



**RESOURCES  
TECHNOLOGY  
SHOWCASE**

JUNE 21-22, 2021 | PERTH

**TEACHER NOTES:  
RTS 2021**

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**Term 2, 2021**

# CONTENTS

CONTENTS.....	2
INTRODUCTION.....	3
Excursion activities.....	3
BRAINSTORM .....	4
SEEN, READ, HEARD .....	5
SEE, THINK, WONDER .....	6
AND THE AWARD GOES TO.....	7
BE A JOURNO .....	8
SCAVENGER HUNT .....	9
SIMPLIFY.....	10
SO WHAT?.....	11
THE MINING PROCESS .....	12
CAREERS TALK.....	13
WORD-SEARCH FUN .....	14
EXTENSION ACTIVITIES .....	15
SELF-REFLECTION .....	15
PUZZLES AND GAMES.....	15
CREATIVE WRITING .....	15
LOGO DESIGN.....	15
DIGIBOOK .....	15

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## INTRODUCTION

### Excursion activities

This pack is designed to facilitate student engagement with the Resources Technology Showcase and to stimulate before, during and post excursion discussion.

The activities are intended to match various year levels, diverse personal learning styles and different general capability and subject areas.

Choose whichever tasks you would like your students to attempt, and feel free to modify the activities to better fit your needs.

## BRAINSTORM

Prior to going on an excursion to the Resources Technology Showcase, create a brainstorm to show what you know about the resources industry in Australia.

After the excursion, review your brainstorm. What additional points can you add?



## SEEN, READ, HEARD

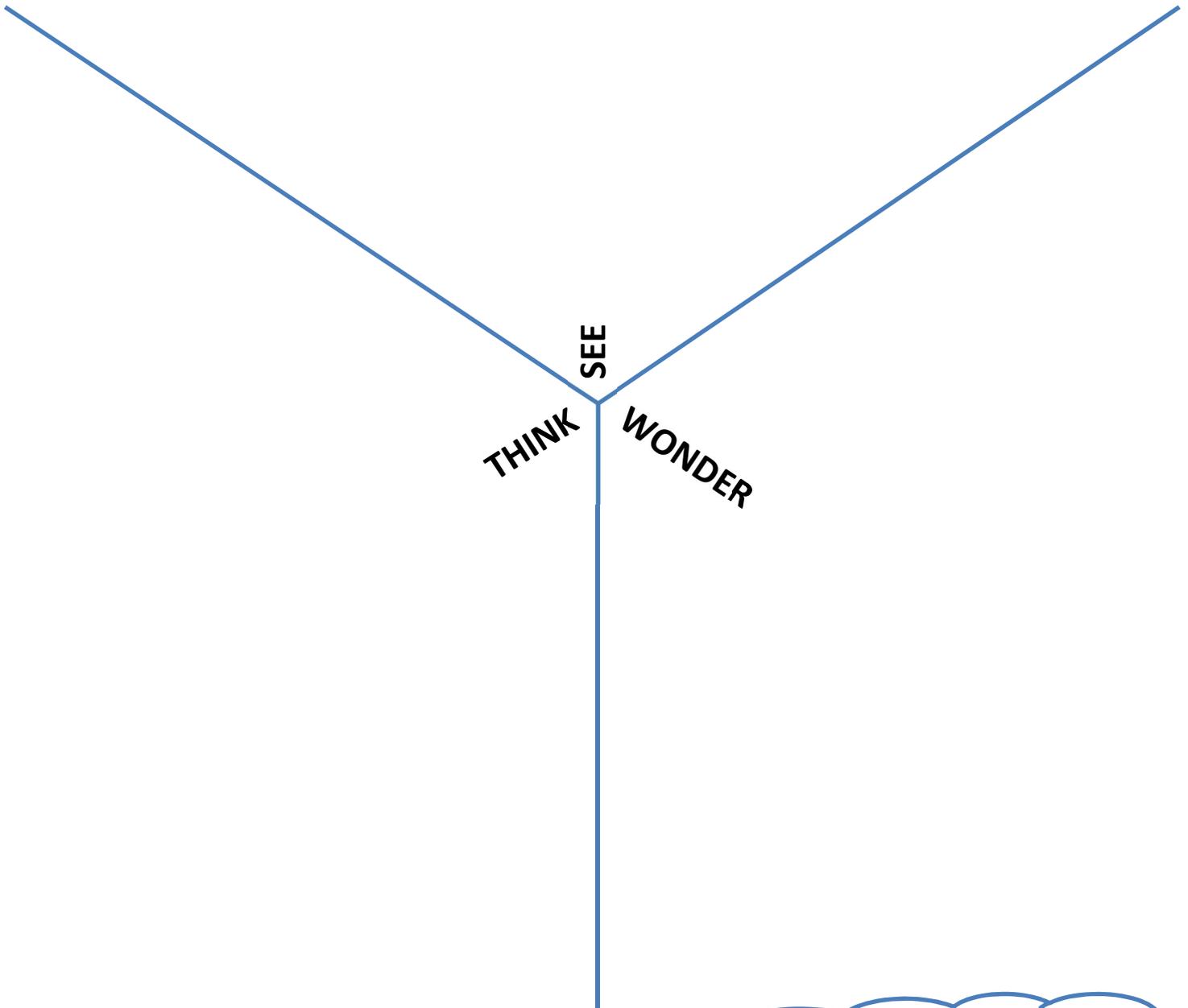
Make a note of new things you learn about the resources industry and /or emerging technologies by looking, reading and listening. Try to jot down at least five points in each column.

