Enfield PS Instructional Rounds

Term 3 2022

Creating a Path Network

The Power of Instructional Rounds

I used to think that instructional rounds was not as rigorous a process; that it did not have a laser focus towards whole school improvement.

Now I think that it has enormous power to tweak, adjust, change what we do minute to minute in the classroom to progress learning.

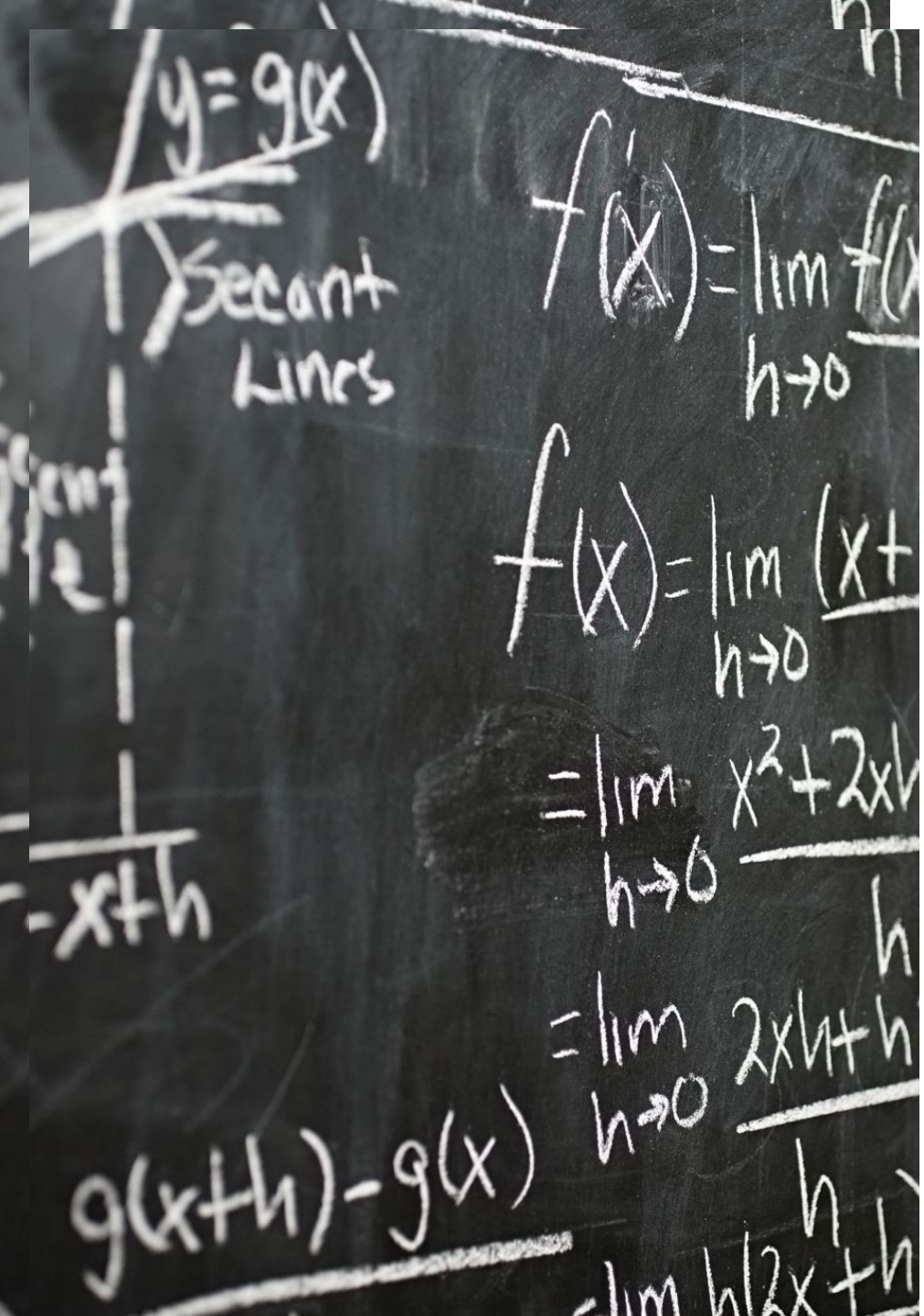
Valid information with suspended judgement providing a narrow focus that our teachers can target to improve.

- Anonymous visitor to the Enabling Leaders Network round at Mortlake PS

Enfield's Problem of Practice

Are we supporting our students to think mathematically?

- Are students showing their mathematical thinking using the WM processes of reasoning, problem solving & communicating?
- Is our teacher questioning assessing and promoting mathematical thinking and reasoning?
- Are our tasks challenging and supporting all learners? Are students learning rather than doing?



Learning Intention

You will deepen and widen your understanding of what thinking mathematically means,

and of the changes to teaching, learning and leading that are required promote it

Success Criteria

1. *Your group recording sheet will document your development of understanding about what's most important if students are to think mathematically .*

Group Task. 1st piece of paper

In our observations for this POP what

MUST SHOULD COULD

we observe?

Short but detailed

Eg Not just formative assessment

But Strategies for formative assessment that uncover student thinking

Group Task. 1nd piece of paper

What is puzzling you about:

1. What constitutes effective teaching of mathematics?

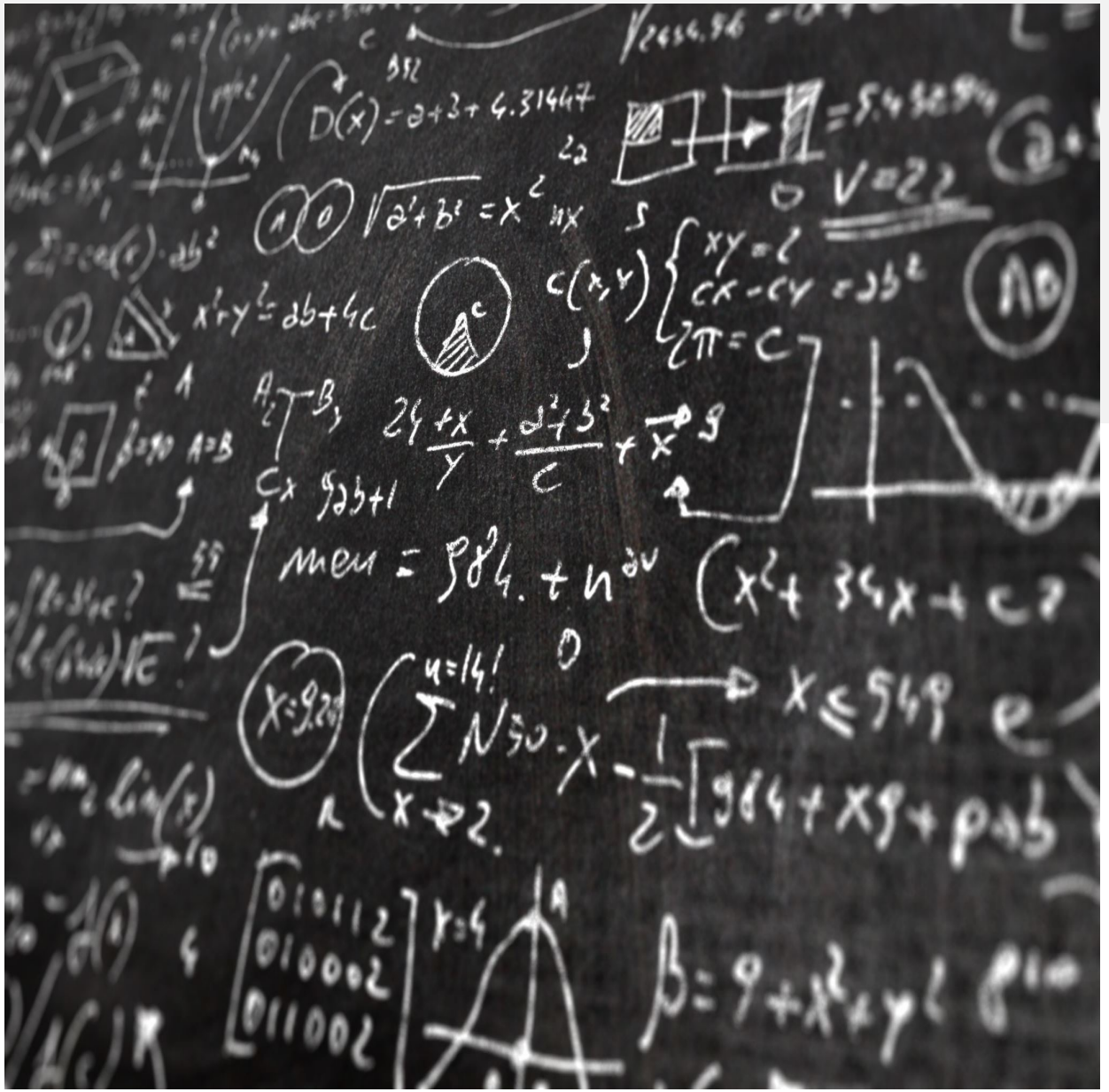
OR

1. How to bring about change to mathematics teaching?

Short but detailed

LET’S DO SOME MATHS

How are you feeling?




6
9
10
23
19
16
18
14

The rail around the outside of a bumper car ride is 50 m.

The length of each side is a whole number.

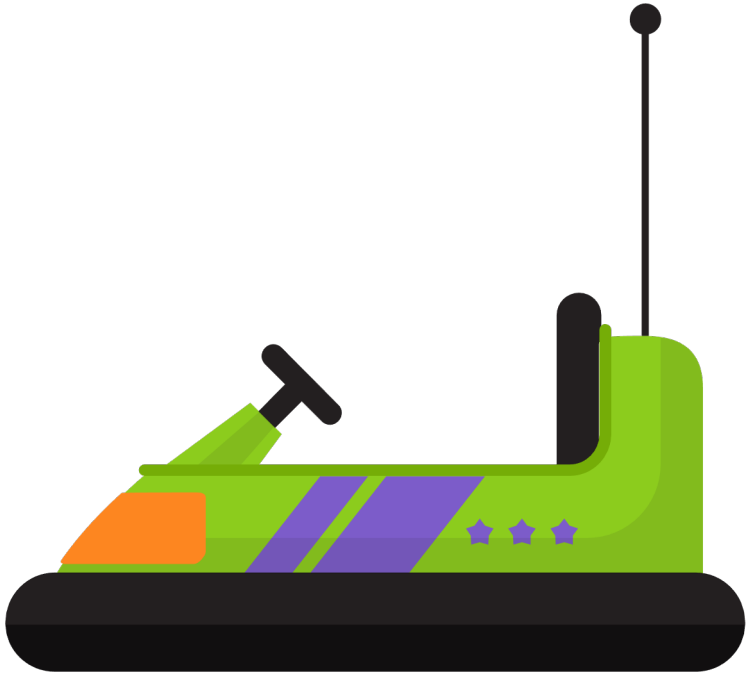
What is the area of the floor?

