Tournament of Minds (TOM) History
Esperance Senior High School

The Tournament of Minds is a critical and creative thinking skills competition with representatives from each Australian State and from New Zealand, Hong Kong, Thailand and Singapore competing each year in October in a capital city in Australia. The competition is soon to expand to include other countries as well. Both Government and private schools compete to represent their State or country. The competition has been operating in Australia since 1987, in Western Australia since 1992 and in Esperance Senior High School since 1993.

The objectives of TOM are:
1. **To provide the challenge of real, open-ended problems**
   The participants will encounter constructive, challenging problems that have no fixed solutions.
2. **To develop creative problem solving approaches and techniques**
   Tournament of Minds recognises and encourages the development of individual creative potential.
3. **To foster cooperative learning and teamwork**
   Team participants are expected to work cooperatively with all others involved.
4. **To stress positive reinforcement and celebrate excellence**
   Participants are to be encouraged throughout the problem solving process. Judges will be supportive of the efforts of all students.
5. **To encourage experimentation and risk taking**
   The nature of problem solving includes a range of experiences. Students are encouraged to explore all available alternatives.
6. **To expand and reward creative and divergent thinking**
   On Tournament Day the judges will reward both unusual and creative ideas within the problem's boundaries.
7. **To stimulate a spirit of inquiry and love of learning**
   Participants are encouraged to think creatively, take risks, be aware of the consequences of their actions and to become involved in an exciting learning experience.

The TOM motto is: It is the journey, not the destination.

Esperance Senior High School (SHS) has been represented in TOM at a State or national level many times since the school became involved in TOM in 1993. Between 1993 and 2017, Esperance SHS has won the Australasian Pacific national finals seven times and gained Honours (2nd and 3rd placement in each division) eleven times. In 2017, the Language Literature and Social Sciences TOM teams were selected for the State finals, with the Language Literature team winning both the State finals and then the Australasian Pacific finals on 28th October in Adelaide.

There are four divisions in the competition: Maths Engineering (now called Engineering Maths), Social Sciences, Language Literature and more recently, Applied Technology (now called Science Technology) at both primary school level (years 4 - 6) and secondary level (years 7 -10). Each team has up to 7 students.

Students are assessed on their creative and critical thinking skills, problem solving ability, dramatic presentation, team work, time management skills and the ability to work under pressure.
Students have two presentations to make. At the State and national finals they have three hours to prepare a response to a challenge and ten minutes to present a solution. They also face a spontaneous challenge, being given a problem to prepare the solution in four minutes and to present their response in one or two minutes.

In 2006 the Esperance SHS Maths Engineering team represented Western Australia in the national finals held in Adelaide. The three hour National Challenge for Maths Engineering was: "A Tall Storey". The problem was as follows:

A king is facing a revolt by his troops as the 'golden orb' that is a significant feature in the sky is not maintaining its position. The king summons the engineers and mathematicians to work out how to raise the orb as high in the sky as possible. They only have at their disposal some poles, stretchy ropes and some strange blue glue.

Teams are required to use only the allowed materials to construct a tower that will hold the golden orb as high as possible. The tower must have at least three separate parts, and the orb must remain safely on the tower for 10 seconds. The higher the tower, the better.

The Esperance SHS team approached this problem using a chess board scenario. The 'troops' or chess pieces were going to revolt by making all players equal size. The king was unhappy, and the solution was achieved by making the golden orb in his crown higher than the other chess pieces. The tower represented a king's crown and the orb sat in the top of this clever construction.

The Esperance SHS Maths Engineering team was successful in winning the national finals in 2006.

On Saturday 20th October 2007 the national finals were held in Canberra. Esperance Senior High School represented Western Australia in the Secondary Division of the Language Literature competition. Seven students from years 8, 9 and 10 were in the team that competed in Canberra.

The Language Literature teams were required to interpret a poem by A.A.Milne called '*Disobedience'*. The poem has three verses, but the students were only given the first two verses and had to create the remainder of the story themselves. In the poem, the mother runs away from James Morrison, who is the child, and comes to the end of town.

The Esperance Senior High School students depicted the child as the mother's inner self, as she traces her childhood steps. She is seen as dying of cancer and the child, James, tries to stop her from going to the end of town, which the students portrayed as death.

The judges commended the Esperance students for their complex and innovative approach to this task as well as their outstanding presentation, including the use of tabloids. They also commended the team on their excellent spontaneous task, where the students were given a series of sounds to respond to, which they depicted as the creative process of writing.