<p>Things I learned by <b>LOOKING</b></p> 	<p>(eg. demonstrations, photographs, objects on display)</p>
<p>Things I learned by <b>READING</b></p> 	<p>(eg. object labels, display panel boards, information in brochures I picked up)</p>
<p>Things I learned by <b>LISTENING</b></p> 	<p>(eg. presentations, demonstrations, by asking questions to people at display stands)</p>

## SEE, THINK, WONDER

Choose one exhibit or demonstration from the exhibition. Describe what you see and give your opinion about it. What more would you like to know about it?

Subject of the exhibit or demonstration: \_\_\_\_\_



If you have an opportunity, ask one of the people at the exhibition to answer one of your 'wonder' questions.

## AND THE AWARD GOES TO...

Consider the different examples of innovation on show at the exhibition. Imagine the organisers wanted to give awards to the participants and asked for public nominations. Who do you think should be considered for the following awards?

<p><b>Green Earth Award</b> for innovation that has environmental benefits, such as reduction of waste or lower carbon emissions</p> <p>I nominate:</p> <p>Reason:</p> 	<p><b>Public Engagement Award</b> for a display or demonstration that most effectively educates the visiting audience about resources innovation</p> <p>I nominate:</p> <p>Reason:</p> 
<p><b>Faster, Smarter, Better Award</b> for innovation that improves processes and makes mining more efficient</p> <p>I nominate:</p> <p>Reason:</p> 	<p><b>'What Will They Think of Next?' Award</b> for innovation that blows your mind.</p> <p>I nominate:</p> <p>Reason:</p> 
<p><b>Safe Sites Award</b> for innovation which improves workplace health and safety</p> <p>I nominate:</p> <p>Reason:</p> 	<p><b>People's Choice Award</b> for your favourite display of all</p> <p>I nominate:</p> <p>Reason:</p> 

## BE A JOURNO

1. Write a news article about the exhibition. The article can focus on the exhibition as a whole, or on one aspect of it. Before you go on the excursion, consider some possible angles for your story. For example, you might want to write about:
  - how new technology is leading to new job opportunities;
  - how resource companies are meeting challenges;
  - how exhibitions such as the Resources Technology Showcase inform or inspire young people;
  - what school students can learn outside of the classroom by visiting exhibitions.

(Remember though, you might think of a new angle or an interesting story once you get to the exhibition.)

2. Discuss what sort of who, what, where, when, why, how and 'so what' questions you might want to find answers to at the exhibition, and how these questions might differ depending on the angle of the story you chose to take.
3. Gather relevant factual information while at the exhibition. Don't forget to take photos and ask questions of the staff at the exhibition – most news articles include quotes from experts, participants or witnesses to an event or an issue.

Questions I may need to find answers to:

## SCAVENGER HUNT

Provide a response (a fact, comment, question or observation) to each of the following challenges. You can't have the same answer twice.