Show your working

Write/ draw/ graph

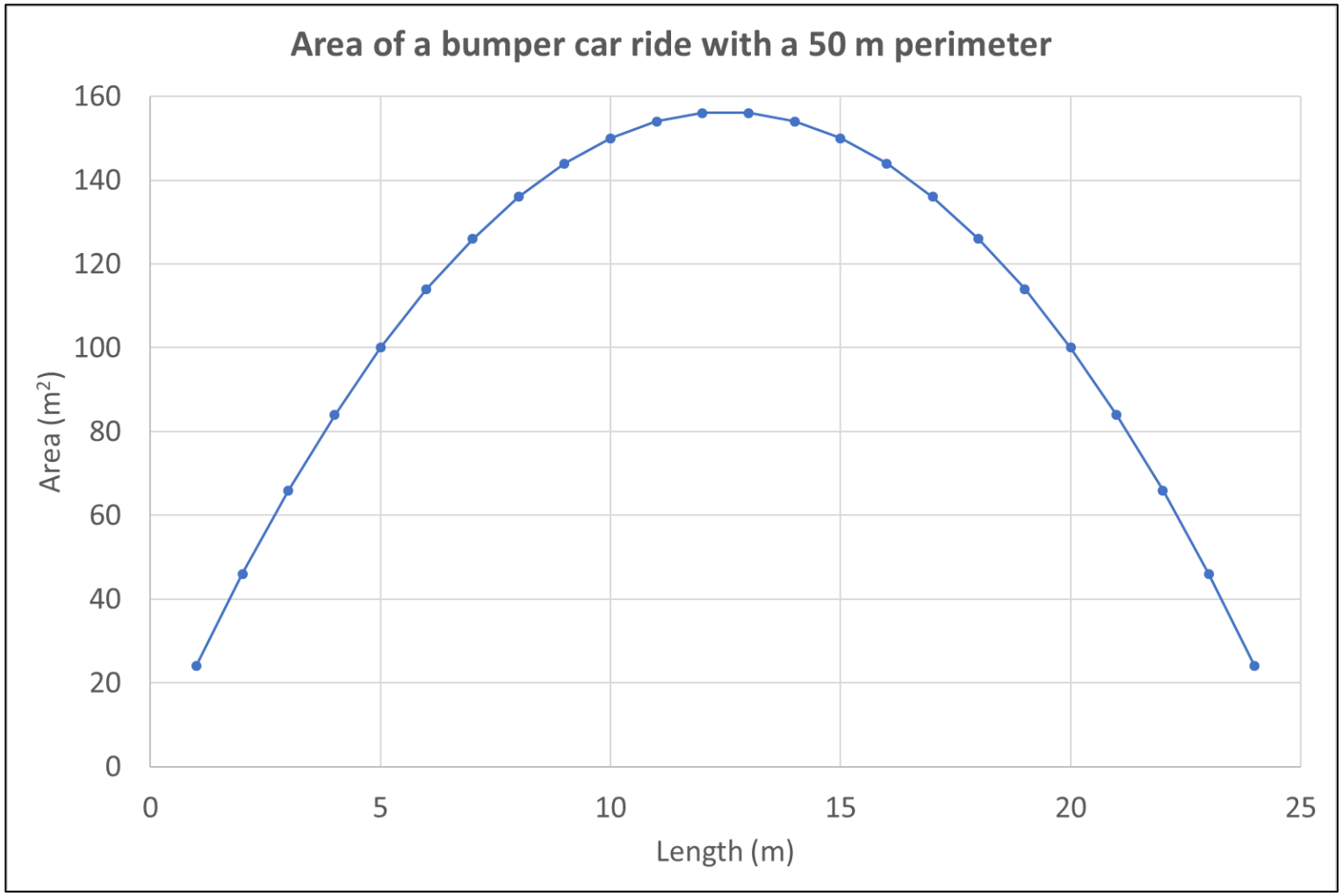
Have you found all the possible rectangles?

How will you know that you have found them all?

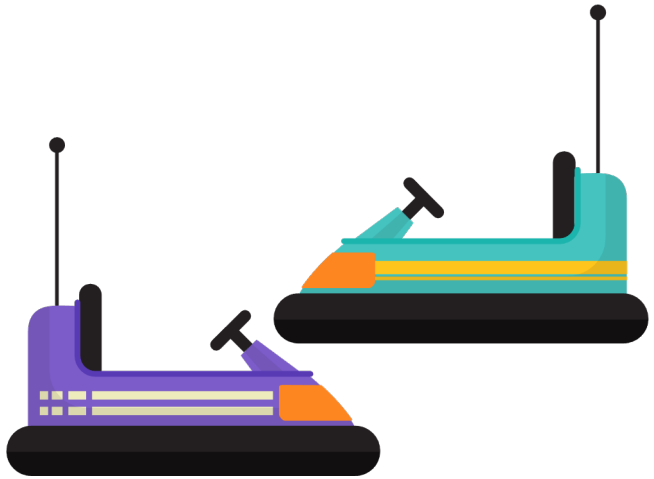


Length (m)	Width (m)	Area (m^2)
1	24	24
2	23	46
3	22	66
4	21	84
5	20	100
6	19	114
7	18	126
8	17	136
9	16	144
10	15	150
11	14	154
12	13	156
13	12	156
14	11	154
15	10	150
16	9	144
17	8	136
18	7	126
19	6	114
20	5	100
21	4	84
22	3	66
23	2	46
24	1	24

If the length is graphed against the area, what do you think the graph might look like?



Describe the shape of the graph.
What does this tell you?



If we could have sides that weren't whole numbers, what shape would have the largest area?

What generalisations can be made about the area of rectangles that have a set perimeter?

Write: Explain your thinking

What would happen if we used rectangles with a set area? Would the pattern be the same?

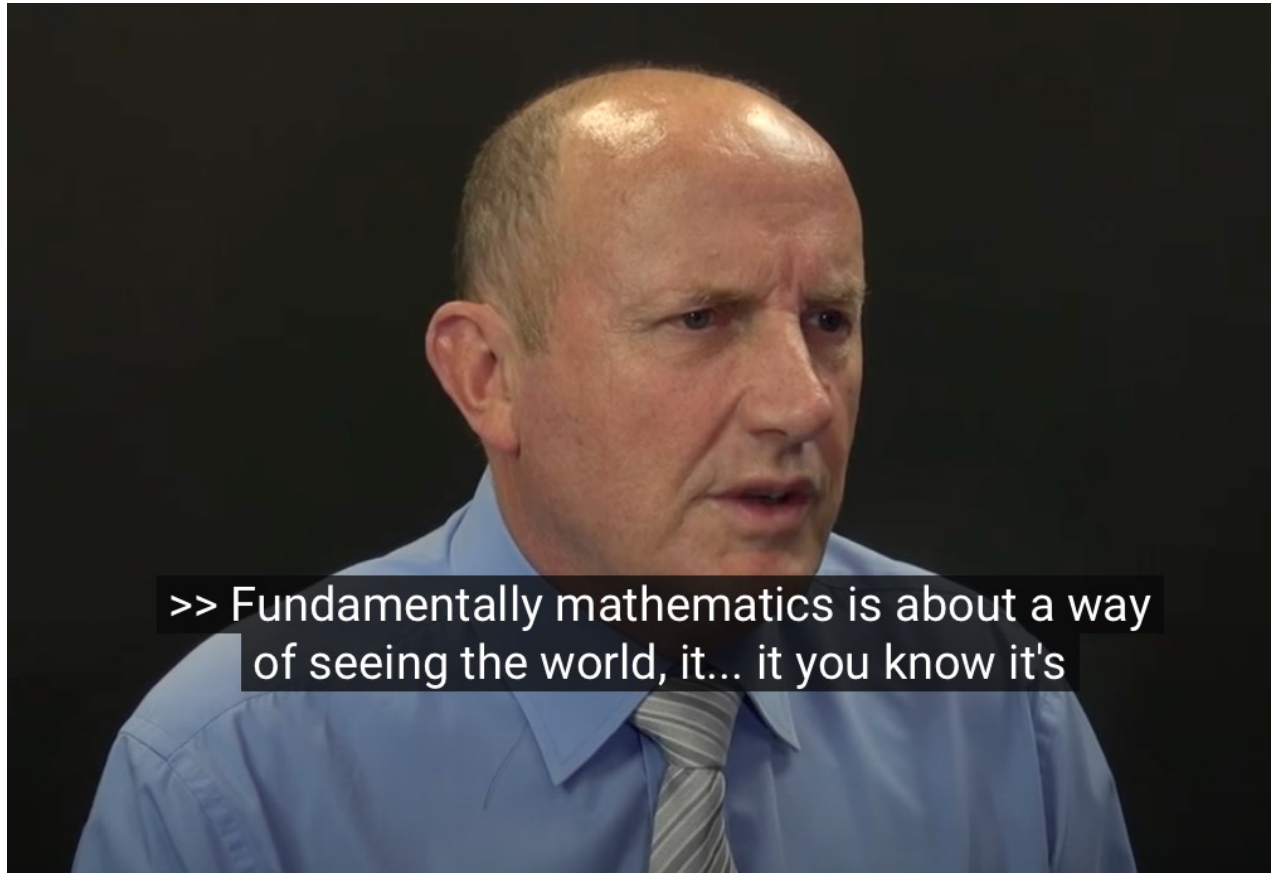
Learning Intentions for Area & Perimeter Task

