an enrichment item](#) video.

Reflect

Discuss why it is important to provide behavioural enrichment for all of our animals and why should it match their abilities/adaptations? Use the template **BE Matching Exercise** to see if you can match an enrichment item with an animal at Auckland Zoo. (Resource attached)

Sometimes the stuff we think of as gross and disgusting actually has a really important role to play. Reflect on this idea as you watch this [TED ed talk - Dead Stuff: the secret ingredient in our food chain.](#)

Act

Just like other animals, we can improve our nutrition by changing what we eat. Our food choices can also have an effect on the environment.

- [Design a nutritionally balanced meal.](#) Extend yourself and plan your meals for a week.
- Make a pledge to eat healthy and make sustainable food choices as much as you can. Here are some ideas: [Be a Weekday Vegetarian](#), use the [Best Fish Guide](#), buy local, reduce food waste.

Curriculum links:

Lessons include a range of aspects from the main strands of the NZ Curriculum - English, The arts, Health and physical education, Learning languages, Mathematics and statistics, Science, Social science and Technology.

They also consider the Key Competencies - Thinking, Using language, Symbols and text, Managing self, Relating to others, Participating and communicating.

Auckland Zoo
Wildlife conservation
science at work

Teachers Notes

Learning Outcomes

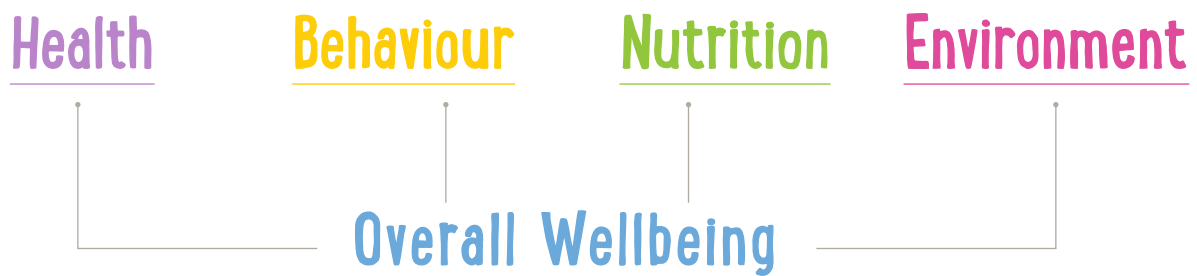
- Taking care of our **animals wellbeing**
- Taking care of **our wellbeing**

Here at Auckland Zoo we care for our animals everyday to look after their overall wellbeing.

This is big job as every individual animal in our care needs different things to be in a state of positive welfare.

To help us get this right we rely on the **Five Domains Model of Animal Welfare**. This model is based on the latest science in wildlife conservation. It is widely adopted as best practice in zoos around the world that are accredited members of the World Association of Zoos and Aquariums (WAZA), as Auckland Zoo is.

A simplified version of the Five Domains Model is shown below. The four domains of Health, Behaviour, Nutrition (Food) and Environment are the areas in which we, as animal carers, can take positive action that has an impact on overall wellbeing.



This **Wellbeing Resource Kit** is designed to help you and your students understand how complex it is to look after animals really well within a zoo context.

The activities in this kit also include opportunities to focus on students' own wellbeing. There are parallels to be drawn but also differences to consider in our collective journey to wellbeing.

Each of the resources in this kit is titled indicating which of Five Domains is the focus of the activity:

Our Health
Our Behaviour
Our Food (Nutrition)
Our Environment
Our Wellbeing

Zoo Lesson plan

Our Food (Nutrition)

We refer to food as nutrition here at Auckland Zoo.

It is vital that our animals receive all the nutrients they need in their diet to stay healthy.

1. Eat Me Rainbow

- Use the worksheet provided for students to record what they eat in a day or week.
- Reflection question: What superpowers does my food give me?

