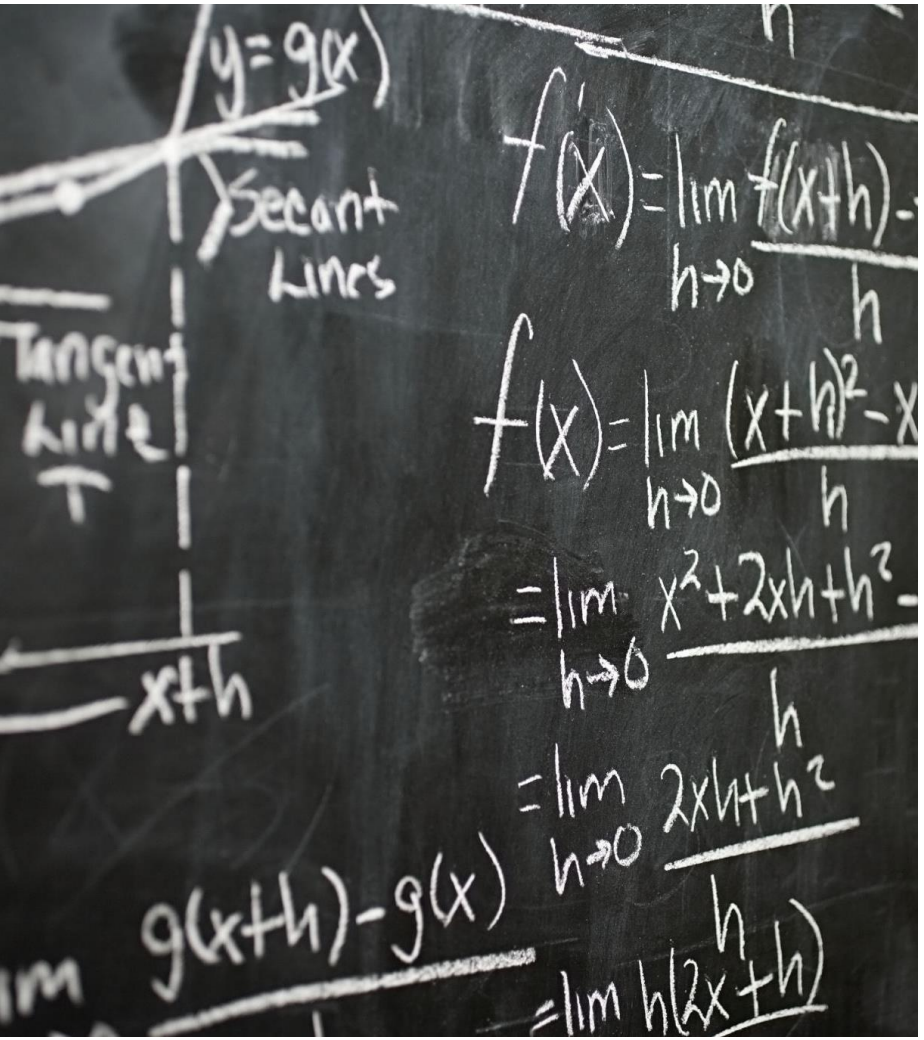
Old Guildford PS Instructional Rounds

T2 2026

Creating a Path Instructional Rounds Network

Big thank you to Carolyn & best wishes for speedy recovery



Problem of Practice

What does mathematics learning look like in our classrooms?

- How are teachers supporting students to see connection in mathematics?
- Are there opportunities for students to communicate their understanding?
- In what ways are students being supported to develop deeper mathematical understanding**?**

Old Guildford PS Team

Welcome & background to the Problem of Practice

From the Old Guildford PS presentation:

What are you noticing?

What are you wondering?

Individual reflections then share as a small group

Sometimes
you just have
to go with
your gut .....

