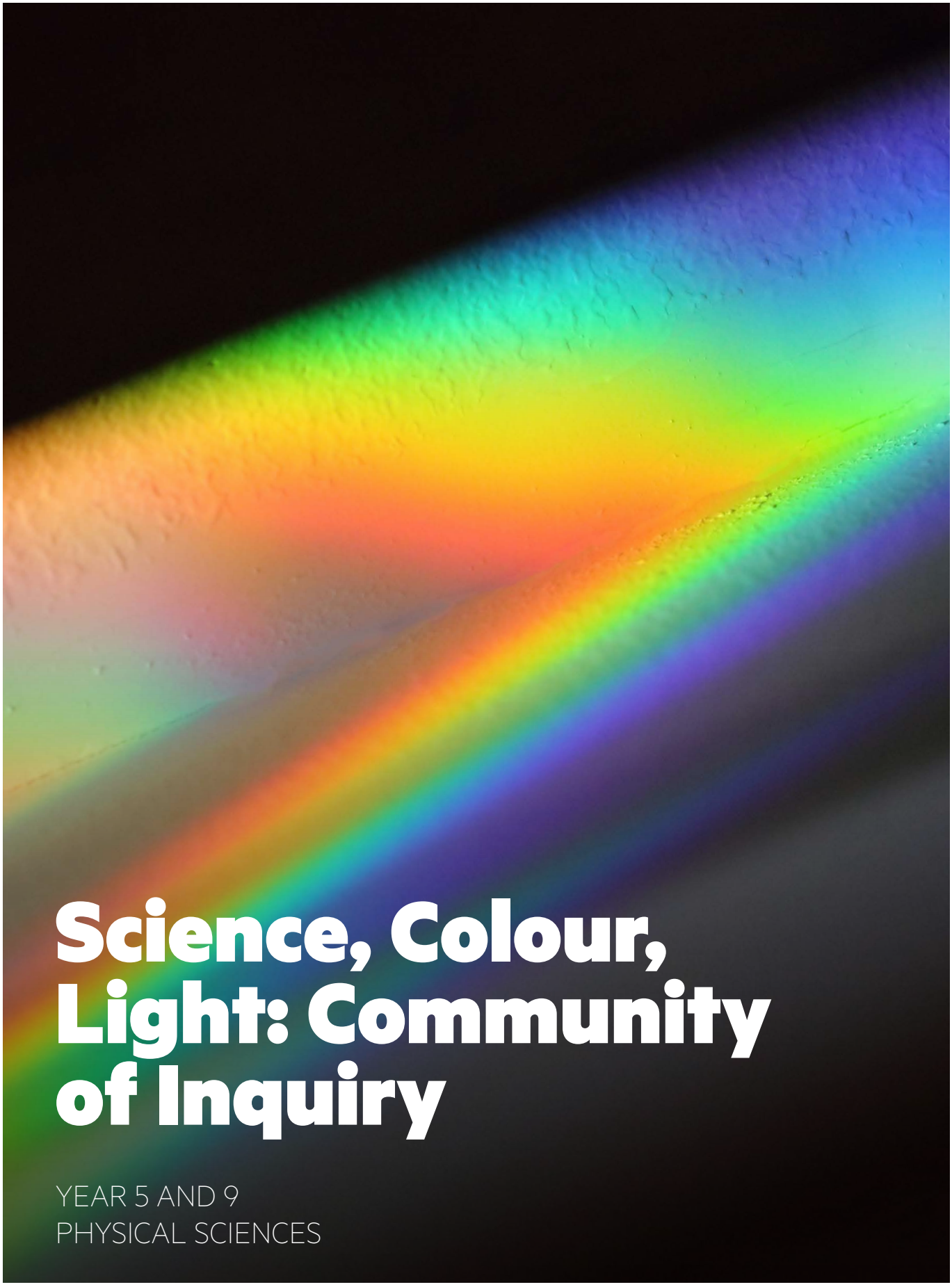

Science, Colour, Light: Community of Inquiry

YEAR 5 AND 9
PHYSICAL SCIENCES

QGC | FUTUREMAKERS | QUEENSLAND MUSEUM NETWORK | Queensland Government

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.

QUEENSLAND MUSEUM NETWORK

Queensland Government

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

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

Science, Colour, Light: Community of Inquiry

Teacher Resource

In this activity, students participate in a community of inquiry to discuss why it is useful to understand colour and light from a scientific perspective, and how colour and light can help us in our daily lives. This process provides students with an opportunity to reach a deep, shared understanding of the concepts and issues underpinning the inquiry topic.

The community of inquiry is a structured, dialogic process that requires participants to ask open inquiry questions, listen and think, share ideas and consider alternative viewpoints. Problematic issues and concepts are discussed collaboratively within a supportive learning environment where all views are considered and respected. Reflecting on thinking is integral to the process.

The following engagement protocols are used during the community of inquiry process, and these should be included on the walls for all students to see.

- Listen attentively
- Build on and connect ideas
- Respect self, others and place
- Disagree reasonably and respectfully
- There may be many responses considered to be correct

Detailed step-by-step instructions for this activity can be seen below.

1. In small groups, students discuss the overarching question: **Why is it useful to understand colour and light from a scientific perspective?** The following stimulus suggestions may be shared with students if they require prompting:
    - Think about our eyes and how we see.
    - Think about our emotions.
    - Think about different technologies (such as cameras).
    - Think about reflection.
    - Think about how things appear underwater.
    - Think about how we create colours and shadows.

2. Ask students to share their responses to these questions. Record students' answers on the whiteboard or butchers paper. Record any questions posed by students on a separate page. These can be addressed at a later point in the unit.
3. Pose the next question: **How can a scientific understanding of colour and light help us in our daily lives?** Students again discuss in small groups. You may like to ask students to think about any colour and light activities they have already completed, and how learnings from these activities may apply to their daily lives.
4. Ask students to share their responses to these questions. Record students' answers on the whiteboard or butchers paper. Record any questions posed by students on a separate page. These can be addressed at a later point in the unit.
5. Keep a record of the responses to display around the room. These can be added or referred to throughout the unit.

Curriculum Links

Science

YEAR 5

Science Understanding

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

Science as a Human Endeavour

Scientific knowledge is used to solve problems and inform personal and community decisions (ACSHE083)

Science Inquiry Skills

Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts (ACSIS093)

YEAR 9

Science Understanding

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

Science as a Human Endeavour

People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities (ACSHE160)

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 (ACSIS174)

General Capabilities

Literacy

Composing texts through speaking, writing and creating

Critical and Creative Thinking

Inquiring – Identifying, exploring and organising information and ideas

Reflecting on thinking and processes