Red

- Red peppers
- Tomatoes
- Strawberries
- Raspberries
- Watermelon
- Apples
- Cranberries
- Cherries
- Grapes
- Red onion
- Pomegranate
- Beetroot

**Healthy heart,
healthy skin, run fast**

Orange/Yellow (Vitamin C)

- Orange
- Grapefruit
- Lemon
- Mango
- Papaya
- Carrots
- Sweet potato
- Squash
- Corn
- Melon
- Orange/yellow pepper
- Pineapple
- Peaches

**Healthy joints,
immune system,
eye health, healthy
heart, night vision,
jump higher**

Green (Vitamin K)

- Broccoli
- Kale
- Romaine lettuce
- Brussel sprouts
- Green grapes
- Green apples
- Asparagus
- Spinach
- Green beans
- Peas
- Courgette
- Avocado
- Edamame

**Energy immune,
bones & blood
healthy, tissue healing
(cuts and bruises 25%)**

Blue/Purple

- Blueberries
- Blackberries
- Red grapes
- Purple cabbage
- Eggplant
- Plums
- Prunes
- Figs

**Stay young, good
memory, brain power**

Brown/white

- Cauliflower
- Garlic
- Onion
- Mushrooms
- Potatoes
- Parsnips

**Bones strong,
healthy heart**

2. Our Food Poster

- Use the poster as a discussion prompt as well as a chance to learn the terms herbivore, carnivore, omnivore.

3. Our Food – Fill your buckets

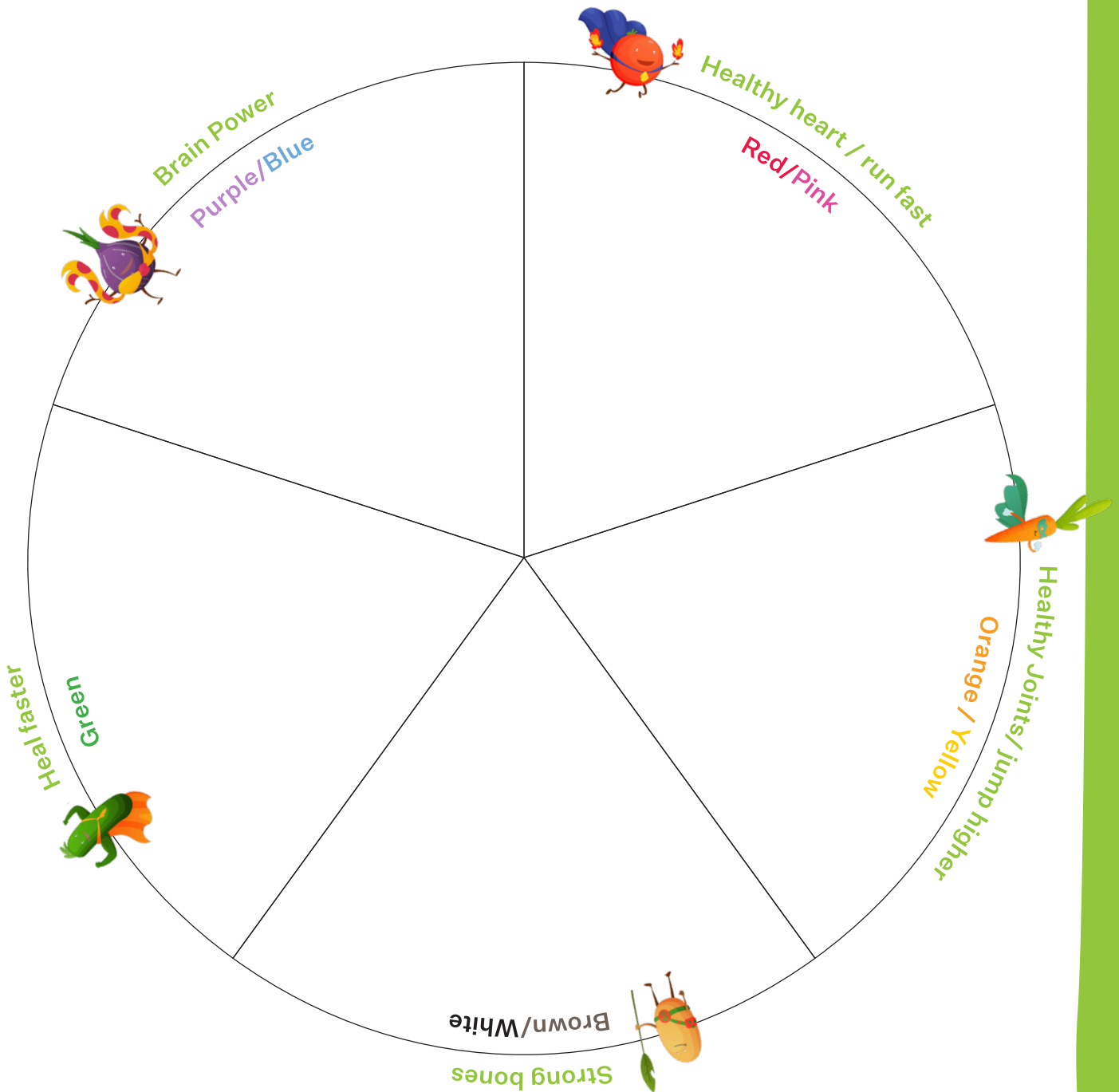
- Discuss what food would go into each animal's bucket