You will:

1. Strengthen your understanding of the area & perimeter of rectangles
2. Effectively communicate your thinking
3. Use reasoning to justify your thinking

PETER SULLIVAN VIDEO

THE PLACE OF WORKING MATHEMATICALLY IN THE MATHS SYLLABUS



Launch, Explore, Summarise

A lesson structure for mathematics

Launch (5-10 minutes)

This is when you give students the information they need to do the lesson and solve the problem or task.

- Make sure to clarify your goals and expectations. You want to give students enough information so that they can do the lesson — but don’t give too much away at this point.
- Unless you have to do a mini-lesson to refresh students’ memories about a certain concept , avoid direct instruction.

Explore (15-45 minutes)

This is where students work individually or in small groups to solve the problem. This is their chance "to get messy with the math."

- The teacher's role is to move from table to table and listen closely. See what solutions your students are coming up with.
- Help students who are stuck or who are ready to move ahead, mainly through questions to stimulate their thinking.
- Unless the whole class is having the same problem, in which case you'll need to clarify your Launch, avoid a mini-lecture.

Summarise (15-25 minutes)

This is where the main teaching occurs.

- Bring groups back together and have students explain their solutions. The teacher's role is to guide students to the big ideas, to make sure that they have nailed the mathematics.
- Part of the purpose of the Summarize segment is to allow you to assess how well your students are progressing toward the goals of the lesson. Use the discussion to help you determine whether additional teaching and/or additional exploration by students is needed before they go on to the next lessons.

You cannot teach a concept Professor Di Seimon

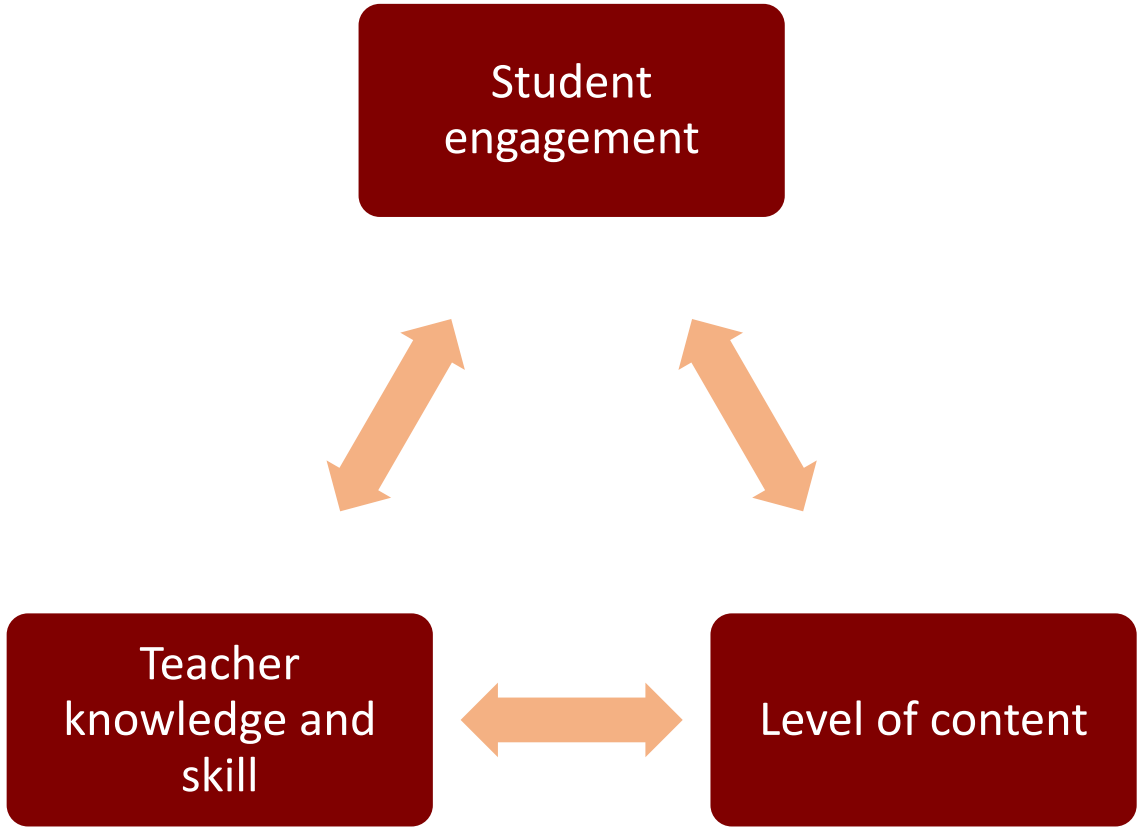
KATHERIN CARTWRIGHT

This focus on understanding is the perfect gateway to concepts and big ideas of mathematics. It has the power to make visible both students' prior knowledge, and any misconceptions.

Underpinned by Beliefs

- *Increases in student learning occur only as a consequence of improvements in the level of content, teachers' knowledge and skill, and student engagement.*
- *If you change any single element of the instructional core you change the other two.*
- *If you can't see it in the core, it's not there.*

The Instructional Core



Success Criteria

2. Group posters based on the pre-reading that identifies

a. the key ideas from the readings and video

b. the changes to the instructional core that would be needed to implement the key ideas in classrooms.

