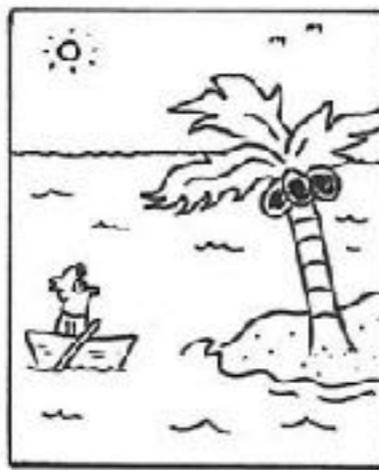
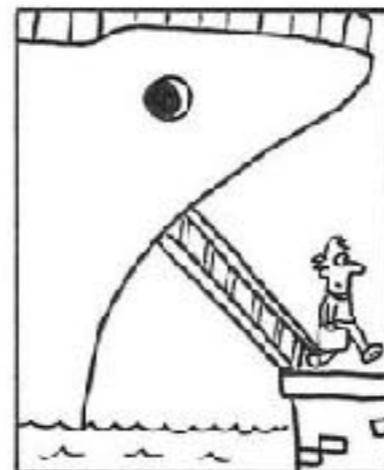
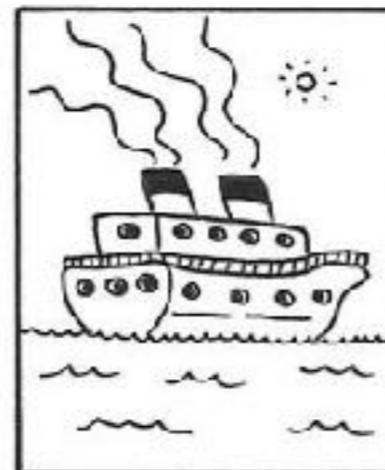
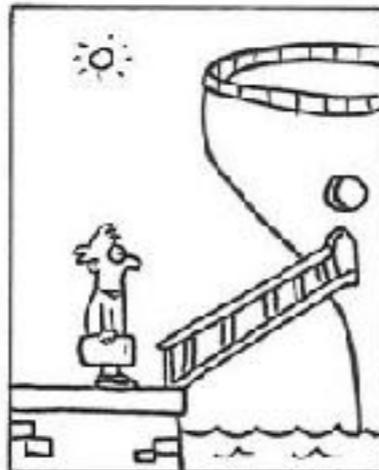