GROUPS FOR TODAY

GROUP 1	GROUP 2	GROUP 3	GROUP 4
Helen	Christina	Caroline	Diane
Alex	Aruna	Cassie	Phoebe
Pina	Tracey	Nicole	Hannah
Zeinab	Belinda	James*	Barbara
Maria*	Louise	Katie	Sian*

Learning Intention

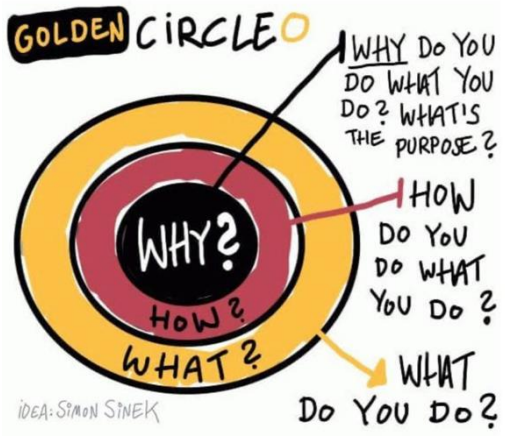
We are deepening our understanding of the discipline of mathematics; and of key instructional actions that promote student deep understanding of mathematics.

Success Criteria:

I can:

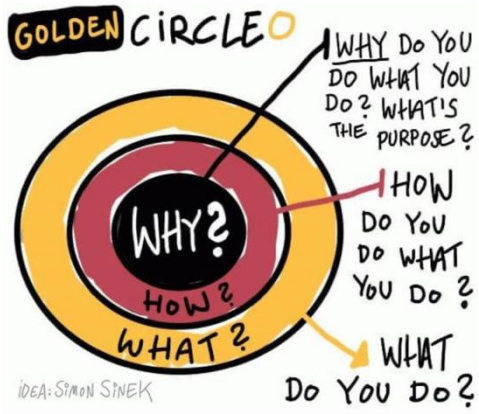
- Collaborate with colleagues to explore the ideas of:
  - Connections in mathematics AND
  - Task characteristics that promote deep mathematical understandings
- Analyse classroom observation data to identify areas for growth.
- Understand the impact of teachers' beliefs on students' maths outcomes
- Recommend what new knowledge and skills teachers may further improve mathematics instruction and suggest ways professional learning can support this learning.

Mathematics Syllabus K-10 2022



- The syllabus structure illustrates the important role Working mathematically plays across all areas of mathematics and reflects the strengthened connections between concepts.
- Working mathematically has been embedded in the outcomes, content and examples of the syllabus.
- Students learn to work mathematically by using these processes in an interconnected way. The coordinated development of these processes results in students becoming mathematically proficient

Mathematics Syllabus K-10 2022



Overarching Working mathematically outcome

To highlight how these processes are interrelated, in Mathematics K–10 there is one overarching Working mathematically outcome.

A student develops understanding and fluency in mathematics through:

- exploring and connecting mathematical concepts
- choosing and applying mathematical techniques to solve problems
- communicating their thinking and reasoning coherently and clearly.

Mathematics 3–6

Working mathematically through communicating reasoning, understanding and fluency, and problem solving

Number and algebra	**Stage 2**	Representing numbers using place value	Additive relations	Multiplicative relations	Partitioned fractions
	Stage 3	Represents numbers	Additive relations	Multiplicative relations	Representing quantity fractions
Measurement and space	**Stages 2 and 3**	Geometric measure	2D spatial structure	3D spatial structure	Non-spatial measure
Statistics and probability	**Stages 2 and 3**			Data	Chance

LET’S DO SOME MATHEMATICS!

Let’s Do Some Mathematics

QUESTION 1

36 X 25

With a partner identify the different methods that could be used to solve this algorithm

What mathematics could students notice here?

What connections are there to other big/ important maths ideas?

Possible answers

What do you notice?

- 25 is a quarter of 100.
- 36 is 4 × 9.
- Both numbers are composite numbers and can be partitioned.
- 25 = 20 + 5.
- 36 = 30 + 6.
- 25 = 5 × 5.

What connections are there to other big/important ideas?

- Place value
- Distributive property
- Quarter of 100
- Halving/ quartering
- Equivalent strategies
- Area model
- Mental computation

What teacher moves could create connections or promote deeper understandings?

QUESTION 2

Let's Do Some Mathematics
Problem 2

Without using a calculator, decide which is larger:

3/4 or 4/5

How many different ways can you convince someone that your answer is correct?