Pre-reading/ viewing

Reading

Making Learning Visible through Mathematical Talk

Video

In conversation with Dr Kristen Tripet

YOUR POSTER

- **Collaboratively create a poster to communicate the key concepts to another group of leaders & teachers**

- **OPTIONS:**
- **You can be as creative as you like. You could include text, drawing, tables, photocopied images, cartoons, headlines – anything you like to communicate your messages**

- **Keep your audience in mind!**

REFLECT, COMBINE, PRIORITISE

REFLECT back on the video or reading

Identify 5 key concepts/ take aways/ideas you think are important and worth holding on to from the text that related to a worthwhile lesson in number

Make sure they are written succinctly on a post it

REFLECT, COMBINE AND PRIORITISE In Your Group

COMBINE: Take turns to share one concept that you thought was important (do not repeat the same idea)

Go around the group until everyone has had the opportunity to share their key concepts

PRIORITISE: Come to a consensus as to your groups top 5 key concepts

“Descriptive Observation” is at the heart of rounds

Learning to See: Unlearning to Judge

- Good observations stand alone
- Good observations are representative of the lesson

Learning to See:
Learning to Unjudge

Write:

- What are the Learning Intentions & Success Criteria
- What is the teacher doing and saying? Eg questions, feedback
- What is the task? Eg examples from the worksheet, wordproblem

Learning to Listen
Unlearning to Tell & Show

Write what the students are

- saying to each other
- writing in books and worksheets
- Communicating mathematically – symbols, arrays

Student Questions ??????

What are you learning?

Why is this learning important?

How are you going with this learning?

How do you know?

Each observer asks only one student.

Celebration Wall- What made you think “Wow!”

- Detailed & specific
  - learning
  - teaching,
  - environment,
  - relationships,
  - routines,
  - scaffolds,
  - tasks

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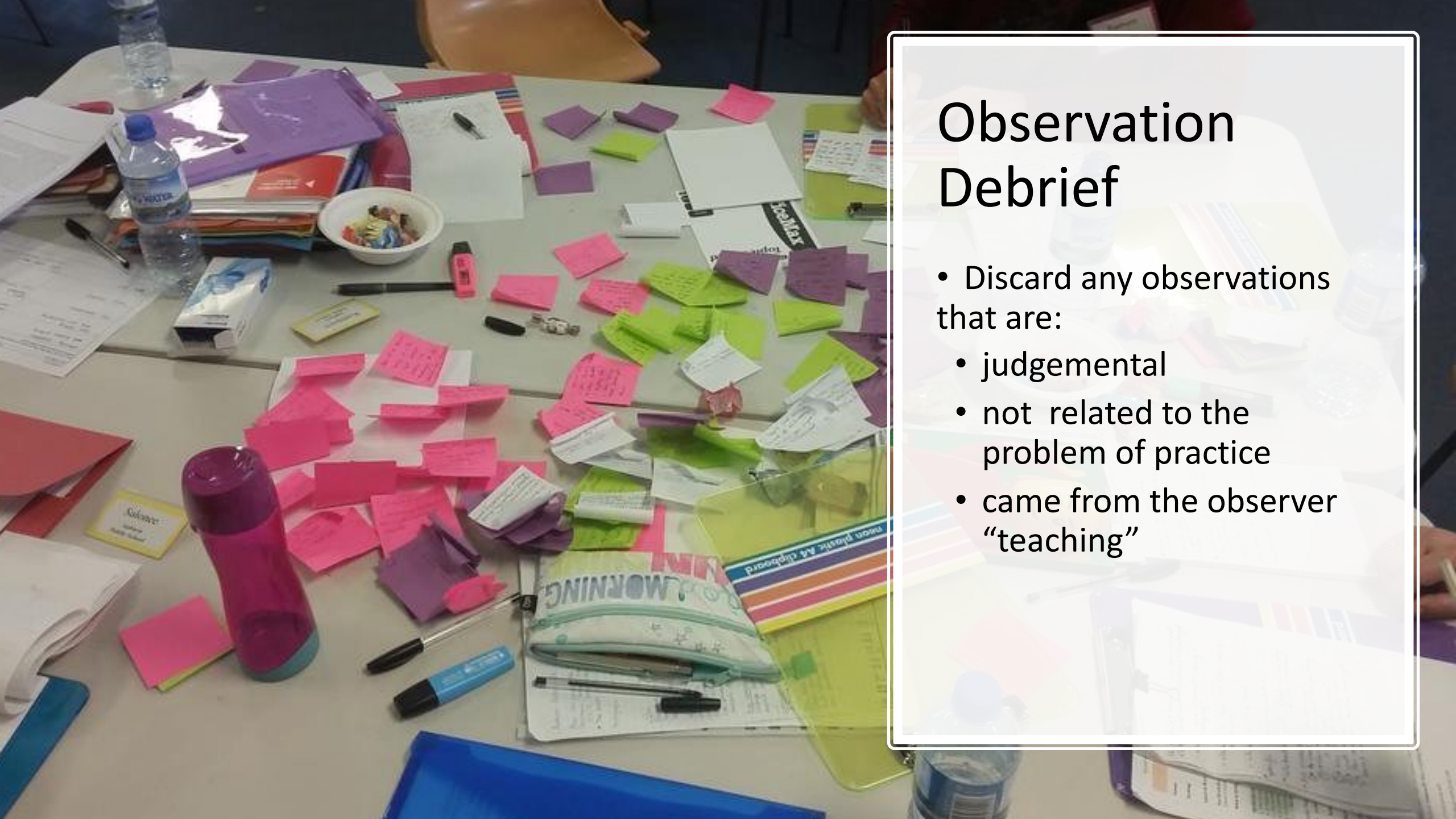


Observation Debrief

- Discard any observations that are:
  - judgemental
  - not related to the problem of practice
  - came from the observer "teaching"

OBSERVATION DEBRIEF

- Asterix 6 observations that are **representative** of the lesson observed.
- Make sure you have covered:
  - The qualities of the task
  - Teacher doing and saying
  - Student doing and saying
- Share with group
- Challenge any that are judgemental or are not specific
- Write each one on a separate post-it (10-12 per class)

INSTRUCTIONAL ROUNDS - 7 PRINCIPLES

Number 7:

Description before analysis,

analysis before prediction,

prediction before evaluation.