OUR FOOD

Eat Me Rainbow

Different foods give us different superpowers – log the foods you eat to see what powers you get from your food

Name: _____

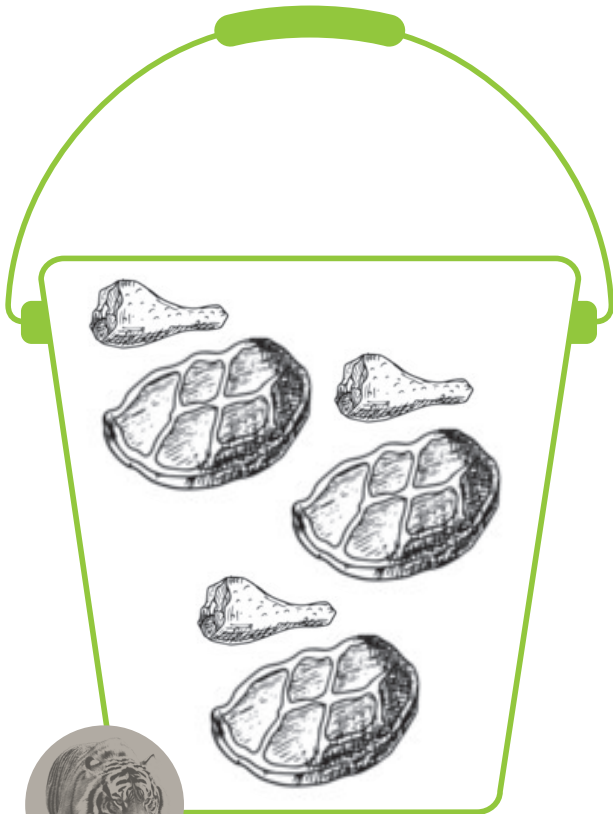


Try to eat as many colours as possible and get all of the superpowers.
Draw a picture or write what you ate in each colour section above.

OUR FOOD

Nutrition

The science that deals with food that is necessary for health and growth



Tiger

- 3kg of meat



Spider Monkey

- 1 cup of fruit
- 1/2 cup of pellets
- 1/2 cup of chickpeas
- 3 cups of veges



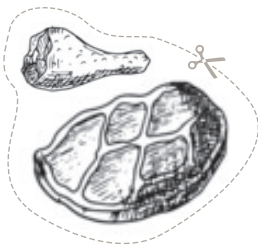
Kea

- 2 teaspoons of soaked sprouted seeds
- 1 tablespoon pellets
- 1/2 cup of fruit
- 1/2 cup of veges
- 1 teaspoon seeds