A name of an innovative new technology	Something that made you curious	A fact that relates to processing or refining minerals
An example of technology or innovation that might help to minimise environmental damage	A fact that relates to finding new mineral deposits (exploration)	A fact that relates to digging or drilling minerals out of the ground
Something that made you go 'WOW'	The most interesting display you saw	An example of how robots (autonomous machines) are used
Something you didn't understand	A fact that relates to mineral transportation	Something relating to mining safety

## SIMPLIFY

Choose an example of a new technology or innovation showcased at the exhibition. Imagine you had a little 5 year old child with you. How would you explain this technology to them?

What does it do?

How does it work?

What is it?

Why would anyone want to use it?

## SO WHAT?

Developing new technology and coming up with new ways of 'doing stuff' usually costs money, time and effort. So why bother? As you explore the exhibition, consider the BENEFITS associated with innovative techniques, new equipment, using different materials or other innovations.

Can you find one example of an **innovation** which:

<p><i>Helps to solve a problem? If so, what was the problem?</i></p>	<p><i>Allows people to work more efficiently? If so, how?</i></p>	<p><i>Minimises risk? If so, how?</i></p>
<p>Explain:</p>	<p>Explain:</p>	<p>Explain:</p>
<p><i>Helps to make better decisions? If so, about what?</i></p>	<p><i>Improves environmental outcomes? If so, which ones?</i></p>	<p><i>Benefits the wider community. If so, how?</i></p>
<p>Explain:</p>	<p>Explain:</p>	<p>Explain:</p>

## THE MINING PROCESS

Can you find an example of innovation that applies to each of the different stages of the mining process? In each case, explain what the innovation is, how it is different to existing ways of 'doing stuff' and why this innovation might be beneficial.

Exploration: <i>finding the resource</i>	Mining: <i>digging / drilling out the resource</i>
<div data-bbox="539 981 1082 1294"><p><b>What?</b> <b>How?</b> <b>So what?</b></p></div>	
Processing: <i>purifying the resource</i>	Transportation: <i>moving the resource</i>

## CAREERS TALK

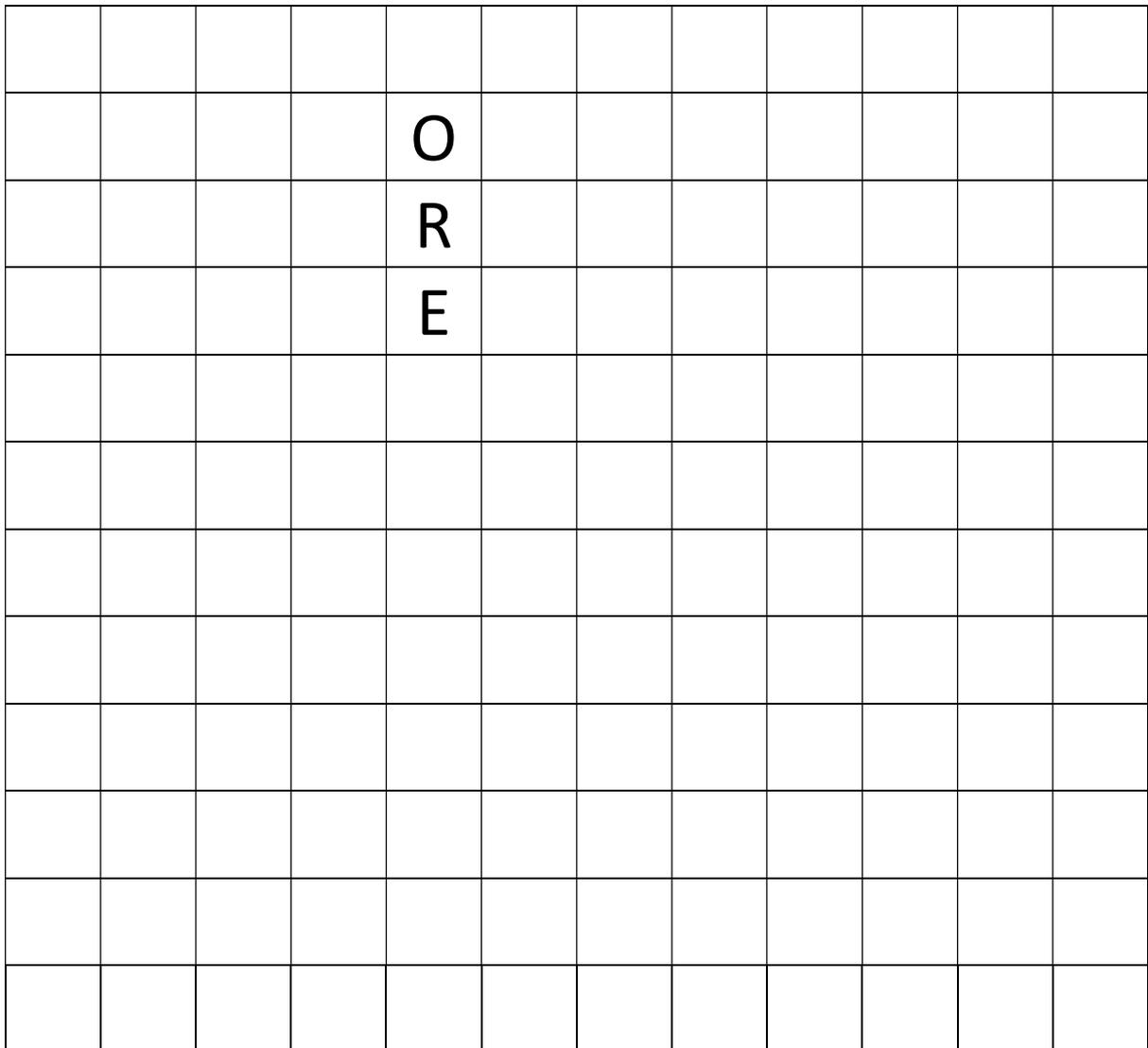
Interview one of the people at the exhibition about their work. Either note down their responses here, or make an audio-visual recording of the interview.