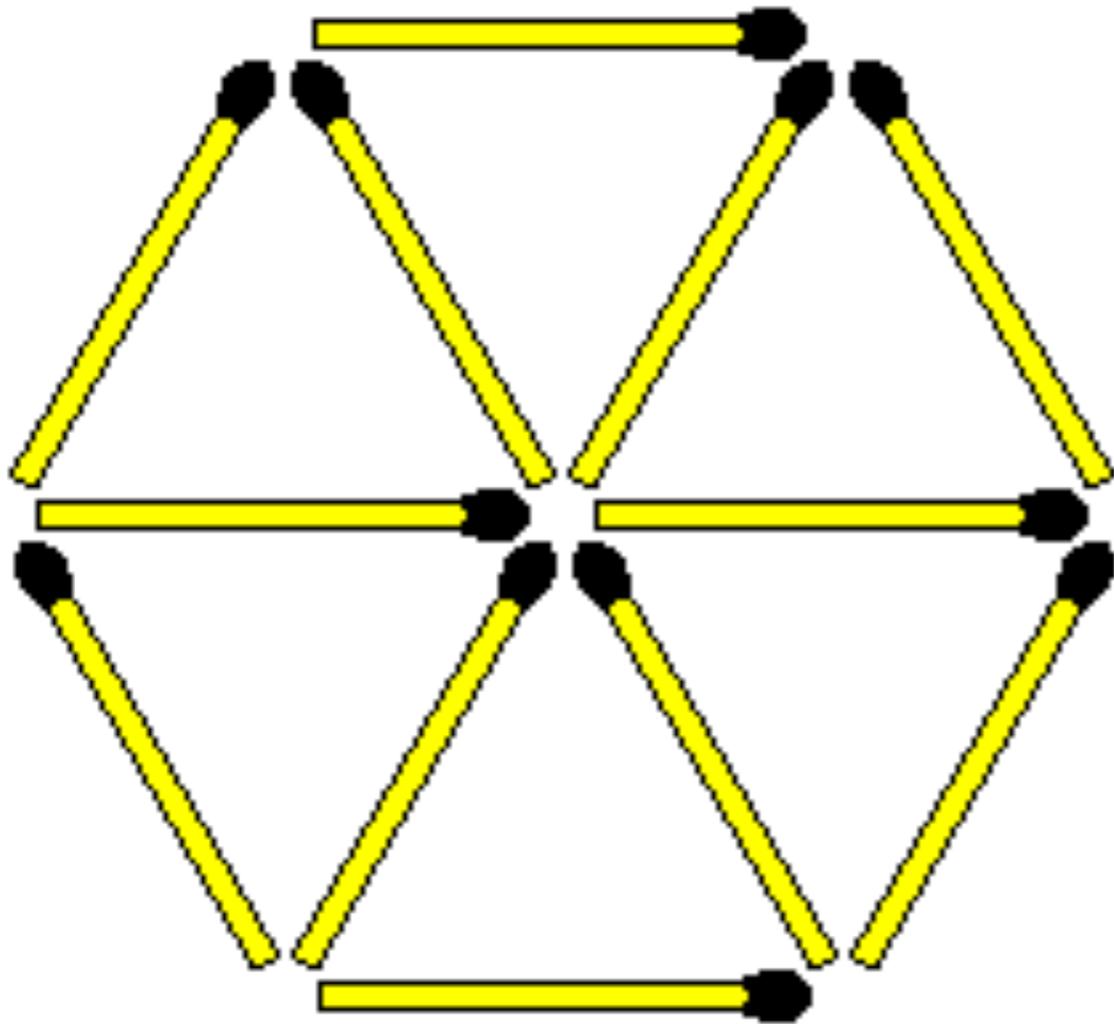


Fostering creativity through questioning and thinking routines

2018 IBSC Annual Conference

Tuesday 10 July 2018



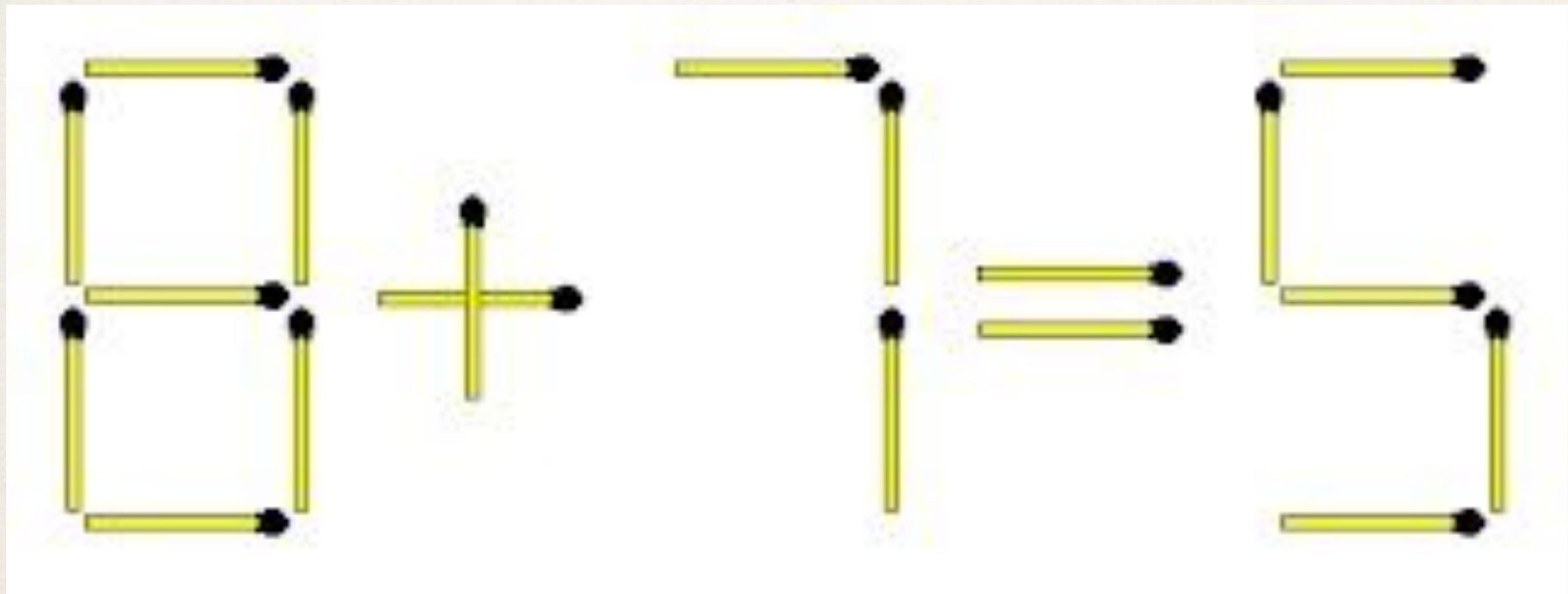


Remove 3 leaving 3 triangles

TAKE AWAY 3 matchsticks to leave you with 3 equal triangles.

Remove 3 leaving 3 triangles

Solution