QUESTION 2

Without using a calculator, decide which is larger:

3/4 or 4/5

What are the mathematical connections?

QUESTION 2

Without using a calculator, decide which is larger:

3/4 or 4/5

ANSWERS INCLUDE:

- Fractions
- Decimals
- Percentages
- Number lines
- Area models
- Equivalence
- Benchmarking
- Multiplicative reasoning

GROUP LIST

What might we start to look for in our classroom observations?

Partner Activity

Short Readings

"Mathematical Connections and the Beauty of Mathematics"

Linda Gojak &

Jo Boaler

"Selecting and Creating Mathematical Tasks"

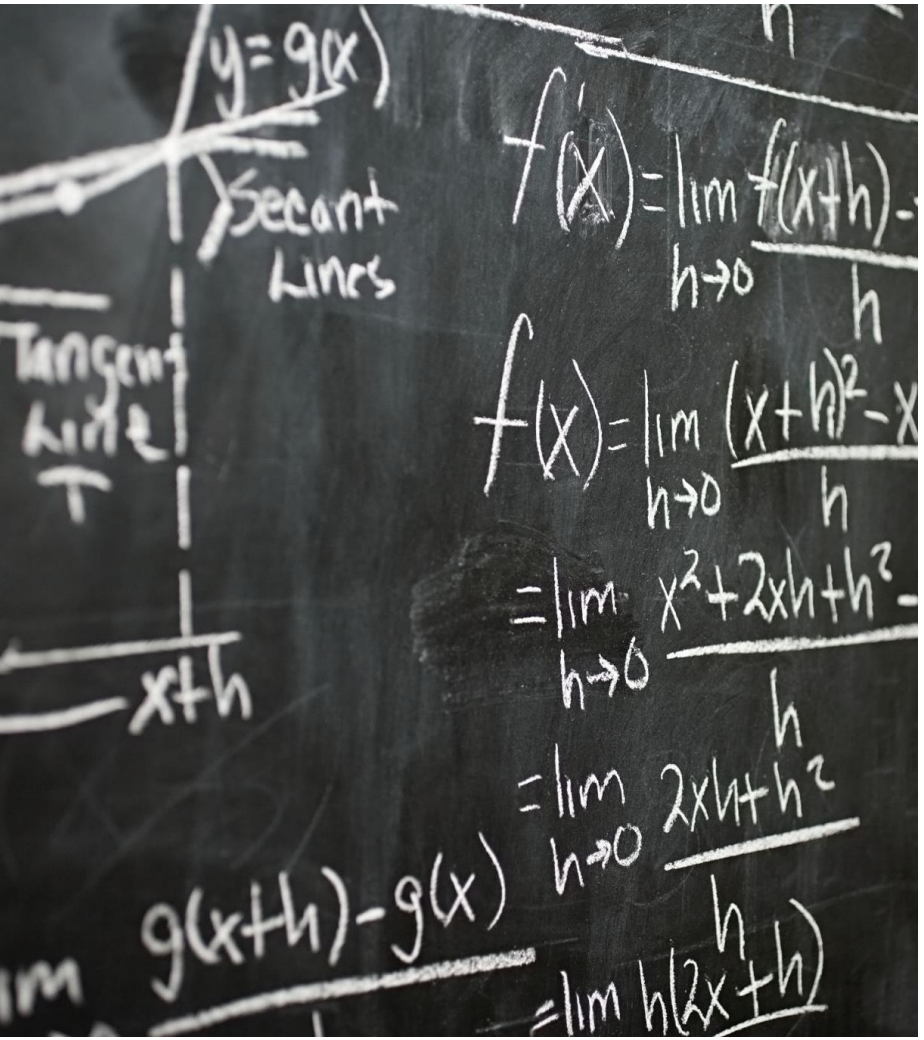
Margaret Schwan Smith &

National Council of Teachers of Mathematics

Readings

What were the 3 most important ideas you took away from the reading?

CONNECT	EXTEND	CHALLENGE
What ideas connected to what you already know?	What broadened your thinking or extended it in different directions?	What puzzles you? What might be the challenges for school leaders or teachers?



