Enhancing
Engagement Through
Critical and Creative
Thinking
Janelle Wills
EDUCATION
Dr Janelle Wills

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## How do we get students more engaged in learning at school?

- Student perspectives on engaging in learning at school study by Dr Amy Berry and Dr Kellie Picker
- Series of focus groups with 158 students from Prep to Year 12
- Strong links to motivation theory - Self-determination theory

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## Critical and creative thinking …

represent 2 important ways of thinking that work together to help students inquire into the world around them.

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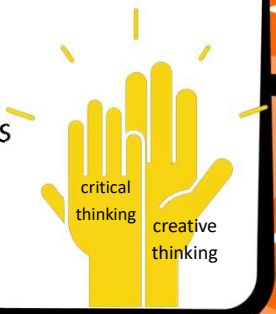
1. **Critical thinking** involves students analysing and assessing possibilities against criteria for judgement. They construct and evaluate arguments, and use information, evidence and logic to draw reasoned conclusions and to solve problems.

2. **Creative thinking** involves students learning to generate and apply new ideas and see existing situations in new ways. They identify alternative explanations and possibilities and create new links to generate successful outcomes.

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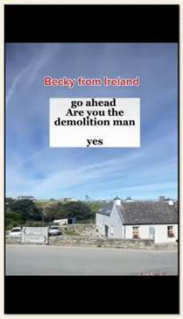
In what ways is Becky displaying critical and creative thinking?

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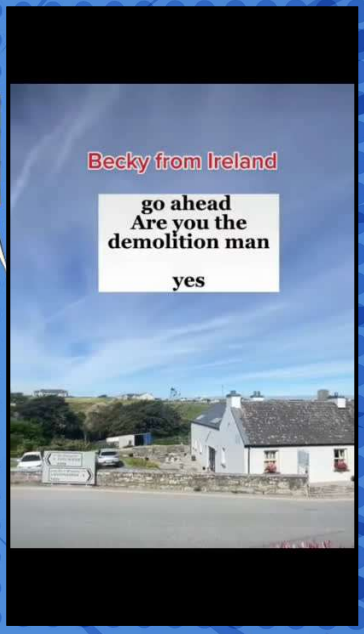


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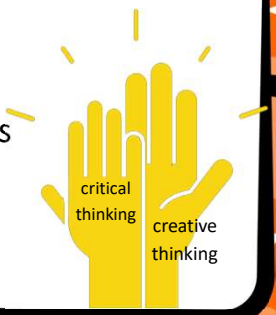


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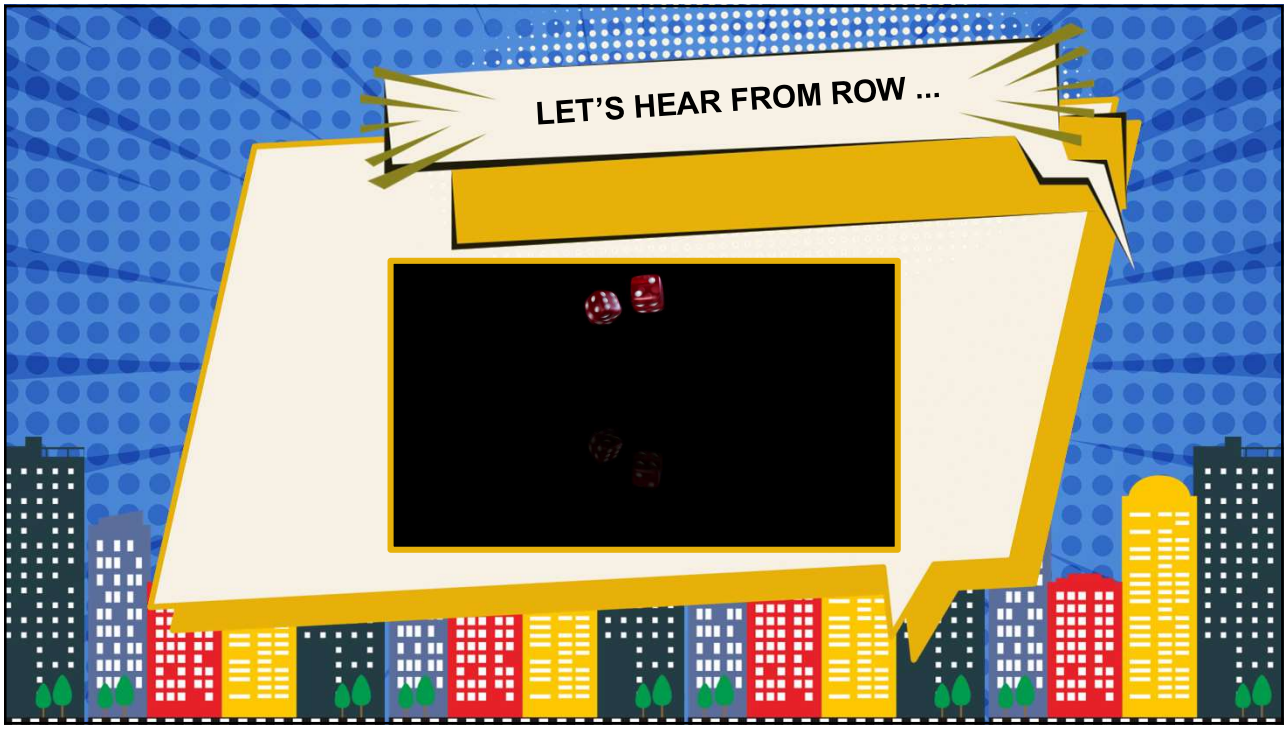
LET'S HEAR FROM ROW ...

