



5 Habits of a Highly Effective Numeracy Teacher

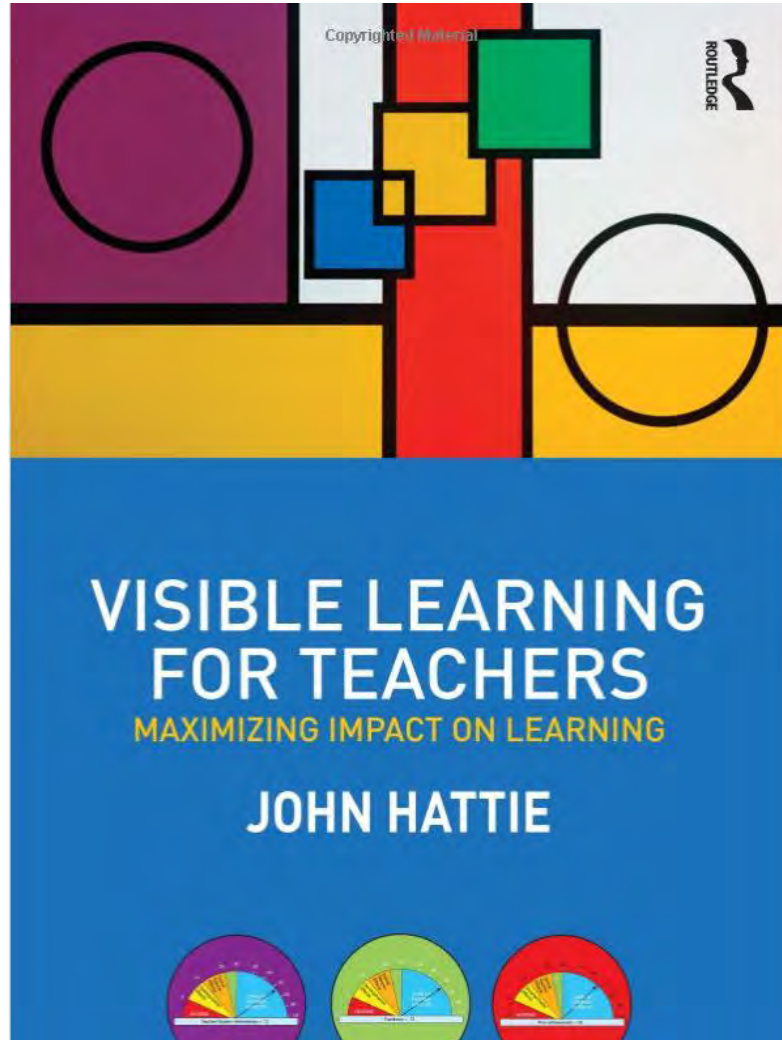
Meredith Longfield & Lynelle Campbell

Learning Intentions

1. Review the *5 Attitudes & Beliefs of Expert Teachers* (Hattie 2013) as a framework to develop teaching capacity in mathematics education.
2. Recognise the importance of *Classroom Climate* to develop students' numeracy.
3. Consider the variety of assessments that are necessary to provide effective numeracy instruction within an RTI framework.
4. Examine a tier 3 numeracy (intensive) intervention in action.



Maximizing Impact on Learning...



The main ideas of the book are:

~ The big idea is – know they impact! Expert teachers are not wedded to specific teaching strategies – rather, they regularly focus on *evaluating the effects* they have on students, and adjust teaching methods accordingly.

~ When teaching and learning are “visible” – that is, when it is clear what teachers are teaching and what students are learning, student achievement increases.

Hattie 2013

5 Habits of a Highly Effective Numeracy Teacher

1. Expert teachers identify the most important ways to represent the subjects they teach.
2. Expert teachers create an optimal classroom climate for learning.
3. Expert teachers monitor learning and provide feedback
4. Expert teachers believe all students can reach the success criteria
5. Expert teachers influence a wide range of student outcomes not solely limited to test scores

1. Expert teachers identify the most important ways to represent the subjects they teach.



A teacher's subject knowledge does NOT improve student achievement!

