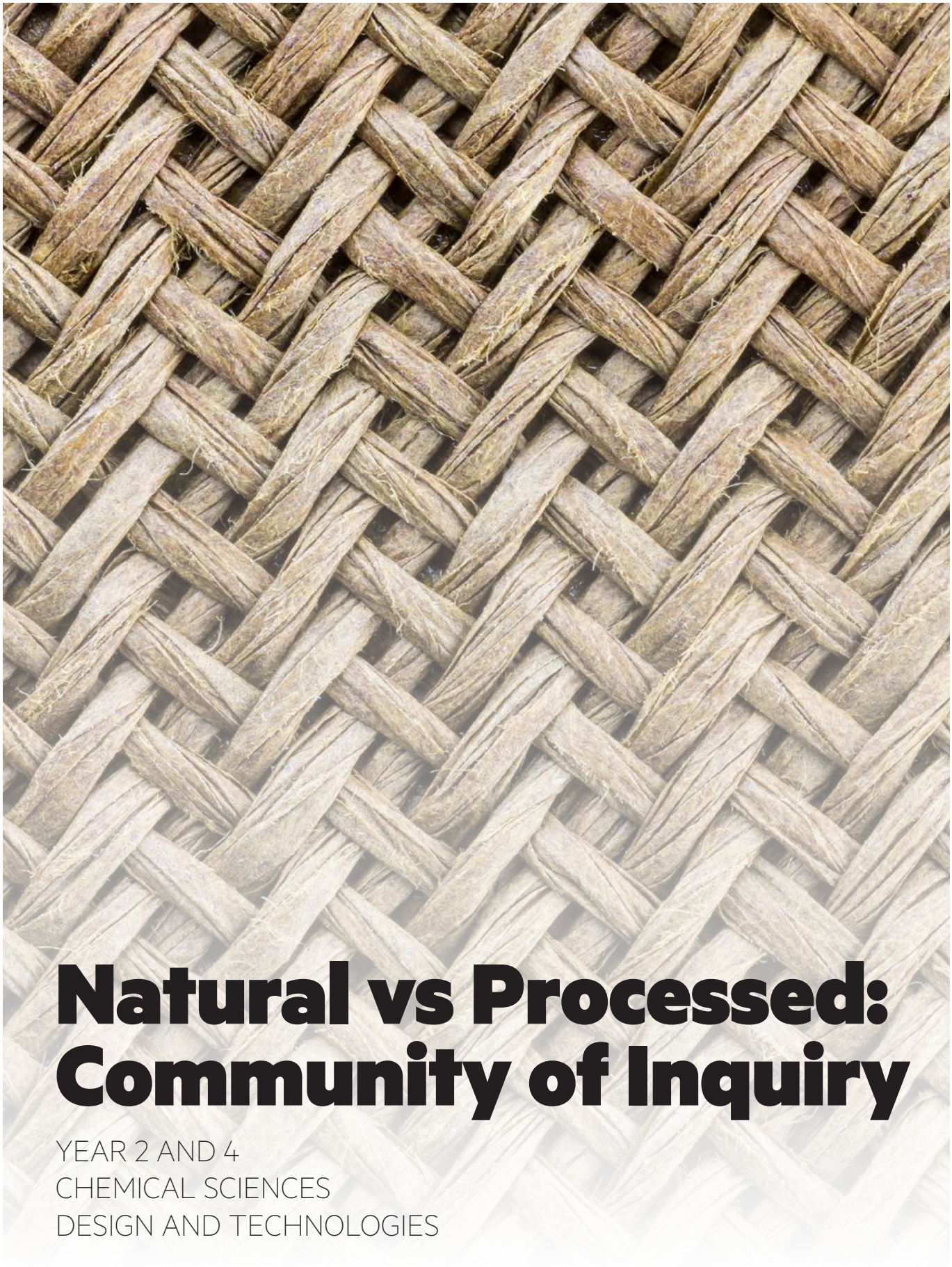

Natural vs Processed: Community of Inquiry

YEAR 2 AND 4
CHEMICAL SCIENCES
DESIGN AND TECHNOLOGIES

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

ELABORATE – EVALUATE

Natural vs Processed: Community of Inquiry

Teacher Resource

In the following activity, students participate in a community of inquiry (COI) to discuss the implications of natural and processed materials. This process gives students an opportunity to come to a full, shared understanding of the concepts and issues surrounding the use of these materials.