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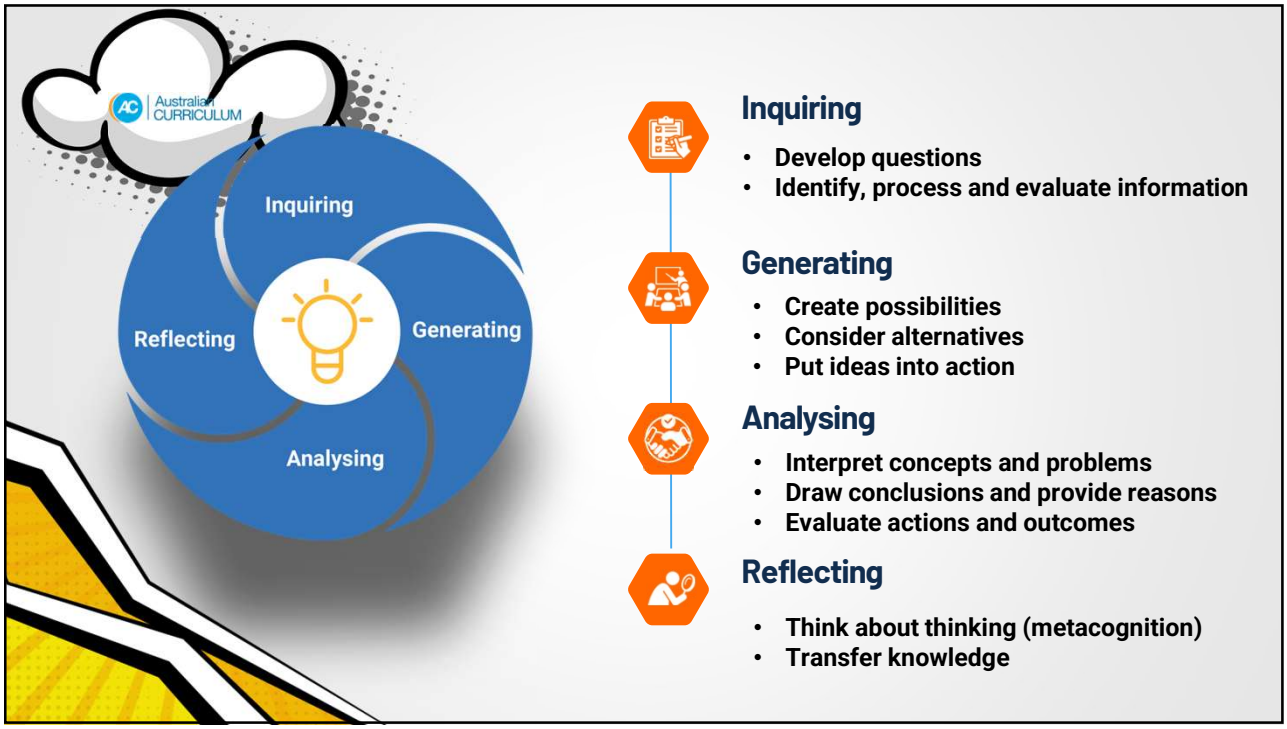
Australian CURRICULUM
Inquiring
Generating
Analysing
Reflecting
Inquiring
• Develop questions
• Identify, process and evaluate information
Generating
• Create possibilities
• Consider alternatives
• Put ideas into action
Analysing
• Interpret concepts and problems
• Draw conclusions and provide reasons
• Evaluate actions and outcomes
Reflecting
• Think about thinking (metacognition)
• Transfer knowledge

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In English, students develop **critical and creative thinking** through:
• listening to, reading, viewing, creating and presenting texts,
• interacting with others, creating and experimenting with literary texts, and discussing the aesthetic or social value of texts and
• close analysis of texts, students critically analyse the opinions, perspectives and unstated assumptions embedded in texts.
They develop **critical thinking** as they express personal responses and preferences, state and justify their points of view, and respond to the views of others.
Students develop **creative thinking skills** by considering authors' innovations, and planning, exploring and creating ideas for imaginative texts. They develop creative thinking when they use and adapt language to represent novel ideas.
Compass Points - A routine for generating possibilities
After reading the text, respond to the following prompts in round robin fashion:
E = Excited
What excites you about this explanation of critical and creative thinking in English? What's the upside?
W = Worrisome
What do you find worrisome? What's the downside? Is something missing?
N = Need to Know
What else do you need to know or find out about?
S = Suggestion
How might you include this thinking routine to generate possibilites? The 'S' can also be 'Stance' - what is your stance on this topic?
In Health and Physical Education, students develop logical, critical and creative thinking in response to health and movement issues.
• Students learn how to evaluate evidence and media messages related to Health and Physical Education topics for bias and reliability.
• They engage in learning experiences that encourage them to develop questions and seek creative solutions to health and movement situations.
• Students critique and challenge societal factors that negatively influence their own and others' health and wellbeing, such as stereotypes, biases, prejudices and discrimination.
In Mathematics, students develop critical and creative thinking as they learn to evaluate information, ideas and possibilities when seeking solutions.
A core part of the Mathematics curriculum is engaging students in reasoning and thinking about solutions to problems and the strategies needed to find these solutions.
Students are encouraged to be critical thinkers when justifying their choice of a computation strategy or developing relevant questions during a statistical investigation.
They are encouraged to look for alternative ways to approach mathematical problems; for example, identifying when a problem is like a previous one, experimenting with new ideas or simplifying a problem to control or limit the number of variables.