OUR FOOD

Fill your buckets

Cut out the food and place it in the correct bucket



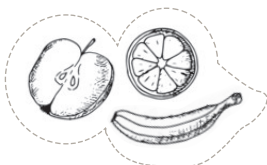
1kg of meat



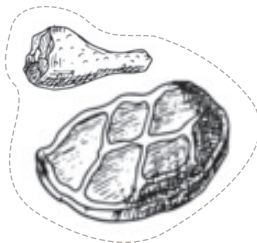
1/2 cup of fruit



3 cups of veges



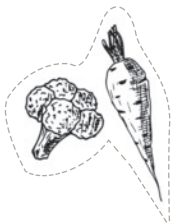
1 cup of fruit



1kg of meat



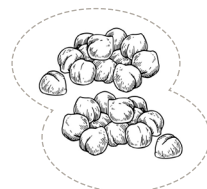
1 teaspoon seeds



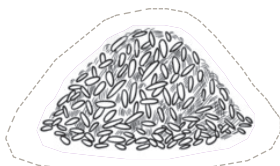
1/2 cup of veges



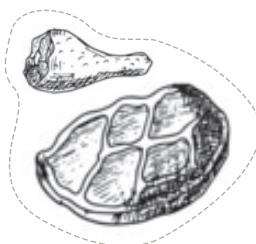
2 teaspoons of soaked
sprouted seeds



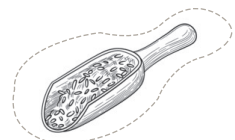
1/2 cup of chickpeas



1/2 cup of pellets



1kg of meat

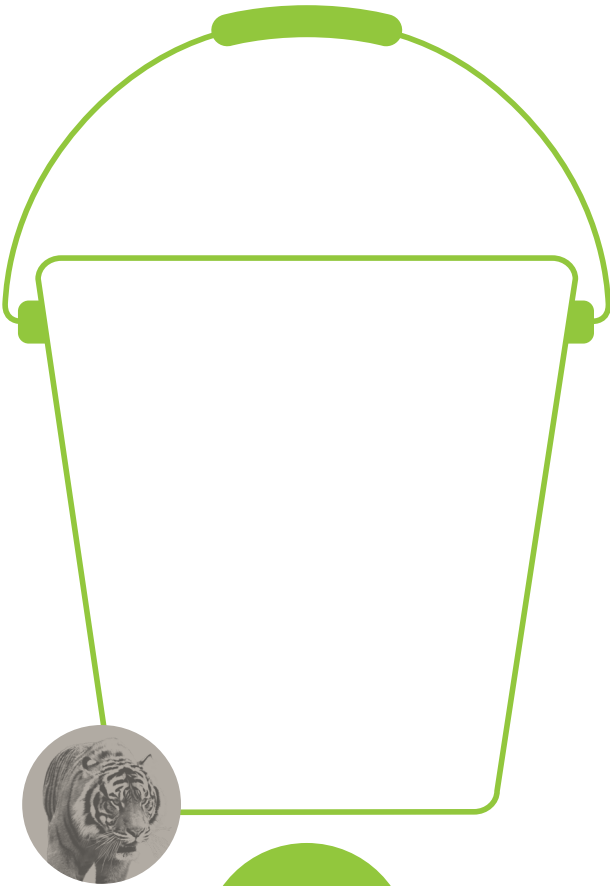


1 tablespoon
pellets

OUR FOOD

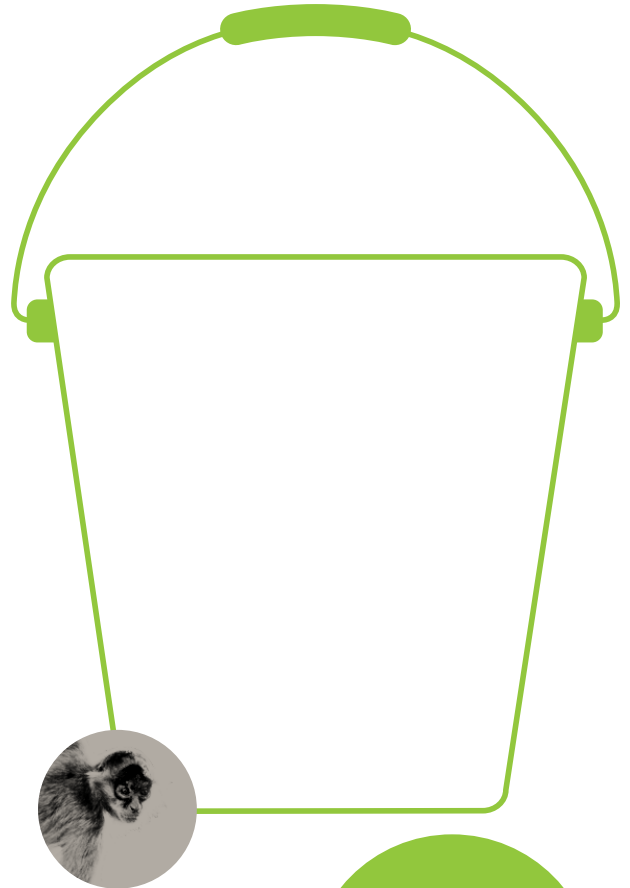
Fill your buckets - Easy Version

What would you feed the following animals in a day?