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Preparing for our observations

Protocols for classroom visits

- Observations are guided by the problem of practice
- Observers don’t speak to each other
- We don’t teach
- On departure we say thank you but make no other comment
- We move away from the classroom before talking

Stay focused on what you see

Focus on the descriptive, rather than other questions that are implicitly running through your head like:

- what do you want to see?
- what don't you see?
- what do you think about what you see?
- do you like being in this classroom?

Focus on students

- Most people don't need to be reminded collect evidence related to the teacher. People **do** have to be reminded to focus on students.
- Exactly what are the students doing, writing, drawing or saying?
- We’re also interested in the interactions of the teacher, student and content.

Observer questions to students

What questions could we ask students that would shed most light on our problem of practice?

Observer questions to students

What are you doing?

What are you learning by doing this?

What have you had to think hard about in this lesson?

CELEBRATION WALL WHAT MADE YOU GO WOW!

Detailed and Specific

Learning, Teaching, Environment, Relationships, Routines, Scaffolds, Tasks.

Pre-Round Task TOMORROW MORNING

"Effective Teachers of Numeracy in Primary Schools: Teachers' Beliefs, Practices and Pupils' Learning"

by Askew, Brown, Rhodes, Wiliam, Johnson,

1997

Underline:

What beliefs about mathematics teaching and learning appear to underpin effective numeracy teaching in this article?

!

Which ideas resonate strongly with your own beliefs or experiences of mathematics teaching?

?

Which ideas challenge or extend your thinking?

Where Did You Stand?

USE: Beliefs about how to teach pupils to become numerate (p4)

For each row: CIRCLE the practices that best match your beliefs.

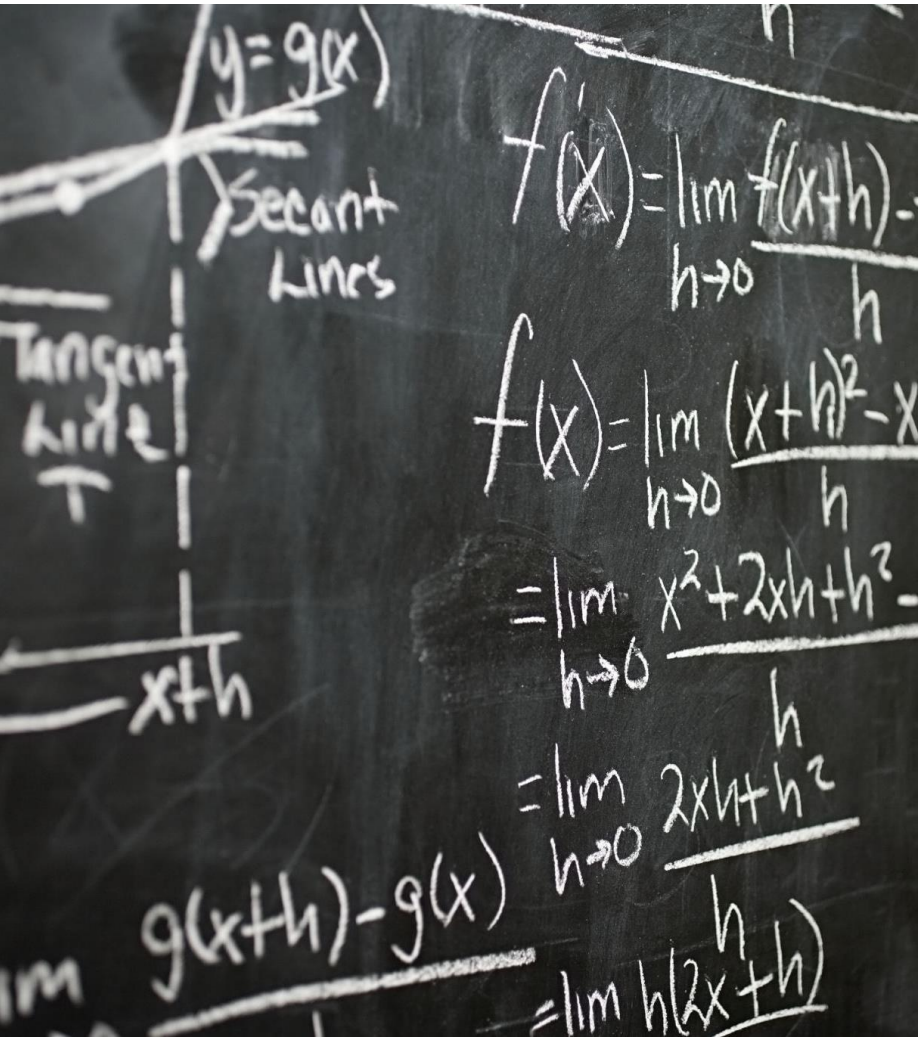
SHARE these with a partner

DISCUSS: Did you come across any dilemmas or insights as you completed this activity?