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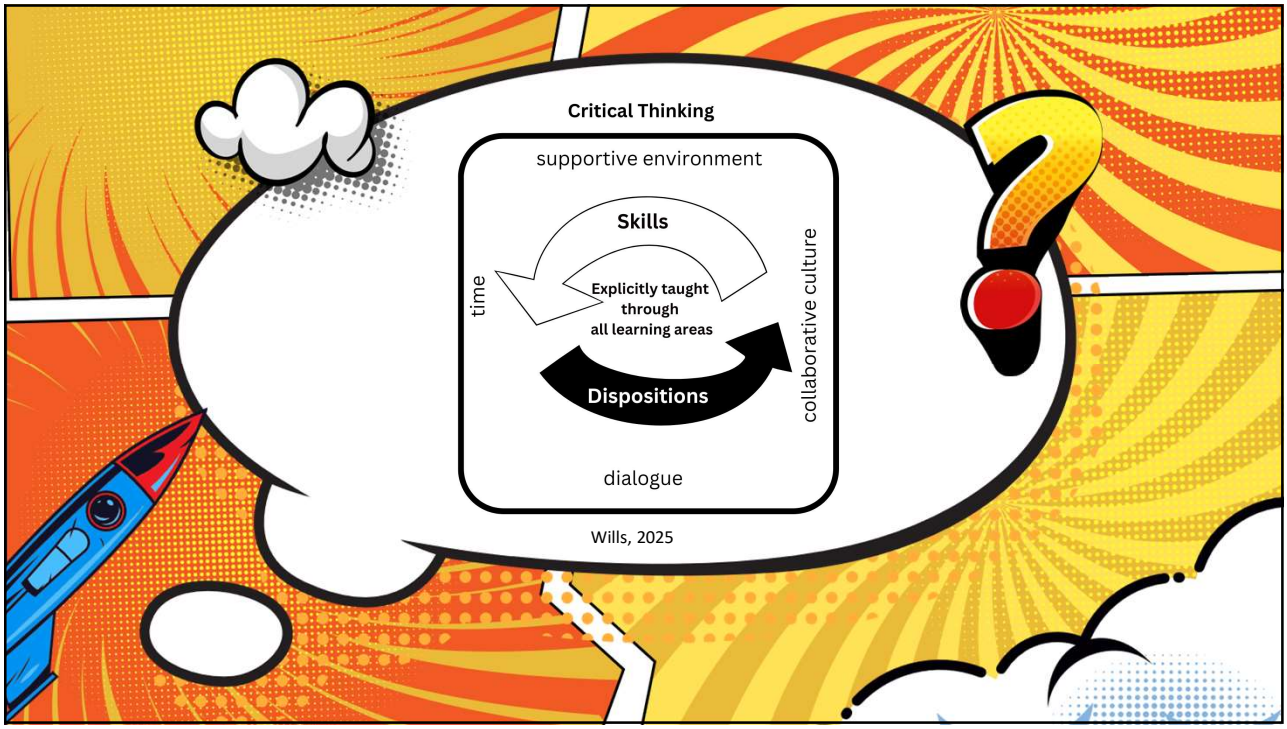
Critical Thinking
supportive environment
Skills
Explicitly taught through all learning areas
Dispositions
time
collaborative culture
dialogue
Wills, 2025