HOWEVER, how they organize, introduce and use this knowledge does impact on student achievement when they consider:

1. What is the student's prior knowledge?
2. How does this knowledge relate to other subjects?
3. How can this be adapted to students' needs?
4. What strategies will help?
5. Where might the students 'trip up' and how to respond?
6. Student progress & adapt accordingly.

2. Expert teachers create an optimal classroom climate for learning.



3. Expert teachers monitor learning and provide feedback

Expert teachers believe: – **If they're not learning I'm not teaching.....**



Expert teachers are excellent seekers AND users of feedback about their teaching.

4. Expert teachers believe all students can reach the success criteria

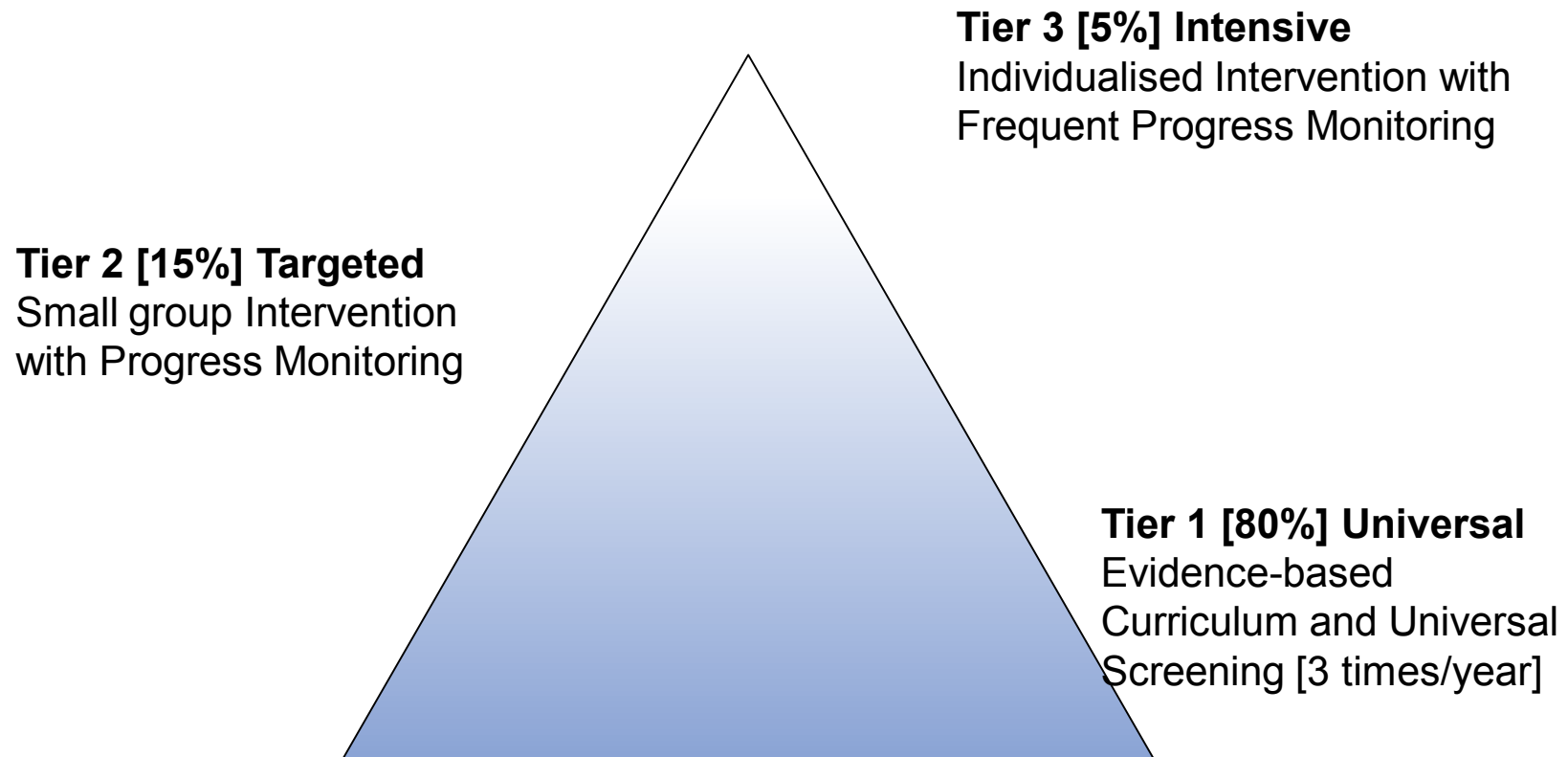
- In a study of 3000 teachers in *The Measures of Effective Teaching Project* sponsored by the Gates Foundation, teachers who exhibit the 7 C's make the most gains in student achievement.
 - Care
 - Control
 - Clarify
 - Challenge
 - Captivate
 - Confer &
 - Consolidate