Share your beliefs, ideas, challenges

- The group selects three or four these shared responses
- Translate these into observable evidence that might be found in a classroom eg

Students learn mathematics through reasoning and discussion	**Students explain, justify, question and build on each other's ideas**



FINDINGS

Problem of Practice

What does mathematics learning look like in our classrooms?

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What evidence could we look for that would suggest that students are developing deep understanding (ie beyond procedural completion)?

- Students explaining why something works.
- Tasks requiring reasoning or problem-solving.
- Multiple solution pathways.
- Students identifying patterns and generalisations.
- Teachers asking questions that probe understanding.
- Students making conjectures or predictions.

Making Connections What evidence is there that students are connecting: representations (e.g., materials, diagrams, symbols, words)? mathematical concepts across topics? new learning to prior learning? mathematics to real-world contexts?

Possible evidence

- Students referring to previous learning.
- Students explaining similarities and differences.
- Students moving between multiple representations.
- Teachers explicitly drawing attention to relationships and patterns.

THANK YOU CARDS

THE NEXT LEVEL OF WORK

Return to Wonderings

School groups

My Wonderings

- How easy will it be to emphasise connections in mathematics? What changes will we need to make?
- What exactly do teachers and students need to do if we are going to deepen students' understanding in maths?
- When we go to the classrooms who will be doing the thinking- teachers or students?
- In the era of prepared lesson plans, how do we better engage students and teachers in mathematics learning?

What are you wondering ?

NETWORK PROPOSES THE NEXT LEVEL OF WORK

Considering all the evidence we have collected and analysed related to Old Guildford's PoP

- How can they focus their energy and resources to make progress on the problem of practice?
- What (new) knowledge and skills might teachers need, and how might the school support that learning?

QUESTIONS THAT MIGHT HELP FOCUS DIFFICULT WORK

- What is it we want our students to know & be able to do?
- What do we want our teachers to know & be able to do to sustain effective learning environments for students?
- What do leaders need to know and be able to do to create optimum conditions for teaching and learning?
- In what ways can we ensure teachers and leaders develop the skills they need to be consistently effective?

- BE SPECIFIC!!!!

EXAMPLES OF POWERFUL QUESTIONS FROM RECENT ROUNDS

- Are our assumptions about our students and parents preventing us from taking important initiatives? How could we explore this?
- How can we build our understanding and skill in the explore/monitoring phase of the lesson to ensure formative decisions are made either for small groups or the whole class?
- How can we use questioning to encourage and build reasoning in our students?
- How can you engage staff in professional learning around challenging and relevant tasks?
- How can we ensure professional learning translates into strong classroom practice?

School Teams Reflect

If this was the WORST professional learning experience you had:

- what would have happened? and
- what would NOT have happened?

What do we need to do as school teams and rounds participants to make sure these things don't happen?

Our Network Norms

- Commitment: Dates are timetabled in advance and everyone attends regularly and comes well-prepared.
- Involvement: Every member contributes to all activities, shares expertise and supports others as we move towards common understandings.
- Intellectual Rigour: Every member engages in learning that challenges and mystifies. We won't dumb it down.
- Trust and consideration: Every member actively invests in listening, acknowledges differences, and trusts others' ability to grow.

Our Network Norms

- Openness: Every member is open to new ideas and practices, and honestly expresses opinions.
- Confidentiality and respect: Every member maintains confidentiality on sensitive matters and shows respect for the students, teachers and parents in our schools.
- Celebration and Laughter: Every member takes opportunities to acknowledge successes – no matter how small – and to share fun and laughter.