Topic Ideas

TOPIC	BRIEF	Examples of Learning outcomes	OTHER KEY CONCEPTS	CURRICULUM AREAS	LINKS
Classification	Use similar features to group animals	• Identify living and non-living things. • Recognise the difference between invertebrates and vertebrates. • Place animals with similar features into groups. • Group animal kingdom using the simple science based classification (Amphibians, Reptiles, Mammals, Fish and Birds).	• Body Coverings • Camouflage • Habitats • Adaptations • Ecosystems • Conservation	Science • Nature of Science • Living World	Hamilton Zoo - Classification Resource Hamilton Zoo - Native Bird Resource Hamilton Zoo - Reptiles and Amphibians
Adaptations	Animals have adapted to their habitat in order to survive	• Understand that there are special features in an animal's habitat that helps them stay alive. • Identify physical and behaviour features of animals that enable them to survive in a particular habitat. • Explain how an animal's ability to survive can be affected by changes in their habitat.	• Body Coverings • Camouflage • Classification • Habitats • Ecosystems • Human Impact • Conservation	Science • Nature of Science • Living World Biology • 1.2 - AS90926 • 2.3 - AS91155	Hamilton Zoo - Native Bird Resource Hamilton Zoo - Reptiles and Amphibians Science Learn - Classifying bird adaptations student activity Cheetah Conservation Fund – Cheetah Adaptations resource
Endangered species	Animal survival is hugely impacted by the choices humans make.	• Understand the meaning of endangered species and how these animals are suited to a particular habitat. • Explore what causes some plants and animals to become extinct. • Identify the main threats for endangered species e.g. poaching, loss of habitat, farming and introduction of pests. • Identify personal actions that can be taken to help with the survival of these species. • Explore CITES and understand how they ensure that international trade in specimens of wild animals and plants do not threaten their survival.	• Habitats • Human Impact • Adaptations • Ecosystems • CITES • Conservation • Role of Zoos	Science • Nature of Science • Living World Social Science • Identity, Culture, and Organisation • Continuity and Change	Hamilton Zoo - Native Bird Resource Hamilton Zoo - Reptiles and Amphibians Save the Rhino – Informative website National Geographic Kids – Life of a Rhino Ranger Palm Oil Investigations Zoos Victoria – Don't Palm Us Off – teacher Resource WWF IUCN Redlist of Threatened Species
Wetlands	Explore a local wetlands and see how everything is connected – people, habitats, plants and creatures	• Investigate the connectedness of native flora and fauna in wetlands. • Recognise some ways in which humans and animals impact on the mauri/ special nature of the water. • Develop skills in water quality monitoring to assess the health of waterways. • Understand the water cycle	• Habitats • Conservation • Water cycle • Ecosystems • Human Impact • Birds • Unique NZ • Food Webs/Chain	Science • Living World • Planet Earth and Beyond Social Sciences • Place and Environment • Continuity and Change	Hamilton Zoo – Wetlands Unit Landcare Research – Wetlands Ecosystems

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Animal Behaviour	Animals have their own behaviour traits in order to survive whether these are learned or natural.	• Explore and compare social arrangements for animals. • Identify behaviours and understand whether these are learned or innate behaviours. • Understand animal survival strategies. • How has human impact changed some animal behaviours?	• Habitats • Adaptations • Human Impact • Conservation • Enrichment	Science • Nature of Science • Living World • Physical World Biology • 2.3 – AS91154 • 3.2 – AS91603	
Enclosure Design and Enrichment	When designing enclosures and enrichment the needs of the animals are taken into account so that mental and physical stimulation can be provided.	• Understand the needs of animals when designing an enclosure. • Explain why it is important for animals that live in zoos to have a positive environment to live in. • Identify what zoos do to stimulate natural behaviours of animals. • Design an enclosure or enrichment activity that will encourage natural behaviours.	• Habitats • Camouflage • Conservation • Technology • Physics • Roles of Zoos	Technology • Technological Practice • Technological Knowledge Science • Material World • Living World	Hamilton Zoo – Enrichment Unit
Primates	Observe different primate groups at Hamilton Zoo and look more closely at their different features.	• Identify common features that allow us to group primates collectively. • Discuss and observe physical differences between humans and other primate groups. • Identify the structural, behavioural and physiological differences between primate groups. • Recognise different primate behaviour and understand what some of this means.	• Animal Behaviour • Conservation • Primate evolution • Human evolution	Science • Nature of Science • Living World • Physical World • Biology • 2.5 – AS91157 • 3.5 – AS91605 • 3.6 – AS91606	Waikato University – Evolution for Teaching Primate Education Network – Chimpanzee educators resource eSkeletons – interactive skeleton anatomy
Unique New Zealand	Discover the uniqueness of New Zealand flora and fauna.	• Be able to name and identify New Zealand animals and plants. • Identify the difference between endemic, native and introduced. • Discover how the introduction of pests, farming and loss of habitat has had an impact on New Zealand species. • Understand how native animals are suited to their particular habitat. • Look at adaptations our species have made to stay alive in their habitat. • Recognise the impact environmental changes have on our native species. • Discover what you can do to help in the protection of our native flora and fauna.	• Habitats • Birds • Reptiles • Human Impact • Adaptations • Ecosystems • Conservation • NZ Natural History	Science • Living World • Nature of Science Biology • 2.3 – AS91155 • 2.5 – AS 91157 • 3.3 - AS91603 • 3.5 – AS91605	Hamilton Zoo – Native Bird Resource Hamilton Zoo – Reptiles and Amphibians Science Learn – Classifying bird adaptations student activity Auckland Museum – Birds of New Zealand Resource DOC – Native Plants, Native Places Resource Backyard Biodiversity in Canterbury Resource New Zealand Lizards teaching resource