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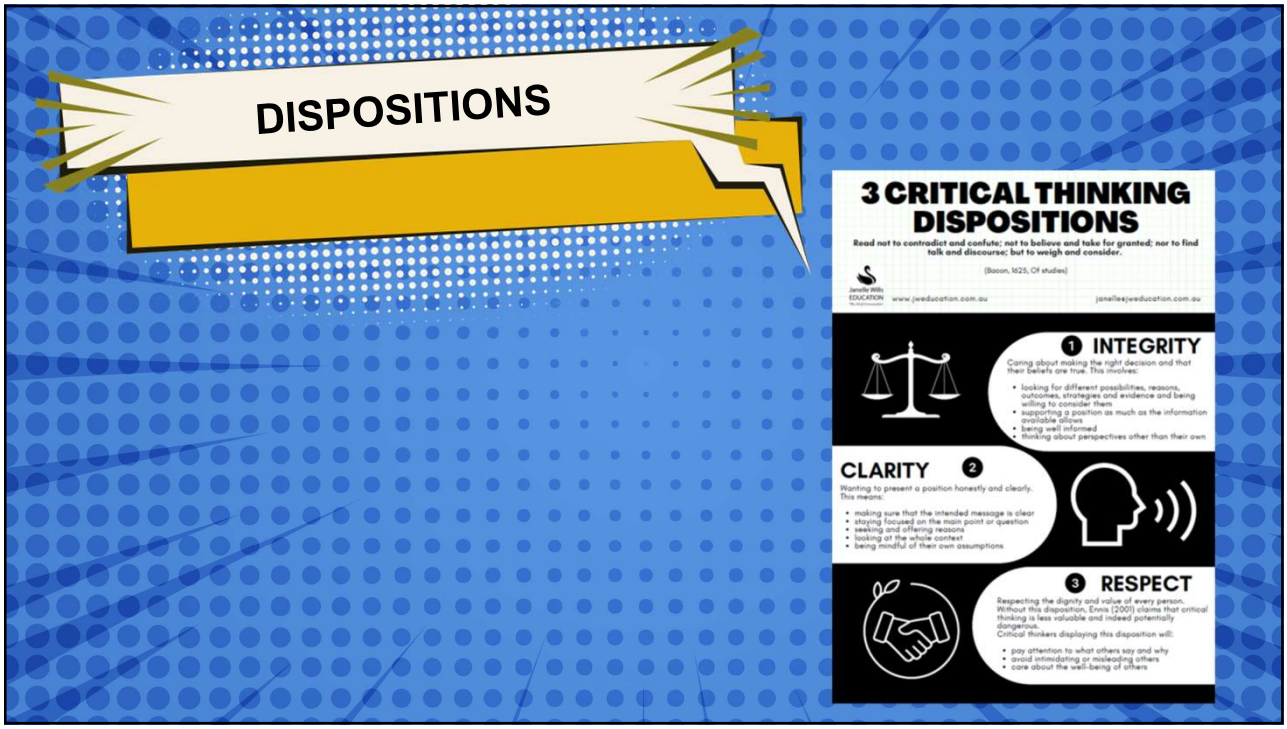
DISPOSITIONS
3 CRITICAL THINKING DISPOSITIONS
Read not to contradict and confute; not to believe and take for granted; nor to find talk and discourse; but to weigh and consider.
(Bacon, 1625, Of studies)
www.jwseducation.com.au
janelleejweducation.com.au
1 INTEGRITY
Caring about making the right decision and that their beliefs are true. This involves:
looking for different possibilities, reasons, outcomes, strategies and evidence and being willing to consider them
supporting a position as much as the information available allows
being well informed
thinking about perspectives other than their own
CLARITY 2
Wanting to present a position honestly and clearly. This means:
making sure that the intended message is clear
staying focused on the main point or question
seeking and offering reasons
looking at the whole context
being mindful of their own assumptions
3 RESPECT
Respecting the dignity and value of every person. Without this disposition, Ennis (2001) claims that critical thinking is less valuable and indeed potentially dangerous.
Critical thinkers displaying this disposition will:
pay attention to what others say and why
avoid intimidating or misleading others
care about the well-being of others

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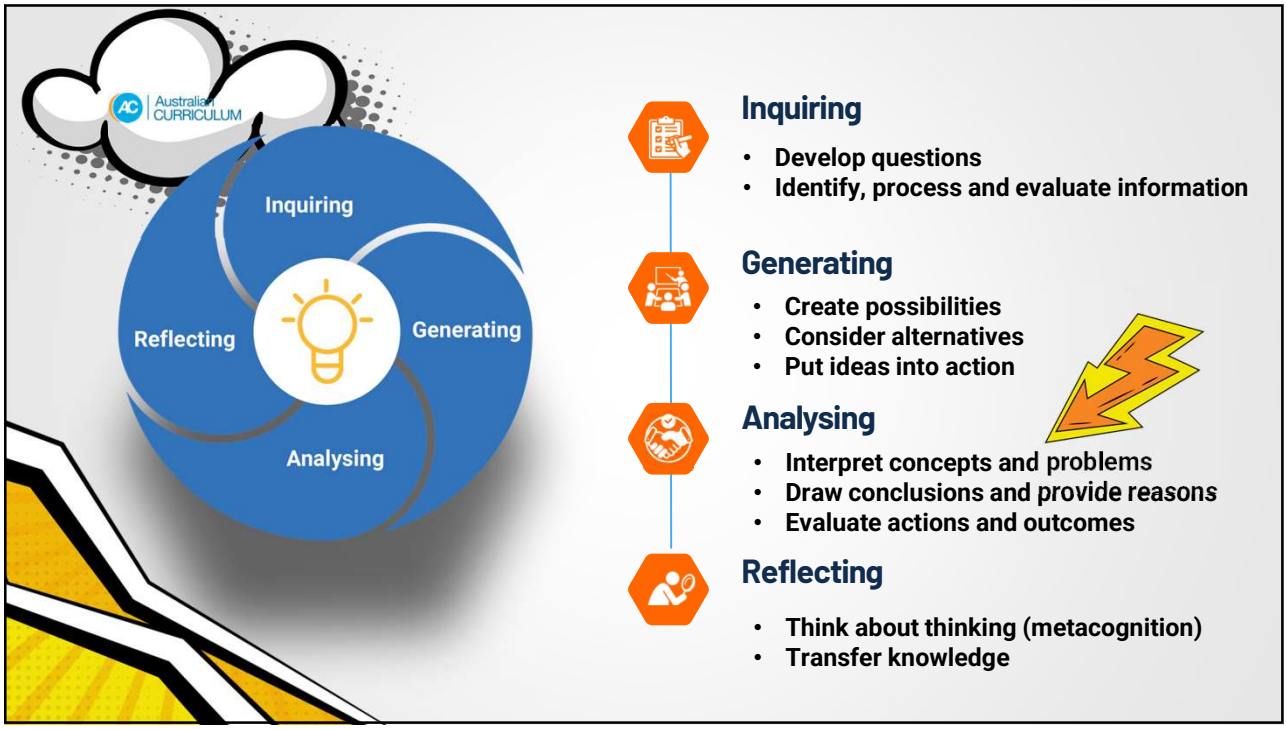
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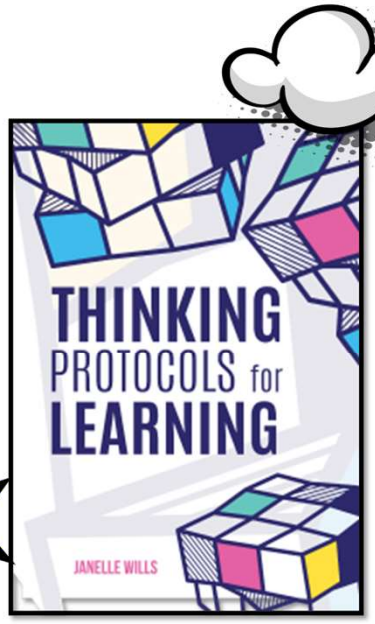
## ANALYSING