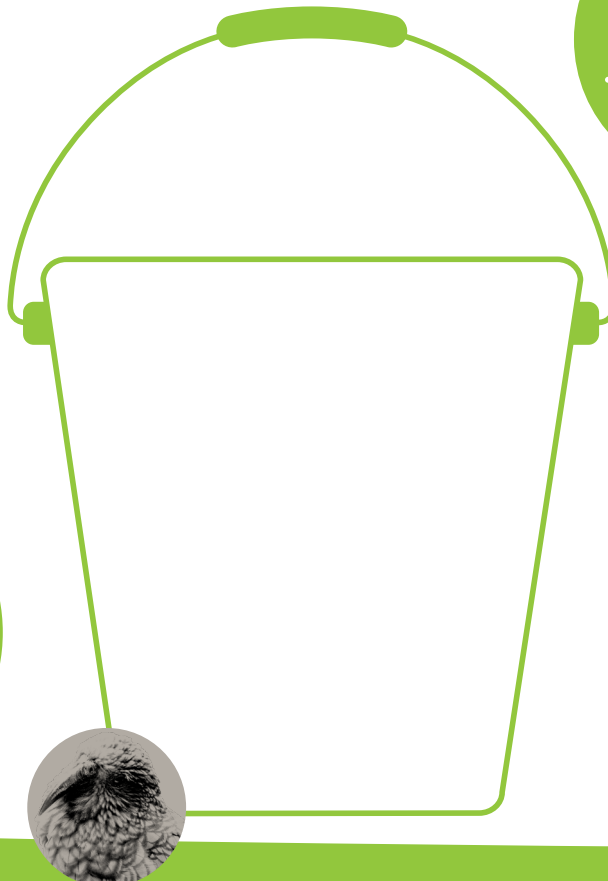
Tiger

- 3kg of meat



Spider Monkey

- 1 cup of fruit
- 1/2 cup of pellets
- 1/2 cup of chickpeas
- 3 cups of veges



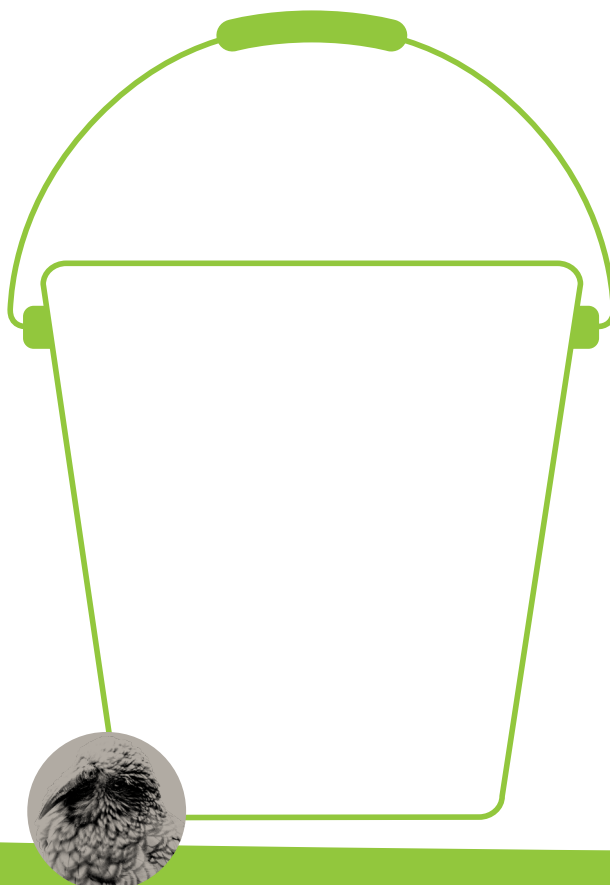
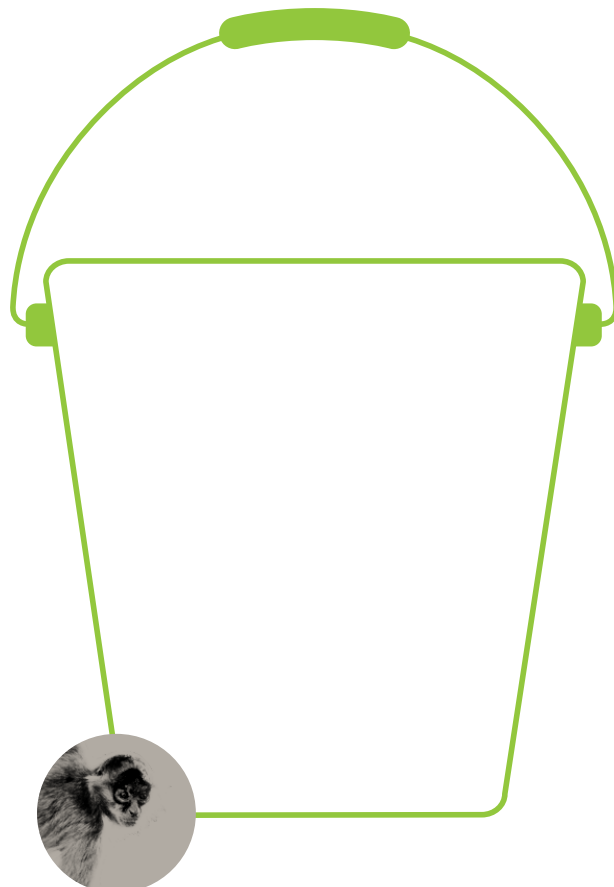