In 2009 the Applied Technology team won the Australasian Pacific finals in Brisbane. (Teams from New Zealand and Singapore now also compete in TOM, with other international teams planning to join the competition in future years). The teams had to produce a four minute movie titled "Flashback" and present a three minute documentary on the making of the movie that incorporated three complex technical features.

In response to this challenge, the Esperance team created a short film on an old lady's wartime memories, as despite her advancing dementia, her life, joys and sorrows flashbacked to the war time era, during which she lost her son while he was defending his country.

This challenge was used for both the State and national finals, with teams in the national finals being required to develop a new scenario based around the documentary and movie they had created for the State finals.

In 2017 the Language Literature team won the Australasian Pacific finals of TOM in Adelaide, competing against teams from all Australian States, New Zealand, Hong Kong and Thailand.

The ten minute presentation comprised the following challenge. Each year the Macquarie dictionary (which all teams have access to in their planning) holds an Award for the 'Word of the Year'. The challenge was to choose two words not in the English dictionary and create a new word, with all three words being selected as a finalist in the competition. The 'words' had to represent their country's culture and society and justify to the judging panel through an Awards ceremony why the winning word was worthy of entering the dictionary as the 'Word of the Year'.

In response to this challenge, the Esperance team created an 'A-ward' society set in a ward of the mental institution where inmates had been placed due to the many social issues they were suffering.

The three words chosen by the team were Dehumanisation (not in the Macquarie dictionary as the team discovered), Take-advantage and Esoprup ('purpose' spelt backwards). Each year the mental institution holds a ceremony to spread knowledge throughout the society of social issues identified and to gain support for a resolution to these problems. As finalists, the 'three words' explained their issues of equality, justice and safety and made a compelling case for freedom to the judges on a Q and A interview panel. 'Esoprup' won the competition as "everyone needs a purpose in life, and 'purpose' integrated the other issues into a universal response and resolution", so was a clear winner.

The Arts

How does TOM fit into your Curriculum?

Tournament of Minds
Challenging the World

PERSONAL LEARNING

The group structure of the challenge provides students with an opportunity to learn with and from their peers. Skills in time and resource management are critical for completion of the task, with the teacher acting as a facilitator of learning.

HIGHER ORDER THINKING

Challenges guide students through a hierarchy of thinking, moving from knowing through to creating and evaluating.

HABITS OF MIND

Creating, Imagining and Innovating are important during this challenge. Think about how something might be done differently from the "norm"; propose new ideas; strive for originality; and consider novel suggestions others might make.

THINKING SKILLS

This challenge requires students to identify the elements required, generate a range of possible solutions and then research and synthesize the ideas in order to create a new script. Evaluation is an ongoing process

ENGLISH

Make connections between students' own experiences and those of characters and events represented in texts drawn from different contexts

Plan, rehearse and deliver presentations, selecting and sequencing appropriate content and multimodal elements for aesthetic and playful purposes

THE ARTS

The drama, music and visual arts aspects of this challenge enables students to learn how to create, design, represent, communicate and share their imagined and conceptual ideas, emotions, observations and experiences. This challenge requires students to make an artwork, drawing on the world as a source of ideas. It encourages them to explore a range of forms, styles sand contexts.

Students develop a knowledge and understanding of traditional and contemporary drama as critical and active participants

Rehearse and perform music including music they have composed by improvising, sourcing and arranging ideas and making decisions to engage an audience
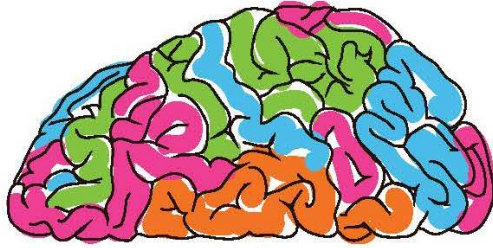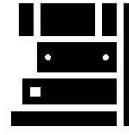
LONG TERM CHALLENGE EXAMPLE

a INTRODUCTION

"Cats" is a musical by Andrew Lloyd Webber and is the sixth longest running West End Show in history. What is it that makes popular theatre shows so appealing to so many for so long? It may be that the storyline is relatable to people no matter what age and where they live. So could this story relate to your context?

b CHALLENGE

Your team must retell the musical "Cats" but make it set in your home town. You must include 4 original contemporary songs that help to tell the story and 2 recognisable features from your city painted on backdrops.

c PRESENTATION

- Show evidence of research of the basic plot of "Cats" in the storyline
- Set the story in your home town or city
- Perform 4 original songs as part of the new musical
- Demonstrate the contribution of the songs to the storyline through the lyrics
- Create backdrops that feature recognizable landmarks from your town or city

Language Literature

How does TOM fit into your Curriculum?