## FIVE – THREE – ONE

Requires students to dig deeper into a text to determine the critical aspects of what they have read, heard or viewed. It helps students to collaboratively construct meaning and to clarify and extend their thinking.

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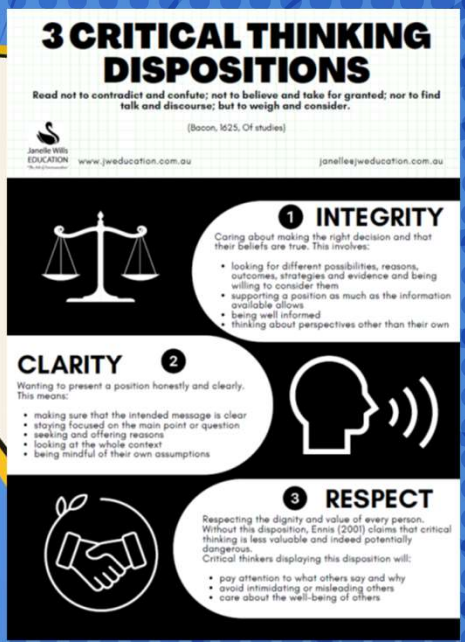
## FIVE WORDS

1. Read the three dispositions
2. Circle five significant words
3. Be ready to share your words

01:00

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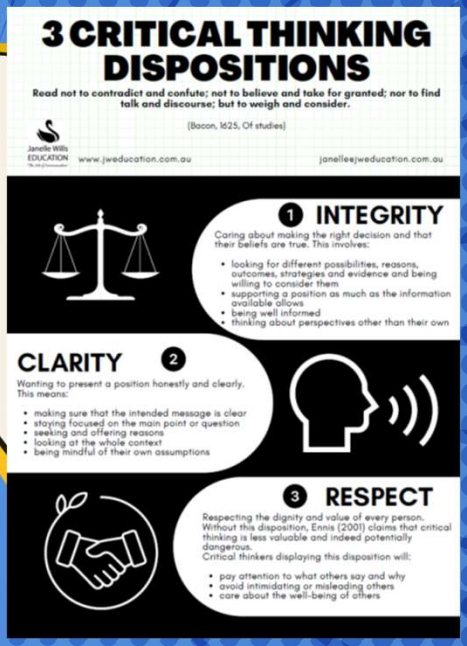
## THREE WORDS

1. Find a partner
2. Share your words
3. Together decide on 3 significant words

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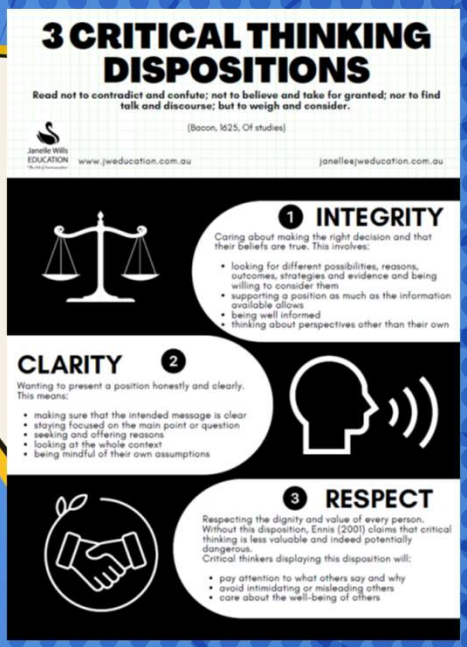
## ONE WORD