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Careers	Keepers and vets are only some of the careers that make a zoo functional	• Explore the variety of careers involved in the running of a zoo. • Recognise what skills and attributes will help in the pathway to jobs in a zoo. • Take a look at what other organisations zoos work closely with for the health and wellbeing of their animals. • Identify the different roles and responsibilities.	• Careers • Caring for animals • Conservation	Careers education	Hamilton Zoo – Our People
Camouflage	In order to survive animals have learnt to use their features to hide	• Understand the importance of camouflage in some species. • Understand the different types of camouflage. • Does an animal's habitat or place on a food chain influence how much they rely on their ability to camouflage?	• Habitats • Adaptations • Body coverings • Classification • Food webs	Science • Living World	Hamilton Zoo – Camouflage Resource Cancer Society – SunSmart Animals Unit
Healthy Animals	Keeping healthy both through diet and physical activity can help in the way both students and animals stay healthy	• Observe how animals and humans move. • Explore how animal's enclosures are designed to enrich their lives and compare this to a child's playground. • Investigate animal's diets and look at how these are similar to a healthy human diet. • Identify structures in the school playground the work different muscle groups and compare those to what you see in animal enclosures.	• Caring for Animals • Health • Enclosure / Enrichment Design • Technology • Movement	Science • Nature of Science • Living World Health and Physical Education • Personal Health and Physical development • Movement concepts and motor skills	TKI – Planning a playground Sport NZ – Playground equipment technology activity
Food Webs / Food Chains / Ecosystems	Plants and animals are connected in many ways to help them all survive	• Group animals by what they eat e.g. carnivores, herbivores, omnivores, insectivore. • Understand that an ecosystem can only survive if it contains all components. E.g. producers, primary consumers, secondary consumers, scavengers, decomposers. • Recognise that if a component of an ecosystem is destroyed by humans the effect it will have on other animals.	• Animal behaviour • Classification • Conservation • Ecosystems • Human impact • Endangered animals	Science • Nature of Science • Living World Social Sciences • Place and Environment	Cheetah Conservation Fund – A predators role in the ecosystem resource Backyard Biodiversity in Canterbury Resource

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Roles of Zoos	Zoos are actively involved in conservation projects to help with the survival of animal species	• Look at how the purposes of zoos have changed over time. • Understand the role of a modern zoo. • Look at ways animals have become endangered. • Explore breeding programs and conservation projects Hamilton Zoo is involved in and how this is helping with the conservation of these species.	• Habitats • Conservation • Human Impact • Enclosure Design/Enrichment • Animal Husbandry	Science • Nature of Science • Living World Social Sciences • Place and Environment • Identify and Culture and Organisation • Continuity and Change Education for Sustainability • 2.2 – AS90811 • 3.2 – AS91735	Kiwis for Kiwi Department of Conservation – Nature Project Echo - Native Bats Project Halo – Native Birds
Caring for animals	Whether animals are being looked after in a zoo or at home, there are special ways to care for an animal.	• Recognise what animals need in order to survive. • Explore the 'five freedoms' of animal welfare. • Explain how caring for your pets at home is similar to the way animals at the zoo are cared for. • Identify the role of keepers and the way they care for the animals at Hamilton Zoo. • Look at the role of people who provide for the animal's needs.	• Animal Behaviour • Conservation • Human Impact • Enclosure Design/Enrichment • Careers • Roles of Zoos	Science • Nature of Science • Living World Social Sciences • Place and environment • Identify and Culture and Organisation • Continuity and Change • Economic World Biology • 1.2 – AS90926 • 3.2 – AS91602	
Biomechanics	All animals use movement and energy to survive	• Observe how different animals move. • Discover how biology and physics work together to create animal adaptations. • How has the enclosure been designed to allowed natural movement for animals?	• Adaptations • Conservation • Physics • Scientific observations	Science • Nature of Science • Living World • Physical World Physics • 1.2 – AS90936 • 2.5 – AS91172 • 3.4 – AS91524	

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Sustainability	Learn how we do our part in conservation by reducing water, energy and material resources and how this helps in the protection of animal habitats	• Recognise that there is a connection between recycling and animals e.g. global warming, mining, deforestation • Understand the process in which Hamilton Zoo recycles green landscape material, animal waste, animal bedding and browse. • Identify ways Zoos recycle when designing enclosures and enrichment for animals. • Explore how solar energy is converted to heat rhino night dens.	• Enrichment • Enclosures • Conservation • Human Impact • Habitats	Science • Nature of Science • Living World • Material World Social Sciences • Place and Environment • Identity Culture and Organisation • Continuity and Change	National Geographic Kids – Five Top Conservation Tips
Technology - Food - Soft Material - Digital - Media	Hamilton Zoo as a stakeholder in a project.	• Design a food item for the zoo café that is influenced by an animal's diet but also one for human consumption. • Design an item for the zoo gift shop taking into account the consumer. • Using information they have found out about Hamilton Zoo design an appropriate website. • Design promotional material for Hamilton Zoo	• Enrichment • Conservation • Marketing • Careers • Technology	Technology • Technological Practice	