PREDICTION:

- *If you were a student in this class and did everything that was asked, what would you now know or be able to do?*
- *What one change to the lesson would have resulted in improved student outcomes?*

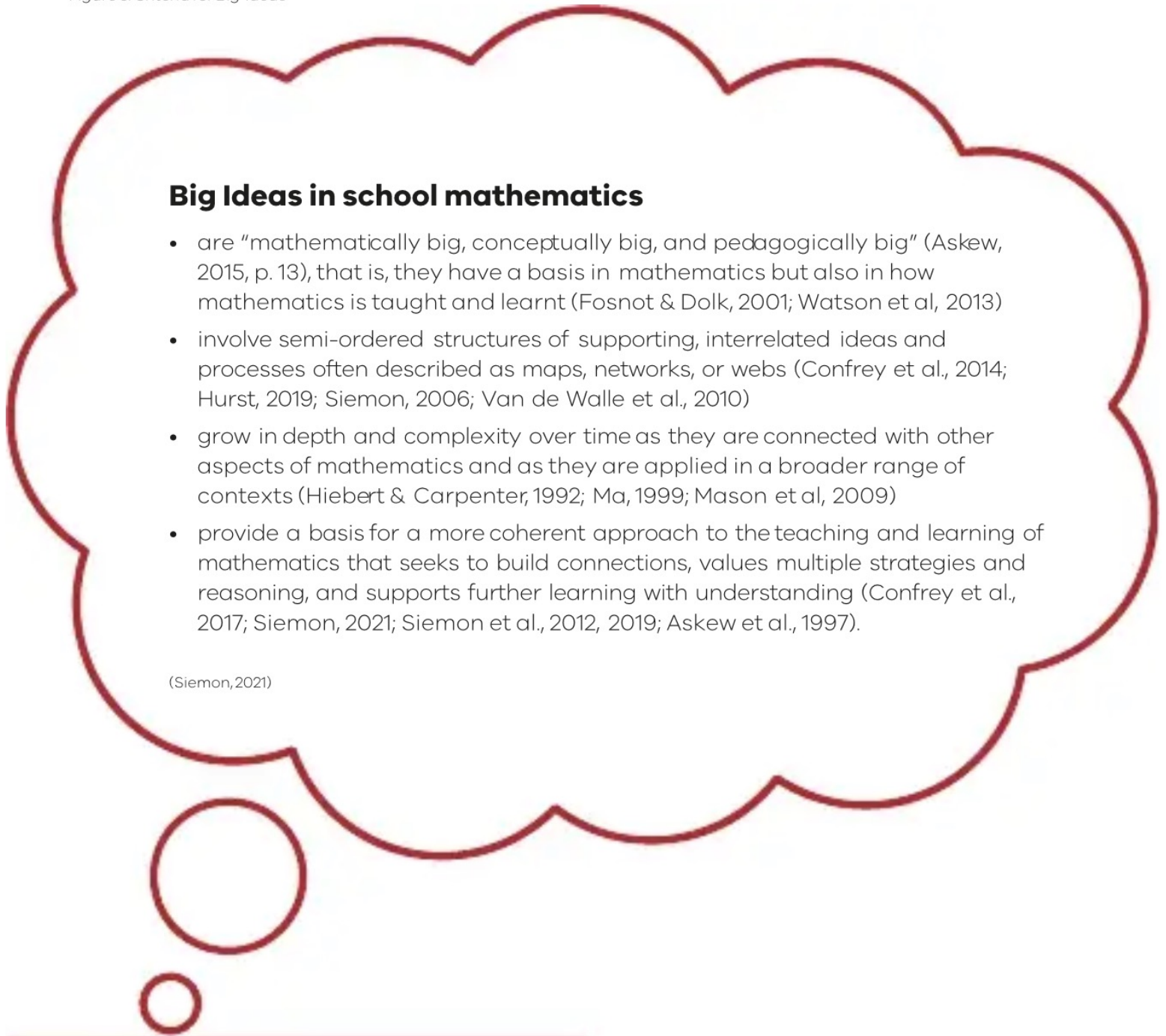
ENFIELD PS

DAY 2

What are you thinking after our day yesterday?

The Big Ideas in Number

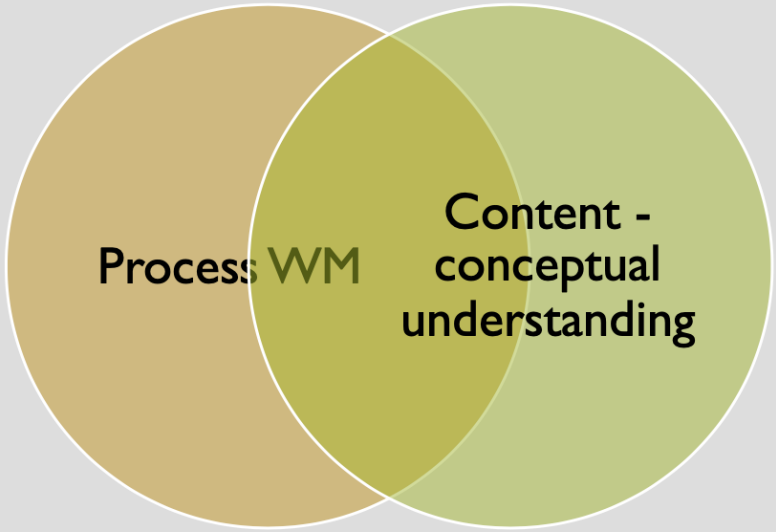
Figure 3. Criteria for Big Ideas



THE IMPORTANCE OF CONCEPTUAL UNDERSTANDING

Think of it like a garden trellis, your subject gives you structure while you grow. Without the trellis you're just groundcover, sprawling out in all directions, no matter how good the soil is or how much love your parents pour in.

Alan Finkel, Australia's Chief Scientist



What is a ‘big idea’?