1. Link with another pair
2. Share your words
3. As a group choose 1 significant word
4. Be ready to share your word

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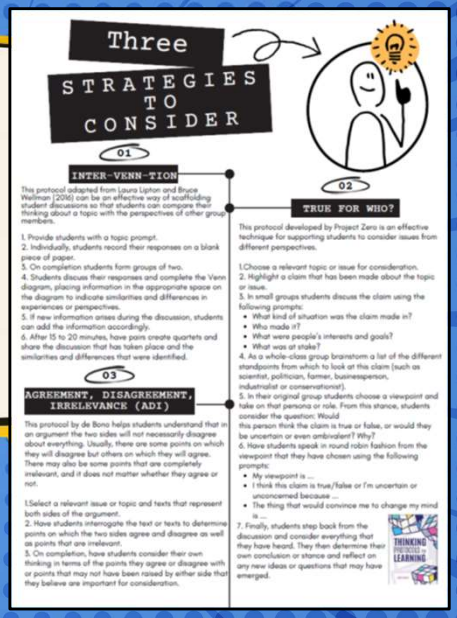
## STRATEGIES

Three of many examples you might consider.

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CREATIVE
THINKING

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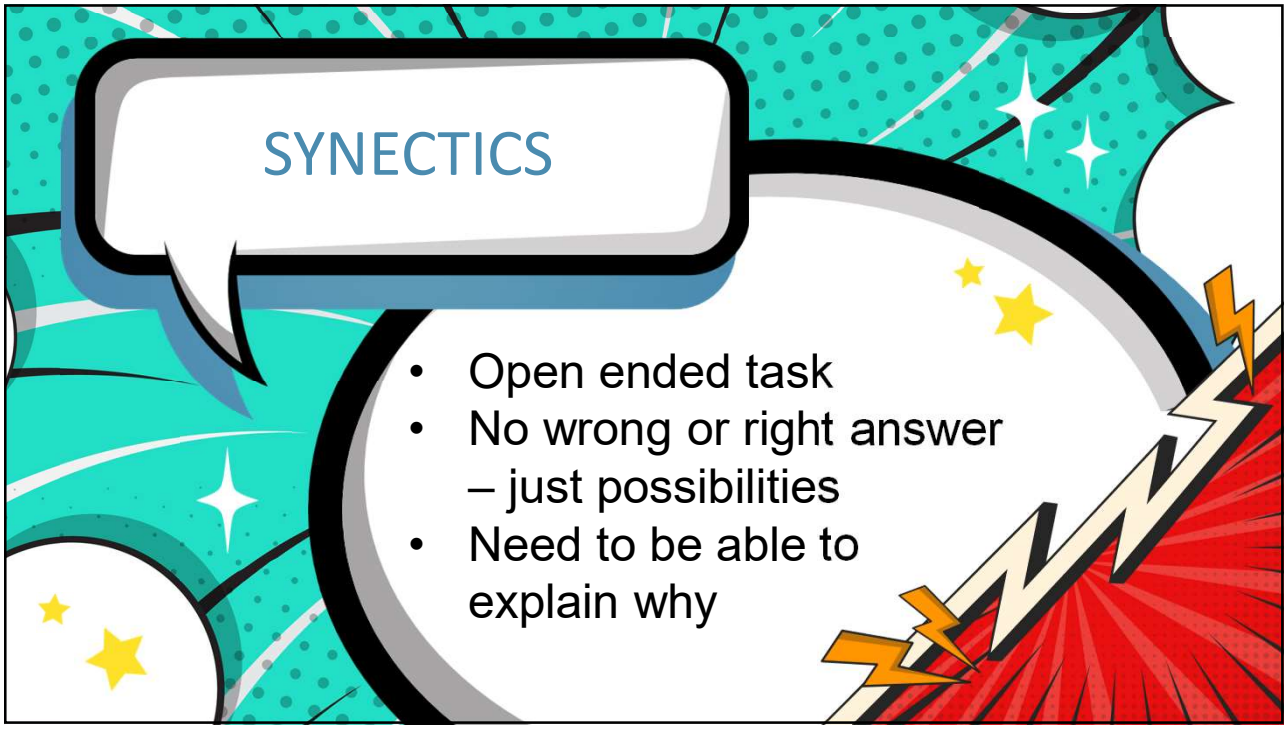
SYNECTICS
• Open ended task
• No wrong or right answer – just possibilities
• Need to be able to explain why