Tournament of Minds
Challenging the World

LONG TERM CHALLENGE EXAMPLE

a INTRODUCTION

For many years, The Haiku Grand Master and the Haiku Apprentice have been helping the Arts Council of Nimbonia with their creative projects. They have been able to write spells in haiku that have vastly increased the creativity of those who have sought their help. Now they are in a fix as their old Haiku spells are no longer working.

b CHALLENGE

With the assistance of two famous poets, the Grand Master and the Apprentice have had to create new spells in different verse form and demonstrate the effectiveness of these new spells to the Arts Council. The poets available for consultation are Spike Milligan, William Shakespeare, Lord Byron, A.B. Paterson, Ogden Nash and Dr Seuss.

c PRESENTATION

- Portray the current language used by the Haiku Master and the Apprentice
- Develop the scenario used to choose the two poets
- Demonstrate an accurate depiction of the chosen poets and their works
- Create two new spells using each of the poetic forms of the two chosen poets
- Show how these new spells increase creativity within Nimbonia.
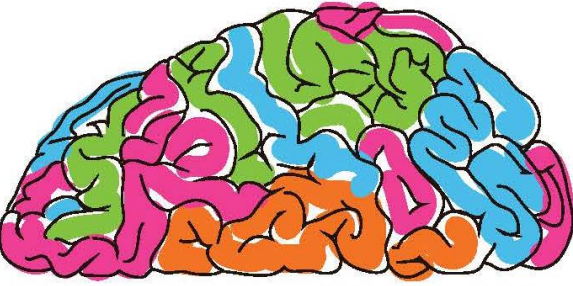
COLLABORATIVE LEARNING

The task is designed for students to work in groups. Skills in task sharing, negotiation and conflict resolution and task delegation are encouraged.

HIGHER ORDER THINKING

Challenges guide students through a hierarchy of thinking, moving from knowing through to creating and evaluating.

HABITS OF MIND

Some of the Habits of Mind that could be a focus during the challenge preparation include persisting, listening to others, thinking interdependently and finding humour.

ENGLISH

The solution to the challenge requires a strong understanding of the selected poets, the issues and themes they explore and the various structures employed.

Dramatisation of the solution encourages students to develop skills in characterisation, and persuasive language.

THE ARTS

This presentation format is student centred and encourages novel use of recycled materials for costumes. Stagecraft becomes a factor as students perform in front of an audience.

THINKING SKILLS

Exploring a number of different contexts for the spells places students in a position where they need to evaluate a range of possible options.

In order to define the challenge, students must first explore the abstract quality of creativity. Students are required to engage with ambiguity and generate a range of options, and evaluate the worth of these against their own and other people's views, as they come to understand the concept of creativity. Selected thinking tools can be applied to broaden their understanding and evaluate responses.

Students present a written piece that demonstrates their ability to manipulate structures and features of the genres; poetry and script.

Social Sciences

How does TOM fit into your Curriculum?

Tournament of Minds
Challenging the World

LONG TERM CHALLENGE EXAMPLE

a INTRODUCTION

No one expected it, but it happened. A most unlikely group in society has gone on strike. It would not have happened without a very good reason, but because the strike has occurred, society has been affected in a significant way.

b CHALLENGE

Your team must explain why the group felt it needed to go on strike. The members believe they are justified in their actions but do other members of the society necessarily agree with them? What unique circumstance or character will emerge to settle or solve the issue?

c PRESENTATION

During your presentation your team must:

* establish where your society is and who its members are
* describe the group who is going on strike and establish why the members are doing so
* present reasons why it is a most unlikely group to go on strike
* explore the significant consequences of their strike for themselves and for other members of the society

THINKING SKILLS

The challenge asks for the views and response of others. This encourages students to consider and develop empathy for alternative viewpoints. Tools such as de Bono's O.P.V. or Six Hats could be helpful. Graphic organizers could help to illustrate points of consensus and difference across different social groups.

HUMANITIES

HISTORY

Students may choose to examine the identified issue through time to present a historical context, and thus justify the planned way forward. Investigation into past strikes of significance, and how these were resolved, encourages students to apply past knowledge to new situations.

ECONOMICS

Depending upon the scenario students select, this challenge may open opportunities for students to link prior knowledge regarding ethical consumerism, sustainable productivity and globalization. Supply and demand of goods or services is another possible focus for investigation.