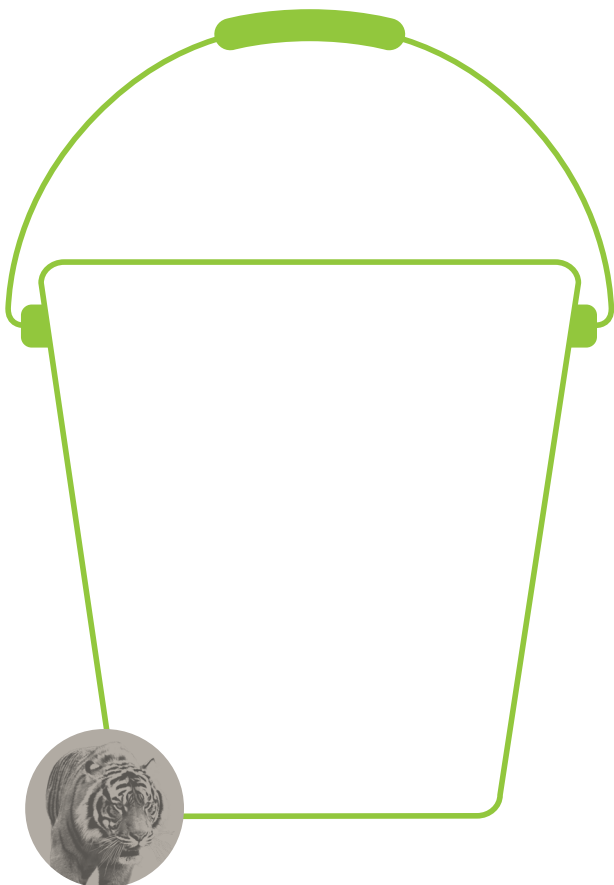
Kea

- 2 teaspoons of soaked sprouted seeds
- 1 tablespoon pellets
- 1/2 cup of fruit
- 1/2 cup of veges
- 1 teaspoon seeds

OUR FOOD

Fill your buckets

What would you feed the following animals in a day?