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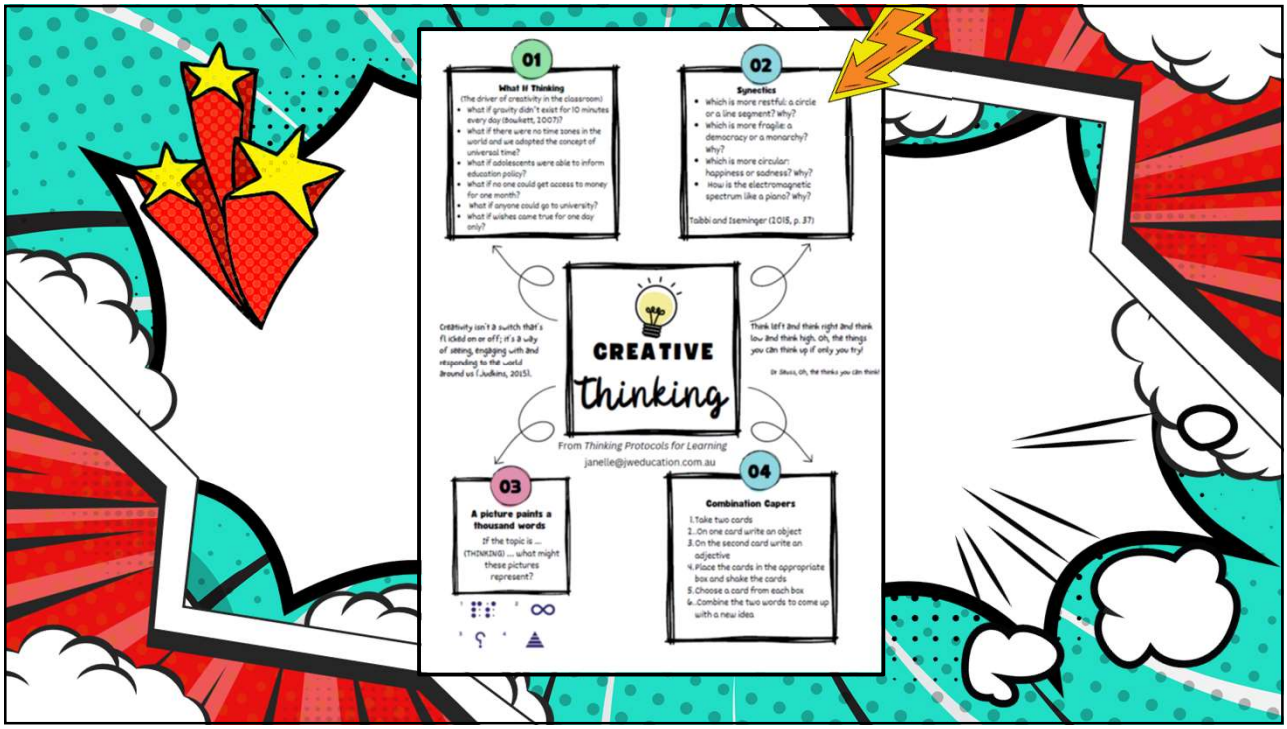
01
What If Thinking
(The driver of creativity in the classroom)
• what if gravity didn't exist for 10 minutes every day (Boulkett, 2007)?
• what if there were no time zones in the world and we adopted the concept of universal time?
• what if adolescents were able to inform education policy?
• what if no one could get access to money for one month?
• what if anyone could go to university?
• what if wishes came true for one day only?
02
Synectics
• which is more restful: a circle or a line segment? why?
• which is more fragile: a democracy or a monarchy? why?
• which is more circular: happiness or sadness? why?
• how is the electromagnetic spectrum like a piano? why?
Tabbi and Iseminger (2015, p. 37)
CREATIVE
Thinking
From Thinking Protocols for Learning
janelle@jweducation.com.au
Creativity isn't a switch that's [] ickid on or off; it's a way of seeing, engaging with and responding to the world around us (Judkins, 2015).
Think left and think right and think low and think high. Oh, the things you can think up if only you try!
Dr Seuss, Oh, the things you can think
03
A picture paints a thousand words
If the topic is ... (THINKING) ... what might these pictures represent?
04
Combination Capers
1.Take two cards
2..On one card write an object
3.On the second card write an adjective
4.Place the cards in the appropriate box and shake the cards
5.Choose a card from each box
6..Combine the two words to come up with a new idea