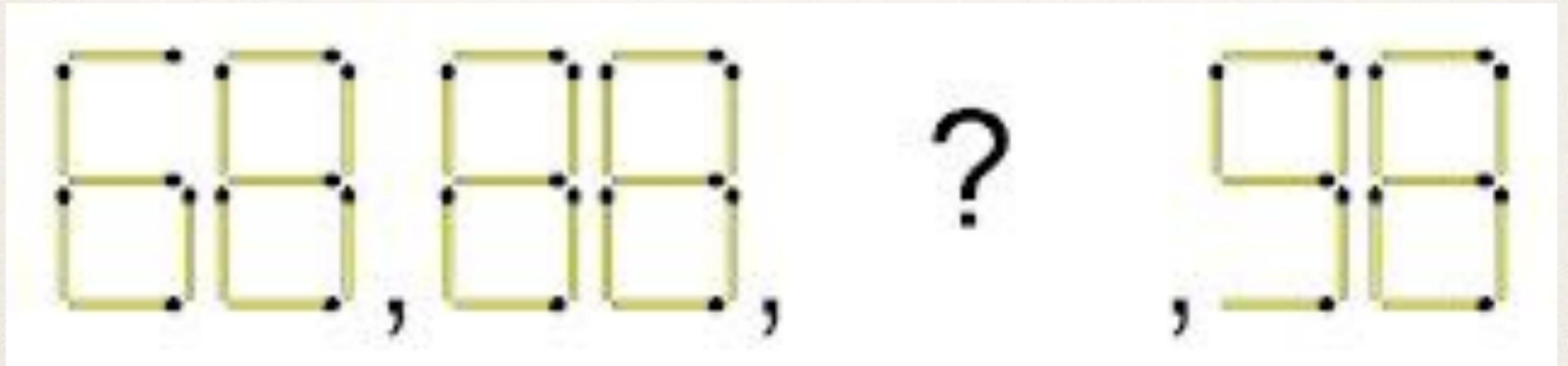


Mathematical: 8 plus 7 is not 5

TAKE AWAY 3 matchsticks to make the equation true.

Mathematical: 8 plus 7 is not 5

Solution



Missing number

This puzzle is extremely difficult because you would have to think out of the box to solve it!
Replace the "?" with the missing number in the sequence.