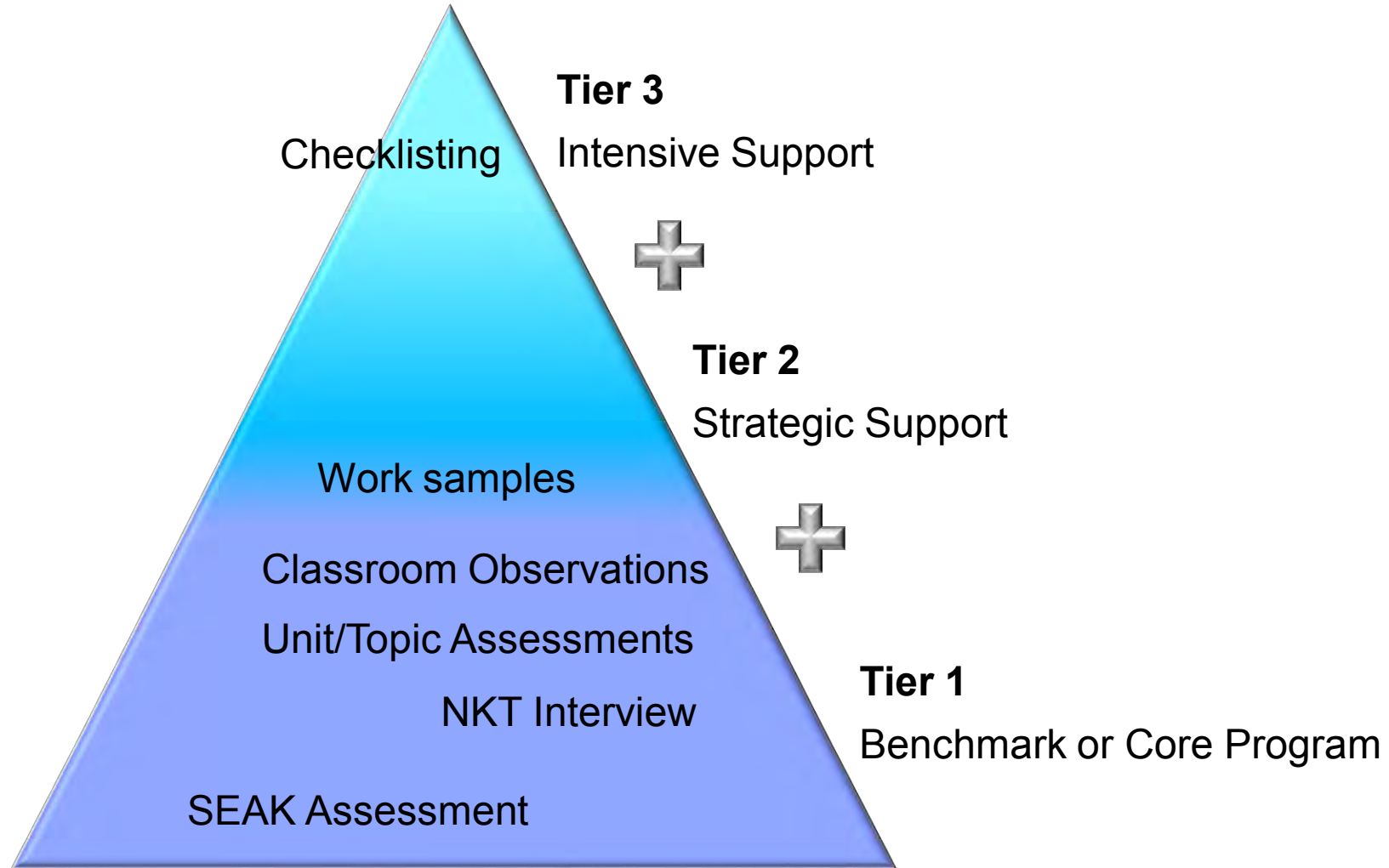
5. Expert teachers influence a wide range of student outcomes not solely limited to test scores