GEOGRAPHY

Development issues such as poverty, social disadvantage, resource management and rapid technological development are linked to social change. In identifying a solution to the issue, students consider how policies and actions impact on different groups in society.

ENGLISH

The open-ended nature of the task means students can explore a range of approaches for presentation including poetry, debate and slogans. In preparation, they may explore how past social issues have been portrayed across a range of texts such as editorials, cartoons and feature articles.

CIVICS & CITIZENSHIP

The challenge asks students to consider the actions of a group in relation to a community. Issues of democracy, responsible action and leadership come under consideration as could the role of the media in portraying the group's actions.

THE ARTS

Presentation of the challenge allows students opportunity to consider elements of the Performing and Visual Arts in order to create a performance that is rich with imagery, symbolism and sound.

How does TOM fit into your Curriculum?

THINKING SKILLS

The ability to question initial perceptions, to pose problems and to generate several outcomes become features in this challenge. Reflection and evaluation is ongoing.

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS

The combination of the STEM principles provides an integrated approach for students to deepen their conceptual understanding, and using their creative and critical thinking skills to solve the challenge within an authentic context, mirroring the real world. Depending on the challenge, there may be varying emphasis on the various components. Rest assured all the skills and understanding of the principles are required for the development of the students' creative presentation!

DESIGN & TECHNOLOGY

The challenges build knowledge and understanding with process and production skills which require testing, are honed and utilised to find a creative and comprehensive solution to the challenge. The use of digital technology is actively encouraged.

COMMUNICATION

Presentation of the message on the data source to an audience requires accurate use of specific language and an ability to justify selections.

MATHEMATICS

The challenges reinforce the importance of working mathematically within the challenge context. They promote development in the sophisticated understanding of mathematical concepts and in fluency of processes to pose and solve problems through reasoning. Through STEM, connections between mathematics and other disciplines will promote appreciation of mathematics in an enjoyable and accessible way.

SCIENCE

Students apply critical scientific thought in order to recognise, predict and evaluate the application of technology across a global community. The challenges will help expand curiosity and build sound scientific literacy.

LONG TERM CHALLENGE EXAMPLE

a INTRODUCTION

It is the year 2040. You and your friends are involved in a climb on a high mountain. Just above the snowline you come across a tube containing a data source that was used in the early part of this, the 21st Century, by a previous expedition. The tube has been exposed due to warmer than normal temperatures, possibly as a result of global warming. The contents of the data source may give a clue to what happened to the expedition. The data is recorded in animation.

b CHALLENGE

You are to determine the purpose of the original expedition, what it discovered, what happened to it and the contents of the tube. You are also to determine what has happened to the world since the original expedition and the discovery of the tube.

c PRESENTATION

During your presentation your team must:
- Using a minimum of three different items of present day technology, reveal what is recorded on the data storage device in animation form.
- Present to the judges a working model of the tube that was able to withstand the climate, demonstrating your scientific and engineering principles.
- Present to the judges an accurate schematic drawing of the tube.

Using a variety of technologies you are to create no more than five minutes of your solution as animation. The rest of the solution time (up to five minutes) will be interactive using your team of seven students. Any part of your solution may be incorporated into either section – animation or interactive.

How does TOM fit into your Curriculum?

Tournament of Minds
Challenging the World!

SPONTANEOUS CHALLENGE EXAMPLE

a **QUESTION**
When does Red equal Blue?

b **CHALLENGE**
Your team is to decide on three situations when this could be true.

c **PRESENTATION**
You have four minutes to decide on your team's most creative responses and one minute to give your response.

BRAINSTORMING
Brainstorming skills are critical as challenges ask students to generate many ideas quickly. Effective groups listen, defer judgment, al-low the outlandish, participate and take risks.

STRUCTURE
Elements of thinking tools such as SCAMPER or Ryan's Thinking Keys are often identifiable in short term challenges. In this case Ryan's commonality key is being employed.

GROUP PROCESS SKILLS
Creating, Imagining and Innovating are important during this challenge. Think about how something might be done differently from the "norm"; propose new ideas; strive for originality; and consider novel suggestions others might make.

The limited time means that effective groups are familiar with the group skills required. Members take on allocated roles with time management and problem checking being critical to completing the challenge.