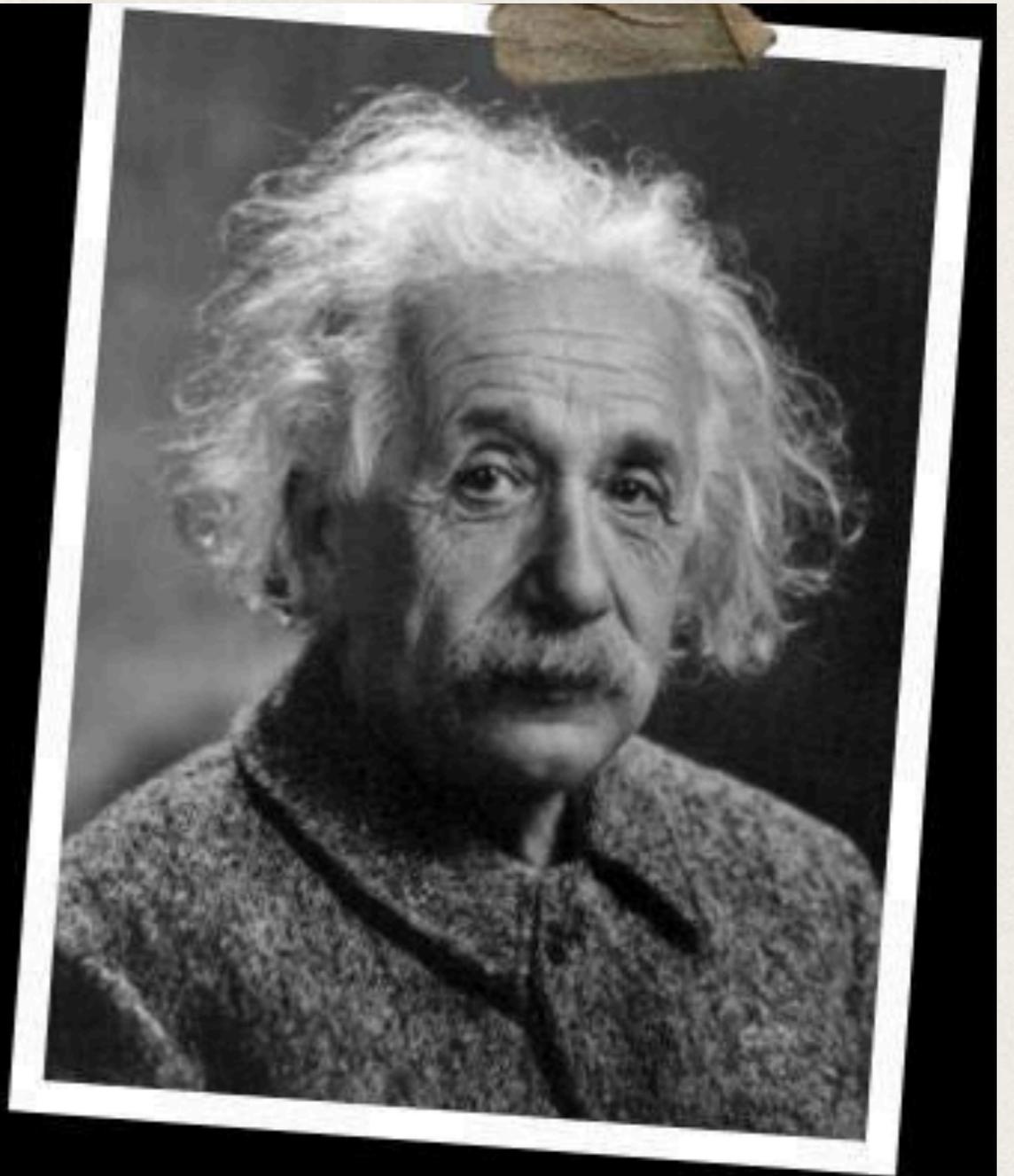
Missing number

Solution

The journey so far...

- ❖ Learn - My participation and experiences in the Ithaca Project started by Julie Landvogt helped shape the teacher I have become.
- ❖ Apply - I used these prior learnings and experiences to help influence the Junior Primary team at Scotch College.
- ❖ Summarise - From my involvement in the NELP I have learnt that all schools must transform themselves into innovative 21st century learning environments. Teachers must be able to deliver 21st century learning outcomes. The students of today must be prepared for an ever changing, technological driven world and be able to perform in jobs that do not currently exist.
- ❖ Teach - The primary vehicle for guiding both the students and teachers will be the Visible Thinking Routines developed by Project Zero, Harvard Graduate School of Education. I believe this will help shape our school, transforming it from being great to exceptional.