Responsive Approach to Assessment and Intervention



Response to Intervention (RTI) (The Three Tier Model)



The purpose of assessment is to inform teaching and improve learning.

My most used assessment tools include but are not limited to:

- Documenting Observations in the Classroom
- Photographs and videos
- Checklists
- Work samples and portfolios
- Assessment Data
- Assessment book for record keeping



Observations, assumptions and determining causes

“Observations are the principal tool teachers use to guide their everyday actions and ongoing programs...” Booker, 2011, p. 57











Kindergarten Assessment

Data - Term 2

Name.....

Date.....

Reading and telling about picture graphs

				How many hearts?
				How many triangles?
				How many happy faces?

Tier 3 – intensive intervention

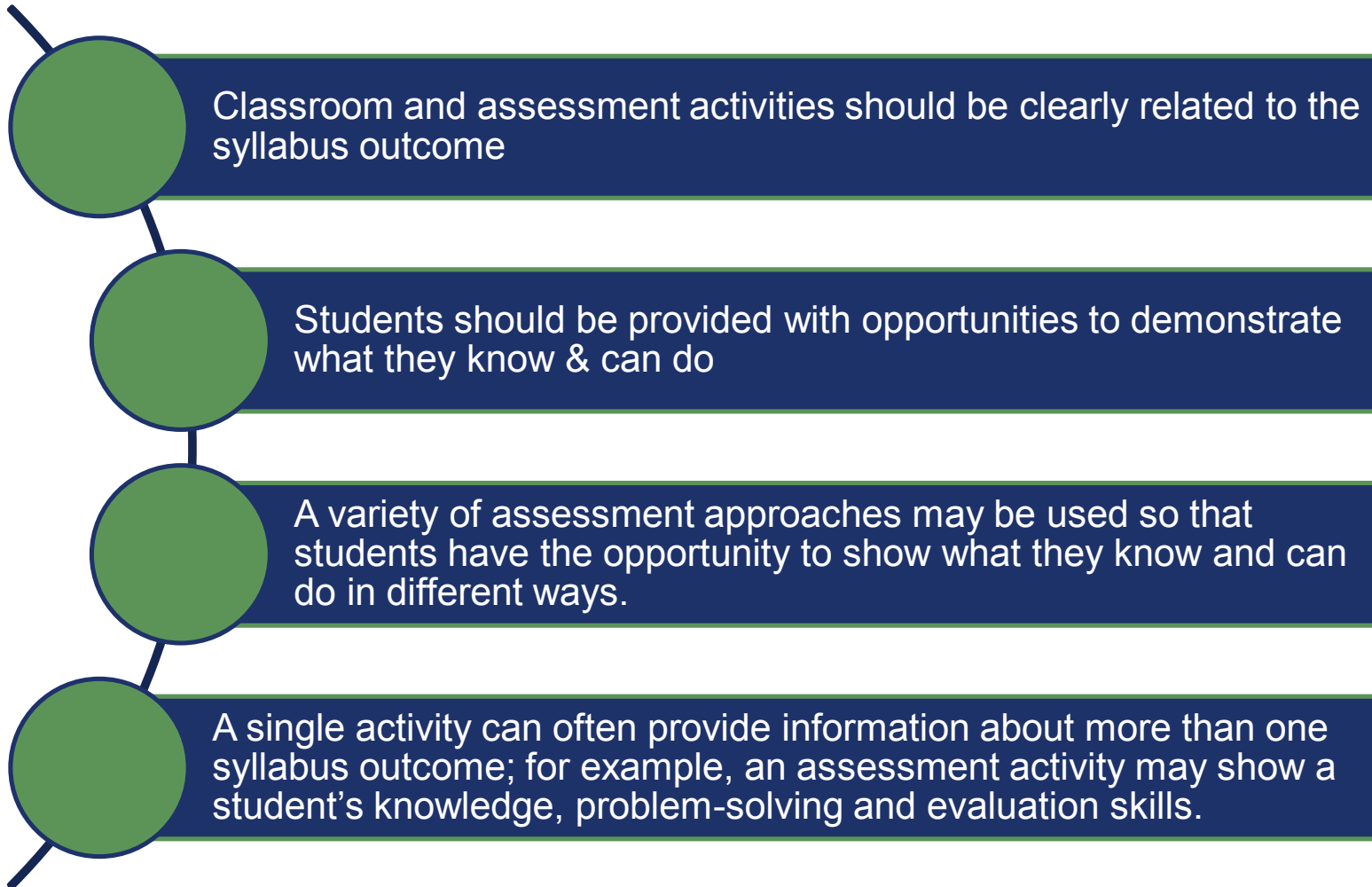


Maths Planner



TERM: Week: TUTOR:		NAME: Learning Outcome: Recognise and name all numbers in the range 1 – 10 correctly and consistently										
Date / /		Retrieve number cards 1-10	1	2	3	4	5	6	7	8	9	10
Notes		Can label number cards 1-10	1	2	3	4	5	6	7	8	9	10
		Order numbers lowest to highest	1	2	3	4	5	6	7	8	9	10
		Count out 10 objects	Notes									
		Counts collection of objects in the range 1 - 10	Notes									
		Writes numbers 1 - 10	Notes									
Date / /		Retrieve number cards 1-10	1	2	3	4	5	6	7	8	9	10
Notes		Can label number cards 1-10	1	2	3	4	5	6	7	8	9	10
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What teachers should consider when planning for effective learning and assessment?



<http://syllabus.bos.nsw.edu.au/support-materials/planning-programming/>

Taking students from Assessment to Success....

A daily Numeracy Block

- Quiet Time
- Numeracy Warm-up
- Daily Data Question
- Whole Class Teaching/ Learning
- Group/Pair Investigations
- Whole Class Reflection/Review



