



The Colour of Life

YEAR 5 AND 9
PHYSICAL SCIENCES
BIOLOGICAL SCIENCES



QGC

FUTUREMAKERS



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Future Makers

Future Makers is an innovative partnership between Queensland Museum Network and Shell's QGC business aiming to increase awareness and understanding of the value of science, technology, engineering and maths (STEM) education and skills in Queensland.

This partnership aims to engage and inspire people with the wonder of science, and increase the participation and performance of students in STEM-related subjects and careers — creating a highly capable workforce for the future.

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This teacher resource is produced by Future Makers, a partnership between Queensland Museum Network and Shell's QGC business, with support from the Australian Research Council and other parties to ARC Linkage Project LP160101374: The University of Queensland, Australian Catholic University Limited and Queensland Department of Education.

EXPLORE – EXPLAIN

The Colour of Life

Teacher Resource

There are millions of species of animal on Earth, and they display incredible diversity in size, shape and colour. In this activity, students will look at images of animals to facilitate a discussion about why animals display different colours, and make predictions about the purpose of colour.

Generally, animals display colours that help them survive in certain environments. Some animals are brightly coloured, while others blend into their environment. There are many reasons animals have evolved colours including camouflage, physical protection, temperature regulation, sexual selection and signalling, and warning, startling or dazzling predators.

While most colouration serves a specific purpose, scientists still do not know why some species are the colours they are.

For this activity, hand out the *Colour of Life Images* to pairs or groups of three students. You can then follow the See-Scan-Analyse scaffold for image analysis.

- See:** View the image. What is shown in the picture?
- Scan:** Look closely at the image. What colour is the animal?
What habitat might your animal live in?
- Analyse:** What does your animal use colour for?
How might the colour of your animal help it survive?

Following this activity, you may wish to allow time for students to research the purpose of colour in animals. Scientists still do not know the purpose of some colours in animals, and students could research an animal species and write a persuasive essay to justify the reasons for the animal's colour. Some examples of colourful animals your students could research include:

- Christmas Beetle
- Blue Morpho Butterfly
- Chameleon
- Coral
- Parrot Fish
- Gouldian Finch

Curriculum Links

Science

YEAR 5

Science Understanding

Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)

Light from a source forms shadows and can be absorbed, reflected and refracted (ACSSU080)

Science Inquiry Skills

Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts (AC SIS093)

YEAR 9

Science Understanding

Energy transfer through different mediums can be explained using wave and particle models (ACSSU182)

Science Inquiry Skills

Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (AC SIS174)

General Capabilities

Literacy

Composing texts through speaking, writing and creating

The Colour of Life

Student Activity

Animals have feathers, fur, exoskeletons, scales and skin that reflect different visible light waves, to appear different colours. Some animals blend in with their habitats, while others display incredibly bright colours in contrast to their environment.

When a particular colour helps an animal survive, the colour is passed onto their offspring. There are many reasons why animals have evolved different colours.

In this activity you will observe images of different animals and discuss:

- What is the colour used for?
- How does the colour help the animal survive?



Koala, *Phascolarctos cinereus*. © Queensland Museum, Gary Cranitch



Stag beetle, *Lamprima* species. © Queensland Museum, Gary Cranitch



Common Crow, *Euploea corinna*, larva. © Queensland Museum, Jeff Wright



Tawny Frogmouth, *Podargus strigoides*. © Queensland Museum, Gary Cranitch



Rose-crowned Fruit-dove, *Ptilinopus regina*. © Queensland Museum, Gary Cranitch



Butter Bream, *Monodactylus argenteus*.



Variegated Fairy-wren, *Malurus lamberti*, female. © Queensland Museum, Gary Cranitch



Redback Spider, *Latrodectus hasseltii*, female. © Queensland Museum, Bruce Cowell



Variegated Fairy-wren, *Malurus lamberti*, male. © Queensland Museum, Bruce Cowell



Clown Triggerfish, *Balistoides conspicillum*. © Queensland Museum, Gary Cranitch



Graceful Treefrog, *Litoria gracilentata*. © Queensland Museum, Gary Cranitch



Australian Pelican, *Pelecanus conspicillatus*. © Queensland Museum, Ray Viljoen



Mandrill, *Mandrillus sphinx*.



Blue-lined Octopus, *Hapalochlaena fasciata*. © Queensland Museum, Gary Cranitch



Fiddler Beetle, *Eupoecila australasiae*. © Queensland Museum, Jeff Wright



Mauve Stinger, *Pelagia noctiluca*. © Queensland Museum, Merrick Ekins



Ornate Bat-winged Sea Slug, *Sagaminopteron ornatum*. © Queensland Museum, Gary Cranitch



Tortoise Beetle, *Aspidimorpha (Aspidimorpha) westwoodi*, adult. © Queensland Museum, Jeff Wright



Robust Velvet Gecko, *Nebulifera robusta*. © Queensland Museum, Jeff Wright



Orchard swallowtail, *Papilio (Princeps) aegaeus aegaeus*, adult. © Queensland Museum, Jeff Wright



Common Death Adder, *Acanthophis antarcticus*, tail spur. © Queensland Museum, Jeff Wright



Common Grass Pyrgomorph, *Atractomorpha similis*, adult. © Queensland Museum, Jeff Wright