**"Education is not
the learning of
facts, but the
training of the mind
to think."
-Albert Einstein**



Visible Thinking

Fostering creativity through questioning and thinking routines

Introduction to Thinking Routines

Visible Thinking makes extensive use of learning routines that are thinking rich. These routines are simple structures, for example a set of questions or a short sequence of steps, that can be used across various grade levels and content.

Taken from: <http://www.pz.harvard.edu/vt/>

Introduction to Thinking Routines

What makes them routines, versus merely strategies, is that they get used over and over again in the classroom so that they become part of the fabric of classroom' culture. The routines become the ways in which students go about the process of learning.

Taken from: <http://www.pz.harvard.edu/vt/>

DATE _____

NAME _____

AFTER LOOKING AT THE ARTWORK OR PICTURE...

SEE	THINK	WONDER
WHAT DO YOU SEE?	WHAT DO YOU THINK IS GOING ON?	WHAT DOES IT MAKE YOU WONDER?

Dear Anthony

Thank you very much for coming to my classroom and teaching my boys.

They responded particularly well to your lesson regarding 'Asylum Seekers' and thought of many interesting viewpoints.

I thought beginning the lesson with a picture story book was an excellent 'hook in' to the teaching matter. My students do not often have the chance to listen to a quality illustrated book and this one had amazing pictures and text that made the listener think.

The Circle of Viewpoints thinking routine fitted nicely with this lesson. The boys were able to think of many thoughts and questions the young girl may have had. It was disappointing you could not stay because the boys shared their ideas and we had an excellent class discussion regarding their (the Scotch boys') problems in life compared to the problems of a young asylum seeker girl. I think it put everything into perspective.

–Michael Moloney

Christian Education

Watch The Story of Samson and complete the Connect Extend Challenge routine.

Year Two

Keeping crocodiles as pets

- ❖ Visit the link and read the information.
- ❖ Complete the Compass Points thinking routine.
- ❖ Snap to it!

Year Three

Watch 'What is Sustainability?', read the information below and complete the Think Puzzle Explore routine.

<http://www.sustainability.vic.gov.au/services-and-advice/households/waste-and-recycling/be-a-recycling-champion>

Year Four

Antartica

- ❖ Follow the link to ABC Splash and skip to Chapter 6: In Shackleton's footsteps.
- ❖ Watch: Amazing Antarctic survival stories and complete the Circle of Viewpoints thinking routine.
- ❖ Asked why he did the expedition, Jarvis says: 'You have to test yourself to learn what you are really capable of doing.'

Year Five

Biodiversity

Biodiversity - The Great Barrier Reef

- ❖ Follow the link to ABC Splash and skip to Chapter 7: Impact of mining, logging and farming.
- ❖ Watch Reef threat and complete the Reporter's Notebook thinking routine.
- ❖ For the tech savvy: <http://techenhancedinstruction.blogspot.com.au/2014/11/reporters-notebook-from-harvards.html>

Year Six

Natural Disasters

Natural Disasters - Cyclone Yasi

- ❖ Follow the link to ABC Splash and watch: Cyclone Yasi hits Queensland, 2011.
- ❖ Discuss the video and complete the Circle of Viewpoints thinking routine.

Hurricane Engineering activity

Objective:

You are an engineer that has been given the responsibility to design a hurricane proof building. Your designs will be studied by other engineers in order to create safer buildings in the event of a hurricane. Since flooding can occur during a hurricane your building will need to be high off the ground. The house will also need to have a roof that is wind resistant. Be sure to think about what supports your building may need since hurricanes are known for strong winds.

Hurricanes 101 | National Geographic

Find out how hurricanes can be so destructive.

<https://www.youtube.com/watch?v=zP4rgou4xDE>

**The MORE
that you READ,
The MORE
things you will KNOW.
The MORE
that you LEARN,
The more PLACES
you'll GO.**

-Dr. Seuss

Professional Reading

Teachers work more than 400 hours of overtime in a year—our school day never ends.