The COI is a process of discussion where participants pose open-ended questions, listen to the viewpoints of others and share their own ideas. Disputed or contestable issues and concepts are considered collaboratively within a supportive and respectful classroom environment. It is important that all participants reflect on their own thinking throughout a COI.

The following ways of working are used during a COI. These should be put up on a wall for all students to refer to throughout the COI:

- Listen attentively to others
- Build upon and connect ideas
- Respect yourself and others
- Disagree respectfully and reasonably
- Many responses and opinions may be considered correct

Detailed instructions for this activity are below.

1. Engage students in a Think-Pair-Share about the current unit of work. Ask students to reflect on what they have learnt so far, what they have found most interesting, what they have found most challenging and what has been most surprising.
2. Ask students to independently consider the overarching question: ***As a community, are we better off using natural or processed materials?***

   Provide students with two minutes of thinking time before they share their thoughts and ideas with a partner. Remind students to support their thinking with reasons.
3. Before inviting students to share their responses with the class, share the ways of working for a COI (see above). You may like to talk through what each of these ways of working looks like, sounds like and feels like with students. Remind students that only one person may speak at a time during the class discussion; you may wish to use a 'talking stick' or a small soft toy to indicate who is able to talk at any one time.
4. Invite students to share their responses with the class, while you record their thoughts and ideas on the whiteboard or butchers paper. Again, remind students to support their thinking with reasons.

You could use a PMI Chart to record students' responses. If it is not clear where a response fi s, ask the students if they consider the response to be an advantage or a disadvantage. If students are uncertain, record the response in the *Interesting* column.

During the COI, you may like to pose additional questions to further prompt student thinking. Such questions could include:

- Can we use one in place of the other?
- Should we use one in place of the other?
- Why should we care about this topic?
- What do we need to think about when using natural materials?
- What do we need to think about when using processed materials?
- What rights do we have and/or need to consider when using these materials?
- What responsibilities do we have and/or need to consider when using these materials?

5. At the end of the discussion, ask students if there are any questions they are wondering about, and record these in the Interesting column (if using a PMI Chart).

   Display students' responses in the classroom for future reference. You may wish to pose these questions again at the end of the unit, as students may share new and/or different responses based on new information or understandings.

Curriculum Links

Science

YEAR 2

Science Understanding

Different materials can be combined for a particular purpose (ACSSU031)

Science as a Human Endeavour

Science involves observing, asking questions about, and describing changes in, objects and events (ACSHE034)

People use science in their daily lives, including when caring for their environment and living things (ACSHE035)

Science Inquiry Skills

Pose and respond to questions, and make predictions about familiar objects and events (ACSIS037)

Represent and communicate observations and ideas in a variety of ways (ACSIS042)

YEAR 4

Science Understanding

Natural and processed materials have a range of physical properties that can influenc their use (ACSSU074)

Science as a Human Endeavour

Science knowledge helps people to understand the effect of their actions (ACSHE06)

Science Inquiry Skills

Represent and communicate observations, ideas and finding using formal and informal representations (ACSIS071)

General Capabilities

Literacy

Composing texts through speaking, writing and creating

Critical and Creative Thinking

Inquiring: Identifying, exploring and organising information and ideas

Refle ting on thinking and processes

Ethical Understanding

Reasoning in decision making and actions

Cross-Curriculum Priorities

Sustainability

Actions for a more sustainable future refle t values of care, respect and responsibility, and require us to explore and understand environments (OI.7)

Designing action for sustainability requires an evaluation of past practices, the assessment of scientifi and technological developments, and balanced judgements based on projected future economic, social and environmental impacts (OI.8)