EVALUATION
A creative response will:
- Move from the simple to diverse
- Seek causal relationships
- Interpret intended meanings
- Seek out synonyms, group and classify
- Seek a variety of solutions

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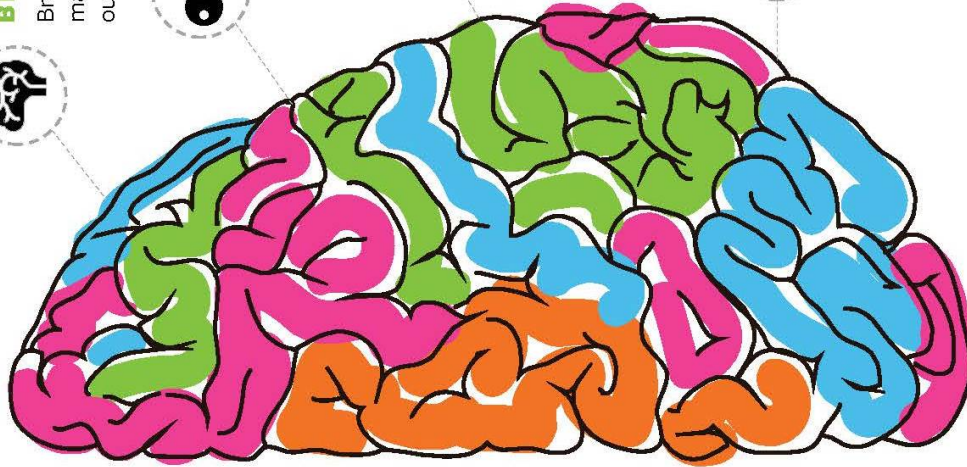
Esperance Senior High School TOM History
(A critical and creative thinking skills international competition)

Year	ESHS teams in State Finals	ESHS teams in National Final	ESHS teams that won or received Honours* in the National Finals
1993	**Maths Engineering**	**Maths Engineering** *in Sydney*	**Maths Engineering** (Honours)
1994	**Maths Engineering**	**Maths Engineering** *in Adelaide*	**Maths Engineering** (Won)
1996	**Social Sciences** **Maths Engineering**		
1997	**Social Sciences** *(creativity award)* **Maths Engineering**	**Social Sciences** **Maths Engineering** *in Brisbane*	**Social Sciences** (Honours)
1998	**Social Sciences**		
1999	**Social Sciences** **Language Literature**	**Social Sciences** *in Adelaide*	
2000	**Social Sciences** **Language Literature**	**Social Sciences** **Language Literature** *in Sydney*	
2001	**Social Sciences** **Maths Engineering** **Language Literature**		
2002	**Social Sciences**	**Social Sciences** *in Melbourne*	**Social Sciences** (Won)
2003	**Social Sciences** **Maths Engineering** **Language Literature**	**Social Sciences** **Language Literature** *in Darwin*	**Social Sciences** (Honours)
2004	**Social Sciences** **Maths Engineering** **Language Literature**	**Social Sciences** **Language Literature** *in Perth*	**Social Sciences** (Honours) **Language Literature** (Honours)
2005	**Social Sciences** **Maths Engineering** **Language Literature**		
2006	**Maths Engineering** **Social Sciences** **Language Literature**	**Maths Engineering** **Social Sciences** *in Adelaide*	**Maths Engineering** (Won) **Social Sciences** (Honours)
2007	**Language Literature** **Maths Engineering**	**Language Literature** *in Canberra*	**Language Literature** (Won)
2008	**Language and Literature**		
2009	**Applied Technology** **Language Literature**	**Applied Technology** *in Brisbane*	**Applied Technology** (Won)
2010	**Language Literature**		
2011	**Language Literature** *(creativity award)*	**Language Literature** *in Hobart*	**Language Literature** (Honours)
2012	**Language Literature** **Social Sciences**		
2013	**Language Literature**		
2014	**Language Literature** **Social Sciences**	**Language Literature** **Social Sciences** *in Melbourne*	**Language Literature** (Honours) **Social Sciences** (Honours)
2015	**Language Literature** **Social Sciences** **Applied Technology**	**Language Literature** **Social Sciences** *in Sydney*	**Language Literature** (Won) **Social Sciences** (Honours)
2016	**Language Literature** **Social Sciences**	**Language Literature** **Social Sciences** *in Gold Coast*	**Social Sciences** (Honours)
2017	**Language Literature** **Social Sciences**	**Language Literature** *in Adelaide*	**Language Literature** (Won)
2018	**Language Literature** **Social Sciences**		

(N.B. Honours is allocated to the 2nd and 3rd placement in each division)

Team	State Finalists	National Finalists	National Honours	National Winners
Language Literature	19	9	3	3
Social Sciences	17	10	7	1
Maths Engineering	10	4	1	2
Applied Technology	2	1		1

TOM Teams 2017

TOM Language Literature 2017
winning team trophy

TOM Teams 2016