Source: ING Foundation Survey

Discussing Classroom Questioning, Creating cultures of thinking and Thinking Routines

<p>Classroom Questioning – Kathleen Cotton</p>	<p>Creating cultures of thinking – The 8 Forces We Must Master to Truly Transform Our Schools – Ron Ritchhart</p>	<p>Thinking Routines: Creating the Spaces and Structures for Thinking – Ron Ritchhart</p>
<p>Gillian Comport Liz Wyatt Nick Tuffin Priscilla Williams Grant Phillips Emma Fitz-Walter Cornelia Koehne-Drube Dinah Waldie Connie DiNatale Tim Colwell Tremaine Pavlovski Phil Richards</p>	<p>Siobhan Roulston Kate Ikingier Andrew Stempel Ben Marr Penny Cumming John Croxford Jenni Thom Paul McMahan Deb McMEnamin</p>	<p>Patrick Dower Steve Grbac Margie McDonough Julia Piggin Brendan Frost Jon Abbott Clare Kydd Deb McMEnamin Brian Sampson</p>

Defining Thinking Routines

Tools used over and over again in the classroom, that support specific thinking moves such as,

- Making connections
- Describing what's there
- Building explanations
- Considering different viewpoints and perspectives
- Capturing the heart and forming conclusions
- Reasoning with evidence

Defining Thinking Routines

Structures, through which students collectively as well as individually initiate, explore, discuss, document, and manage their thinking. These structures are:

- Explicit: They have names to identify them
- Instrumental: They are goal directed and purposeful
- A few steps: Easy to learn, and easy to remember
- Individual as well as group practices
- Useful across a variety of contexts
- Help to reveal students' thinking and make more visible

Defining Thinking Routines

Patterns of behaviour adopted to help one use the mind to form thoughts, reason, or reflect. We see these patterns emerging as the routines:

- Are used over and over.
- Become engrained in us both teachers and students.
- Flexibility emerges.