Who's Poo?

We are visiting all sorts of amazing places around the world. We are hoping to catch a glimpse of some of our favourite animals, but sometimes, all we can find are the traces they leave behind. Are you a super sleuth?

Can you match these animal pictures to their names and the poo they left behind?

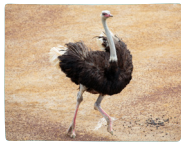
Draw a line to connect the words and images.



A.



B.



C.



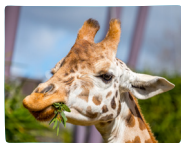
D.



E.



F.



G.

Giraffe

Zebra

Capybara

Squirrel Monkey

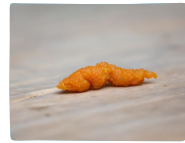
Ostrich

Wētāpunga

Rhino



1.



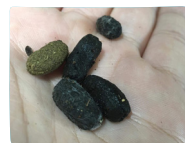
2.



3.



4.



5.



6.



7.



H.

Takahē



8.



I.

Elephant



9.

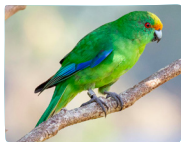


J.

Galapagos Tortoise

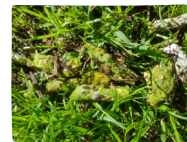


10.



k.

Orangutan



11.



L.

Kererū



12.



M.

Lion



13.



N.

Kākāriki



14.

Clues

- Do you know how big the animal is? Sometimes size matters (but not always!)
- Find out who is an herbivore (hindgut fermenter and foregut fermenter), omnivore and carnivore.
- Can you tell what the animal has eaten by looking at its poo?
- Find out who is a mammal, bird, reptile, and insect.

Extra for experts

- We compost herbivore poo to make bags of Zoo Doo, a fertilizer for your garden with a wild side! Why do we use herbivore poo? Will any poo do?

Did you know?

- Zookeepers spend a huge amount of time looking at poo. A change in the look of an animals' poo can be the first sign that they are unwell.

BE Matching Exercise

Behavioural enrichment gives animals the opportunity to display their species-specific behaviours, encourages them to choose to interact or not interact within their habitat and enhances welfare.

Zookeepers figure out ways to encourage the animals to use their habitats, adaptations and brain power and often create interesting items for the animals to interact with, so providing the best welfare as possible. This can include sensory enrichment such as introducing

different smells to their habitat, cognitive enrichment such as puzzles or challenges to exercise their minds, food enrichments to encourage natural foraging behaviours and even something as simple as changing the bedding or materials in an animal's habitat.

See if you can match up the enrichment item with the correct animal below.

Match a letter of the Enrichment item with a number that corresponds with the animals from the list in the middle. *Note: Some items may work for more than 1 animal.*

Behavioural Enrichment:



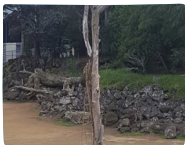
A. Pinecone with peanut butter



B. Bamboo tube with fruit inside



C. Small wire hanging ball with hay (lucerne)



D. Tall tree with hanging hay basket



E. A pit filled with mud



F. Ropes suspended between trees



G. Adding scents to habitats

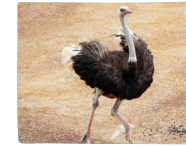


H. A large bone with meat

Animals to choose from:



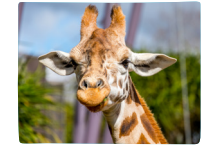
1. Lion



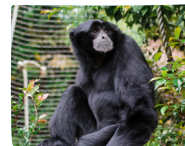
2. Ostrich



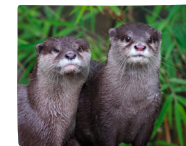
3. Kea



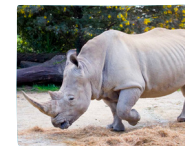
4. Giraffe



5. Siamang Gibbon



6. Otter



7. Rhino



8. Emperor Tamarin

Answers:

- | | |
|----------|----------|
| A. _____ | E. _____ |
| B. _____ | F. _____ |
| C. _____ | G. _____ |
| D. _____ | H. _____ |