Variety in a PATTERNS & ALGEBRA UNIT: - in whole group activities



- Care
- Control
- Clarify
- Challenge
- Captivate
- Confer &
- Consolidate

Patterns & Algebra Unit – Variety in pair work activities & resources



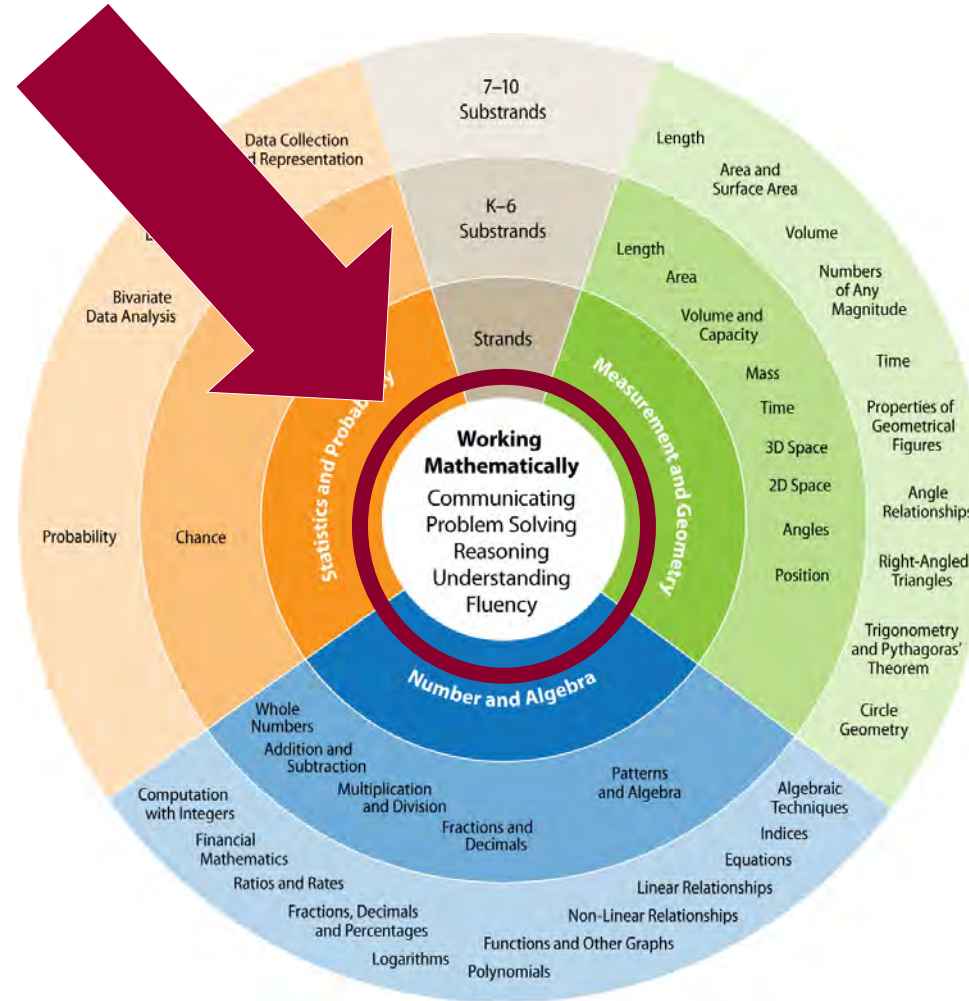
Patterns & Algebra Unit – Variety in individual work activities



Patterns activities integrated across KLAs



Allowing for multiple opportunities to “Work Mathematically”



The diagram represents the relationships between the strands and substrands only.
It is not intended to indicate the amount of time spent studying each strand or substrand.

<http://syllabus.bos.nsw.edu.au/mathematics/mathematics-k10/content-k10/>

Daily Data Question



8

9

10

11

12

13

14

15

16

17

18

19

20

heavy

light

We found out that Berenstein Bears have the least and Corduroy has the most votes
Sophie

Our Favourite Bear

We found out that Bear and Chook just needed one more vote to catch up to Paddington Jonathan