- An idea, strategy, or way of thinking about some key aspect of mathematics, **without which students’ progress in mathematics will be seriously impacted**
- Encompasses and **connects many other ideas** and strategies
- Provides an **organising structure** or a frame of reference that supports further learning and generalisations
- Cannot be clearly defined but can be **observed in activity** …(Siemon, 2006)

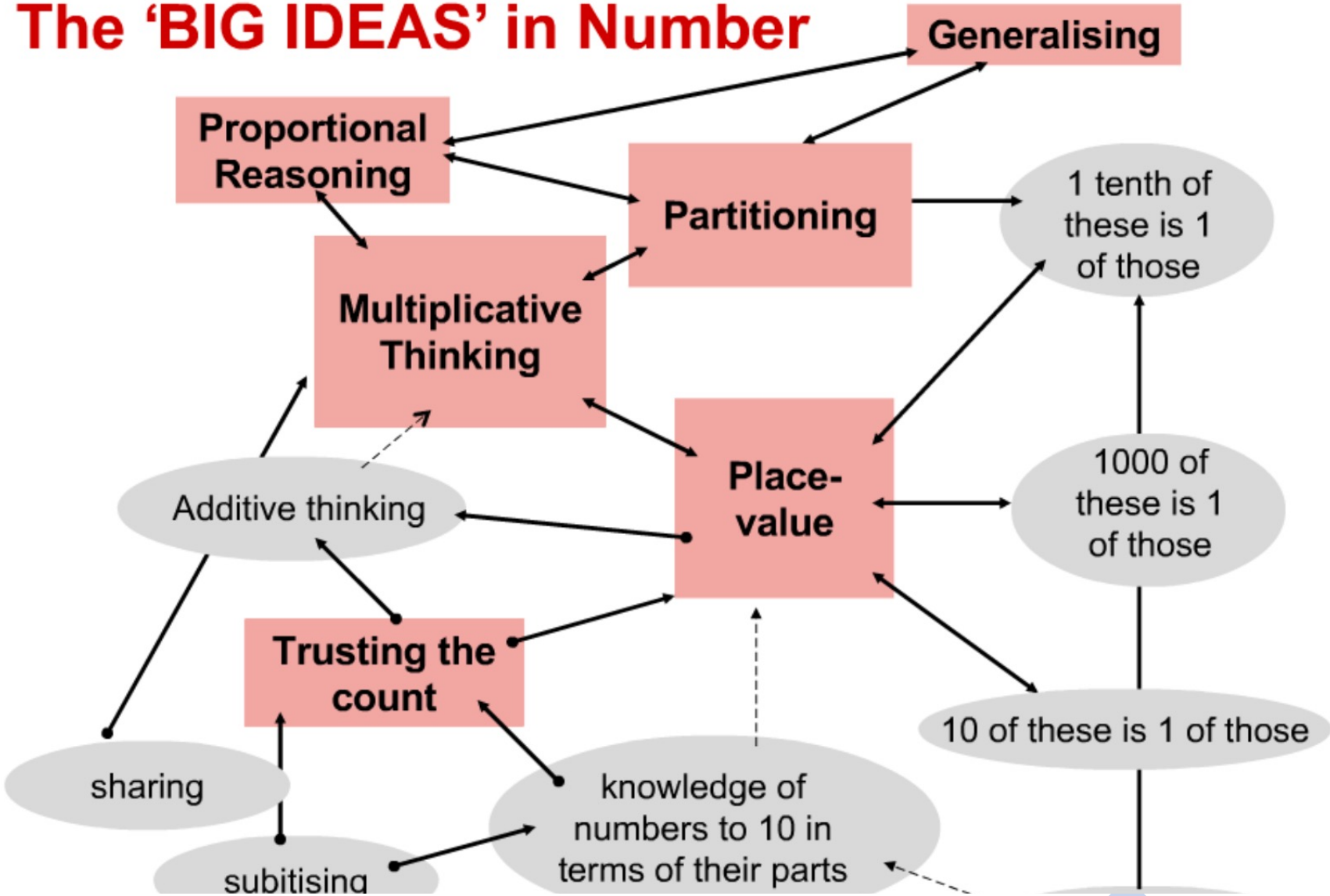
The big ideas in Number F-10

By the end of:

First 18 months	**Trusting the count** - developing flexible mental objects for the numbers 0 to 10, part-part-whole knowledge
Year 2	**Place-value** - the importance of moving beyond counting by ones, the structure of the base ten numeration system
Year 4	**Multiplicative thinking** (initial ideas) - the key to understanding rational number and developing efficient mental and written computation strategies in later years
Year 6	**Partitioning** (equal parts) - the missing link in building common fraction and decimal knowledge and confidence
Year 8	**Proportional reasoning** - extending what is known beyond rule-based procedures to represent and solve problems involving fractions, decimals, percent, ratio, rate and proportion
Year 10	**Generalising/Formalising** - skills and strategies to support equivalence, recognition of number properties and patterns, and the use of algebraic text

(Siemon, 2006; 2011)

The 'BIG IDEAS' in Number



NETWORK PROPOSES THE NEXT LEVEL OF WORK

WHAT?

A collection of powerful questions and starting ideas to help the school move forward

HOW:

We will remain focused on improving student learning and outcomes.

We will remain committed to sharing and reflecting on both our successes and our failures.

WHY?