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COMBINATION
CAPERS
FAIL

28

Spencer Silver
Art Fry
3M

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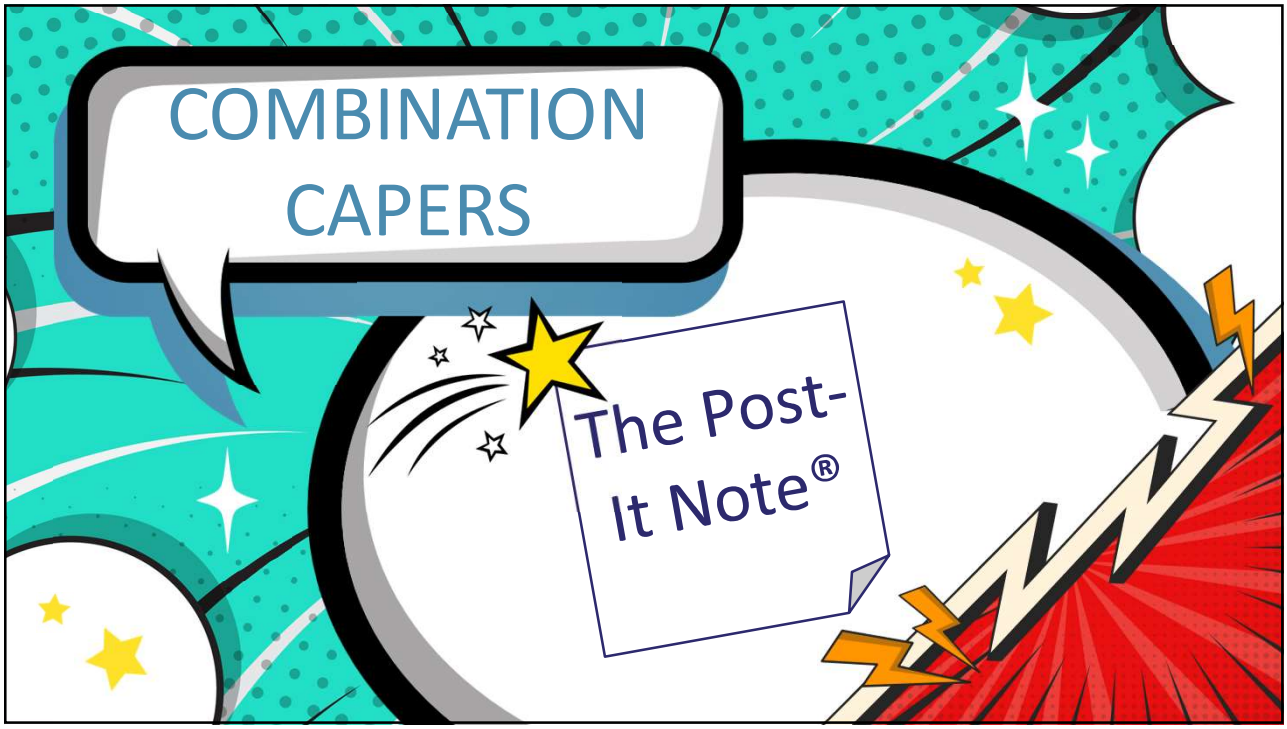
COMBINATION CAPERS
The Post-It Note®

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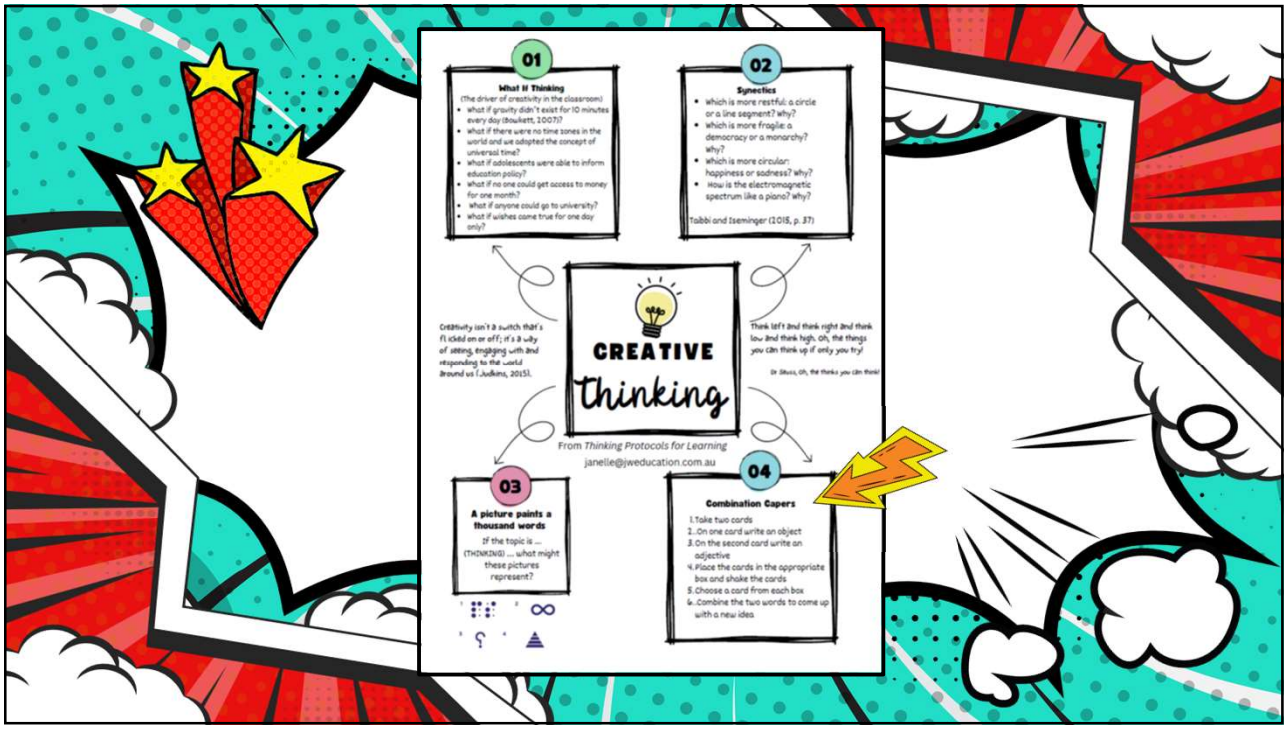
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EDUCATION

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