We found out that
Paddington needed 3 more
votes to tie with Corduray
Alexis

We found out
that Corduroy has
more votes than
the others
Heidi

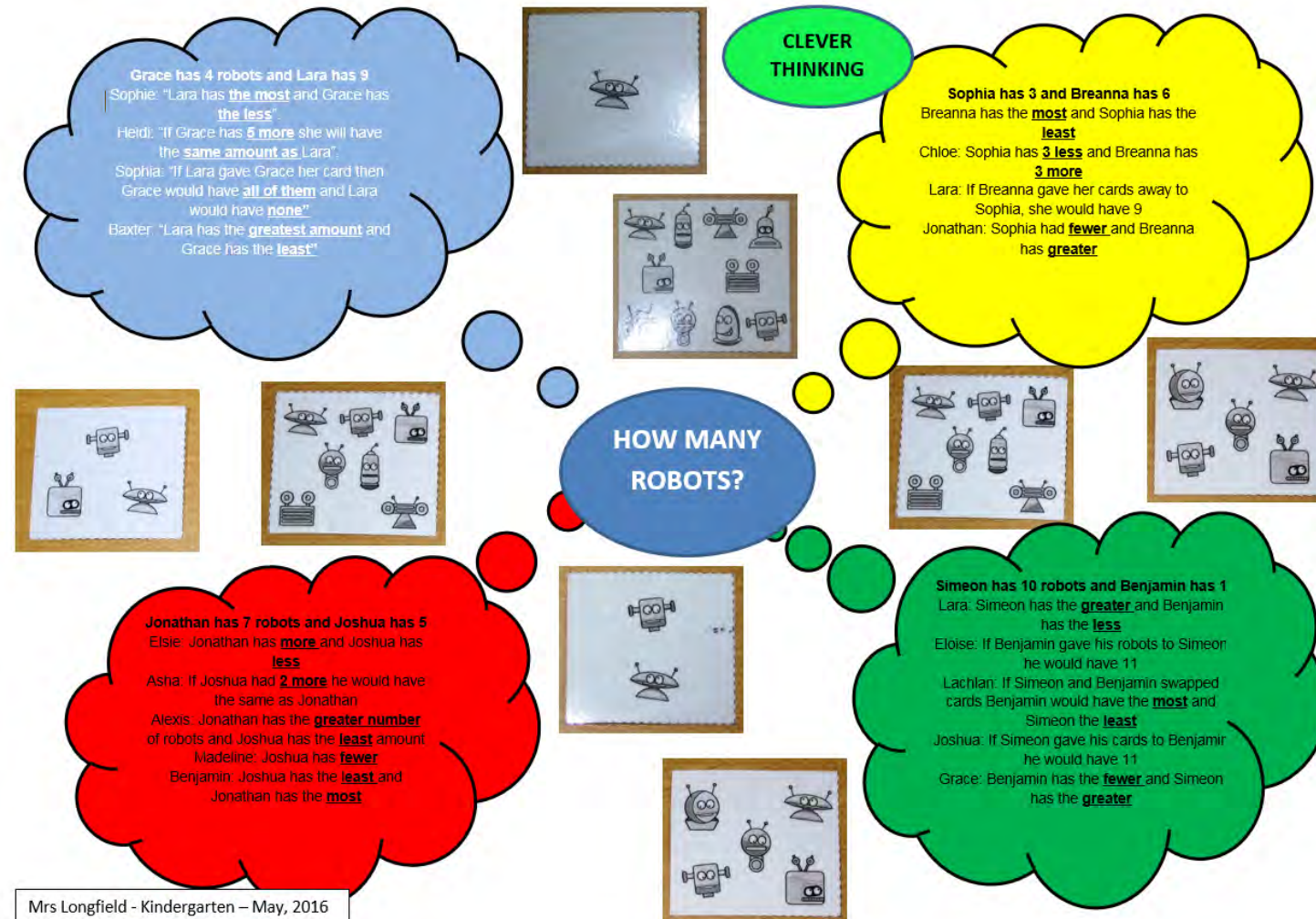
We found out
that The
Berenstain Bears
have less votes than
all the others

Sophia



We found out that
Thank You bear and
Winnie the Pooh and
Rachael

Daily Data Question



References

- *“Visible Learning for Teachers – Maximizing Impact on Learning”* by John Hattie
- *“Improving Student Achievement – A Practical Guide to Assessment for Learning”* by Toni Glasson
- *“Using Data to Improve Learning – A practical guide to busy teachers”* by Anthony Shaddock
- *“Building Numeracy – Moving from Diagnosis to Intervention”* by George Booker
- *“Explicit Direct Instruction”* by Sylvia Ybarra & John Hollingsworth

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- Teaching Kids, not just a subject



“To teach effectively a teacher must develop a feeling for his subject; he cannot make his students sense its vitality if he does not sense it himself. He cannot share his enthusiasm when he has no enthusiasm to share. How he makes his point may be as important as the point he makes; he must personally feel it to be important.”

George Polya