From Ritchhart et al, 2006

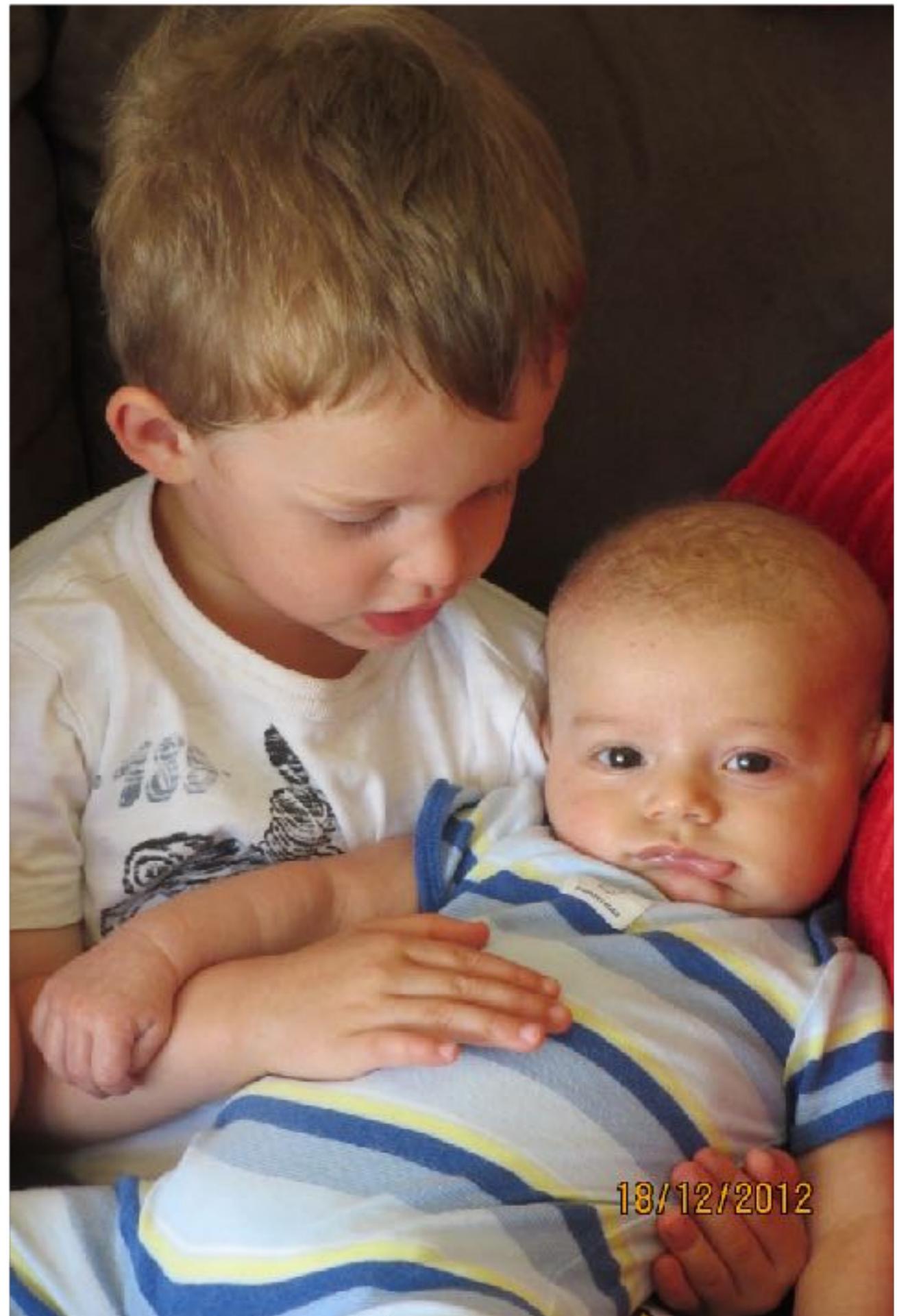
Michael Wesch

A Vision of Students Today

<https://www.youtube.com/watch?v=dGCJ46vyR9o>

What do we want the children we teach to be like as adults?

Think Pair Share involves posing a question to students, asking them to take a few minutes of thinking time and then turning to a nearby student to share their thoughts.



Ramsey Musallam

As a high school chemistry teacher, Ramsey Musallam expands curiosity in the classroom through multimedia and new technology.



Planning Task in Year Levels or as Specialist Teachers

- ❖ Think about your Term Three unit of study and decide what stimulus will help ignite the boys' curiosity to enable them to learn more deeply about it.
- ❖ Decide on a Visible Thinking Routine you will be able to use to gauge the boys' thinking about a particular concept, idea, phenomenon, etc.
- ❖ Plan how, when and why you will use the particular routine and be prepared to share this with the group.

VISIBLE THINKING

Menu Bar



Purpose and Goals

Visible Thinking is a flexible and systematic research-based approach to integrating the development of students' thinking with content learning across subject matters. An extensive and adaptable collection of practices, Visible Thinking has a double goal: on the one hand, to cultivate students' thinking skills and dispositions, and, on the other, to deepen content learning. By thinking dispositions, we mean curiosity, concern for truth and understanding, a creative mindset, not just being skilled but also alert to thinking and learning opportunities and eager to take them

Who is it for?

Visible Thinking is for teachers, school leaders and administrators in K - 12 schools who want to encourage the development of a culture of thinking in their classrooms and schools.

Key Features and Practices

At the core of Visible Thinking are practices that help make thinking visible: *Thinking Routines* loosely guide learners' thought processes and encourage active processing. They are short, easy-to-learn mini-strategies that extend and deepen students' thinking and become part of the fabric of everyday classroom life. *Thinking Ideals* are easily accessible concepts capturing naturally occurring goals, strivings or interests that often propel our thinking. Four Ideals -- Understanding, Truth, Fairness and Creativity -- are presented as modules on this site. There are associated routines for each ideal and within each module there are activities that help deepen students' concepts around the ideal.

A key feature of the Visible Thinking approach is the *Teacher Study Group* as described in the School-Wide Culture of Thinking section. In these groups teachers reflect on student work, or documentation, generated by students when using routines or investigating an ideal. Documentation such as lists, maps, charts, diagrams, and worksheets reveal learners' unfolding ideas as they think through an issue. In study groups teachers use the structured conversation of a protocol to look at and reflect on thinking present in student work.

Plenary session

Please nominate a spokesperson from each group.

Thank you