Leadership development for all network members

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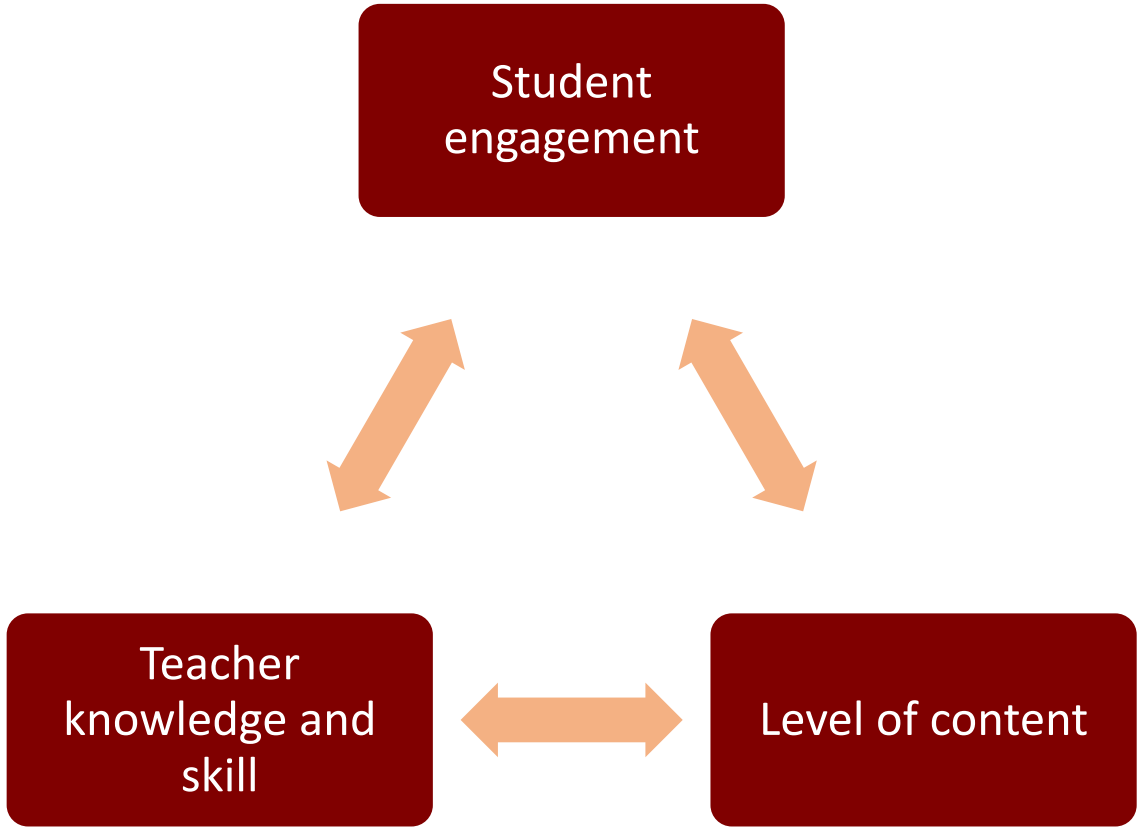
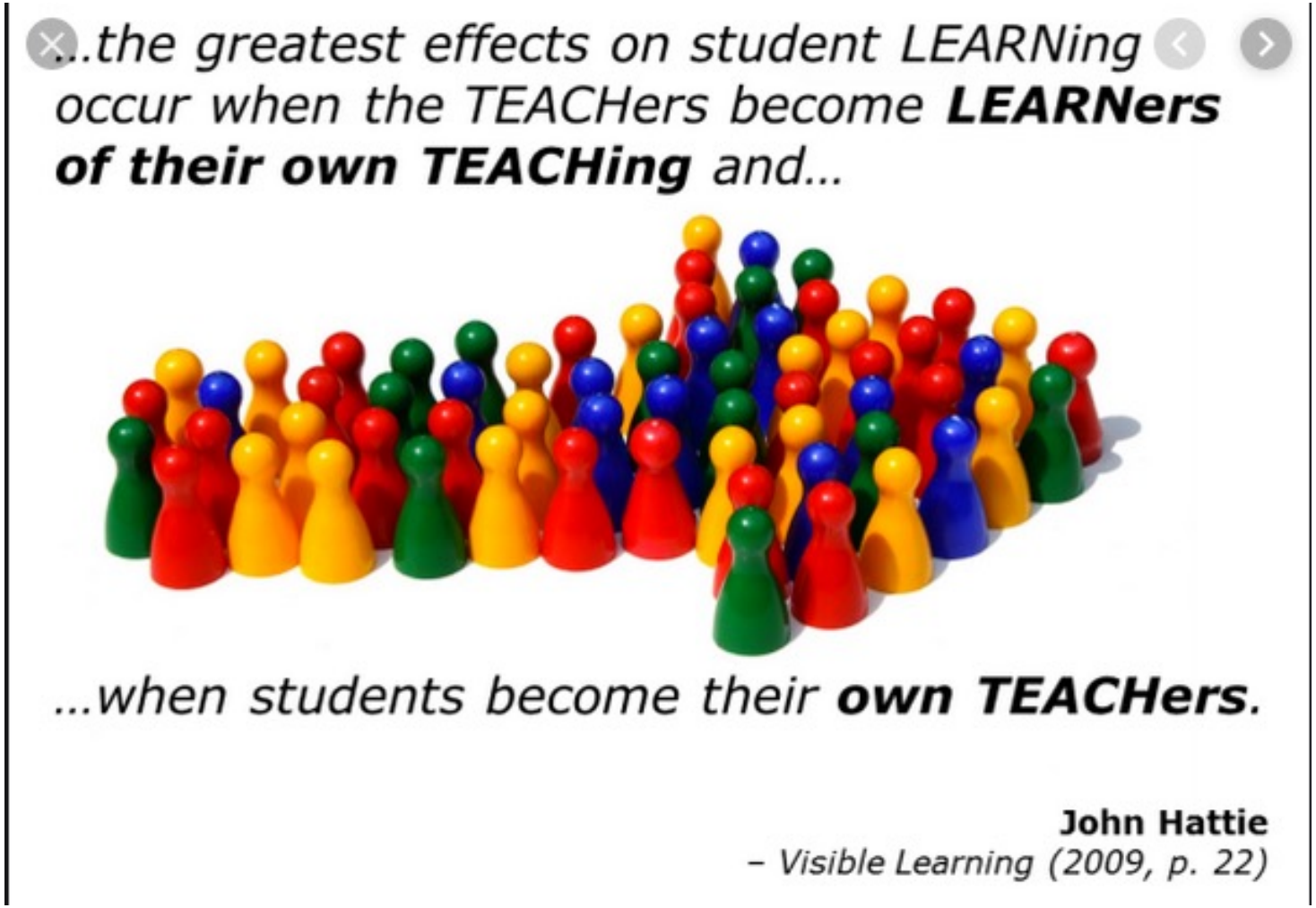


POP: Is learning in maths visible to our students and to our teachers?

JOHN HATTIE:

WHAT MAKES THE GREATEST EFFECT?

Think-Pair-Share
Explain in your own words what Hattie's "visible learning means"



Helen Timperley NOII, 2022

Learners as a source of evidence (student voice)

- Asking questions of learners eg What are you learning? How are you going? Where to next? OR Has today's learning made you think deeply?

Learners as co-enquirers (the bridge between voice and agency)

- This is a pattern of responses – Can you tell me why students are answering this way?

Learners as co-designers (student agency)

- Given this pattern of responses, what do you think we should do about it? What changes should we make?

WHAT IF?

What if we were to shift from systems-generated dashboards and ratings towards reflective review processes that are rooted in student and family voices?

What if we invested in the observation and analysis skills of trained educators rather than depending on test developers and policy makers to tell us who's successful?

What if reflective review teams developed lines of inquiry around a school-based asset or opportunity versus a perceived "gap"?

WHAT IF?

Street data will help us to pivot from blind compliance with external mandates to cultivating local, human-centred critical judgement.

5 KEY FACTORS 4 SUCCESS
Anne McIntyre

1. Shared inquiry leading to the co-creation of clearly understood and purposeful collective goals
2. A clearly evidenced gap between the current reality and the desired future outcome
3. Collective strategies for knowledge for knowledge creation and collaborative learning about the impact of current practices, and ways to take action to achieve goals
4. Collaborative professional learning enabling shared responsibility and authentic action
5. Evidence of impact and feedback to drive ongoing commitment to learning and improvement