How animals behave is crucial to their survival and reproduction. Animal Behaviour: A Very Short Introduction discusses how animal behaviour has evolved, how behaviours develop in each individual (considering the interplay of genes, epigenetics, and experience), how we can understand animal societies, and how we can explain collective behaviour such as swirling flocks of starlings. The application of new molecular tools, such as DNA fingerprinting and genomics, and developments in computing and image analysis are causing a revolution in the study of animal behaviour. Combining these methods with field studies, it looks at mammals, butterflies, honeybees, fish, and birds, analysing what drives behaviour, and exploring instinct, learning, and culture.

The Animal Kingdom: A Very Short Introduction
Peter Holland
The Animal Kingdom: A Very Short Introduction presents a modern tour of the animal kingdom. Beginning with the definition of animals, this VSI goes on to show the high-level groupings of animals (phyla) and new views on their evolutionary relationships based on molecular data, together with an overview of the biology of each group of animals. This phylogenetic view is central to zoology today. The animal world is immensely diverse, and our understanding of it has been greatly enhanced by analysis of DNA and the study of evolution and development.

Circadian Rhythms: A Very Short Introduction
Russell Foster and Leon Kreitzman
The Earth’s daily rotation affects almost every living creature. From dawn through to dusk, there are changes in light, temperature, humidity, and rainfall. However, these changes are regular, rhythmic, and therefore predictable. Thus, the near 24-hour circadian rhythm is innate: a genetically programmed clock. Circadian Rhythms: A Very Short Introduction explains how organisms can ‘know’ the time and reveals what we now understand of the nature and operation of chronobiological processes. Covering variables such as light, the metabolism, human health, and the seasons, it illustrates how jet lag and shift work can impact on human well-being, and considers circadian rhythms alongside a wide range of disorders, from schizophrenia to obesity.

Extinction: A Very Short Introduction
Paul B. Wignall

Extinction has occurred throughout the history of life, with the result that nearly all the species that have ever existed are now extinct. Extinction: A Very Short Introduction looks at the causes and nature of extinctions, past and present, and the factors that can make a species vulnerable. Summarizing what we know about all of the major and minor extinction events, it examines some of the greatest debates in modern science, such as the relative role of climate and humans in the death of the Pleistocene megafauna, including mammoths and giant ground sloths, and the roles that global warming, ocean acidification, and deforestation are playing in present-day extinctions.

The Eye: A Very Short Introduction
Michael F. Land

The eye is one of the most remarkable achievements of evolution. In humans, vision is the most important sense, and much of the brain is given over to the processing of visual information. The Eye: A Very Short Introduction describes the evolution of vision and the variety of eyes found in both humans and animals. It explores the evolution of colour vision in primates and the workings of the human eye. It explains how we see in three dimensions and the basic principles of visual perception, including our impressive capacity for pattern recognition and the ability of vision to guide action.

Mammals: A Very Short Introduction
T. S. Kemp
Mammals: A Very Short Introduction explores the nature, evolutionary history, and modern diversity of mammals. From a little shrew-like, nocturnal, insect-eating ancestor living 200 million years ago (mya), mammals have evolved into a huge variety of different kinds of animals. This VSI explains how it is endothermy—‘warm-bloodedness’—enabling high levels of activity and the relatively large brain associated with complex, adaptable behaviour that epitomizes mammals. It describes their remarkable fossil record, revealing how and when the mammals gained their characteristics, and the tortuous course of their evolution. It reveals the adaptations mammals evolved to suit their varied modes of life, including those of mainly arboreal primates culminating in Homo sapiens.

Reptiles: A Very Short Introduction
T. S. Kemp

Reptiles: A Very Short Introduction introduces the extraordinary diversity of reptiles that have walked the Earth, from the dinosaurs and other reptiles of the past to modern-day living species. It discusses the adaptations reptiles made to first leave the water and colonize dry land, which fitted them for their unique ways of life. Considering the variety of different living groups of reptiles today, from lizards and snakes to crocodiles and turtles, it explores their biology and behaviour. Finally, this VSI assesses the threat of extinction to modern-day reptile species due to over-exploitation, habitat destruction, and climate change, and considers what can be done.

Veterinary Science: A Very Short Introduction
James Yeates

Every year billions of animals are treated by veterinarians. Veterinary Science: A Very Short Introduction introduces the field of veterinary science, covering the history of its scientific and clinical aspects from early practices to recent challenges such as the BSE outbreak and antibiotic resistance, and considering the differences between human medicine and veterinary medicine. Analysing the key roles played by diagnosis, treatment, and prevention with regard to the health of farm animals and pets, it relates this to wider aspects concerning public health. It also discusses the challenges for the future of veterinary science, including ethical dilemmas in balancing the interests of owners and animals when they do not coincide.