When you return to school, investigate the training or education pathways that people can take to work in that role.

Name	Job title	Company
What does your average work day look like?	What is the most interesting part of your work?	What are some challenges you have to deal with?
How has your work created opportunities for personal or professional development?	My question:	My question:

## WORD-SEARCH FUN

Use the Resources Technology Showcase as inspiration to create a resources word-search to challenge your friends. We've made a start for you...



WORDS TO FIND:

1	ORE	5	9
2		6	10
3		7	11
4		8	12

## EXTENSION ACTIVITIES

### EXCURSIONS AS RESEARCH

Conduct a survey, experiment or observational research related to your excursion, and then report on your findings. Plan your project beforehand to determine your research questions and method of collecting data. Here are some research ideas:

- Getting up from the desk and learning out and about: how many extra steps do students take on an excursion compared to in the classroom?
- What features of an exhibition stand make it most memorable for audiences?
- Prove or disprove the hypothesis: people who visit exhibitions talk to less than 20% of the exhibitors.
- How successful are resource companies in communicating ideas about innovation to young audiences?

### SELF-REFLECTION

Select three exhibits at the expo, and then for each one, consider: “How does the content of this exhibit relate to ME?”

- Try to think about this question creatively and from different perspectives: consider your needs, wants, interests, likes, dislikes, past experiences or future aspirations.

### PUZZLES AND GAMES

Design an educational puzzle or a game based on what you saw and learned at the exhibition.

Be as creative as you can! Will it be a:

- wordsearch or a code breaker?
- board game?
- card or matching activity?
- computer-based activity?
- crossword puzzle?
- physical game that involves people moving around?

### CREATIVE WRITING

Using a piece of technology you’ve learnt about at the expo as the inspiration, write a short story set in the future.

### LOGO DESIGN

Design a logo for a resources company. You can have a go at re-designing an existing logo, or make up a logo for an imaginary organisation.

Examine some of the logos you see at the expo and identify what appeals to you about them.

Think about the messages that the companies at the expo want to send (eg. cutting edge/environmentally friendly/economically strong etc) and what design elements will give that impression.

### DIGIBOOK

Create a digital picture book on the topic of how technology and innovation is changing the resources industry.

Take photos at the exhibition of things that help to answer this question, and then add captions, labels, speech bubbles and other text elements to create your book.