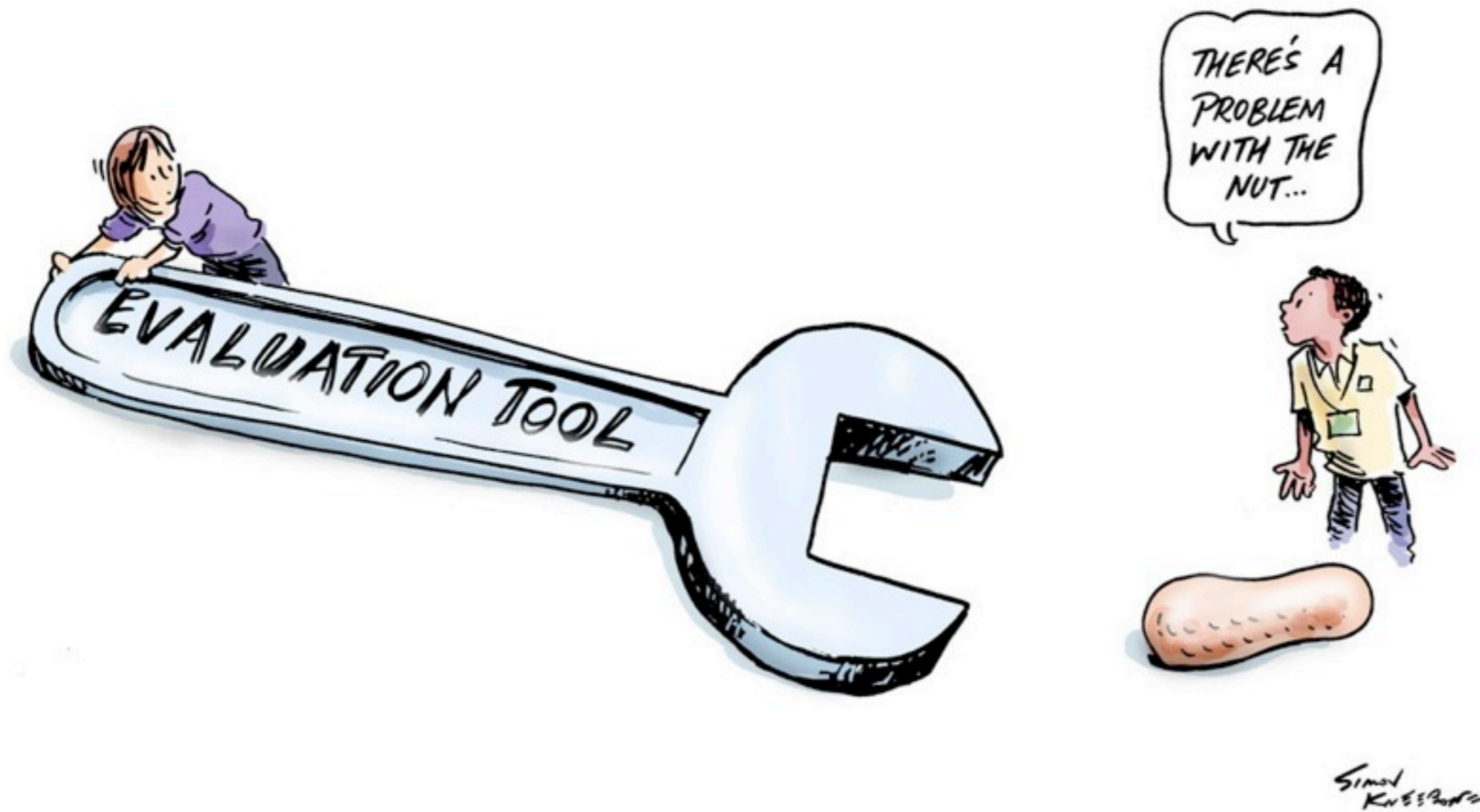


Assessment and evaluation in a cooperative learning community



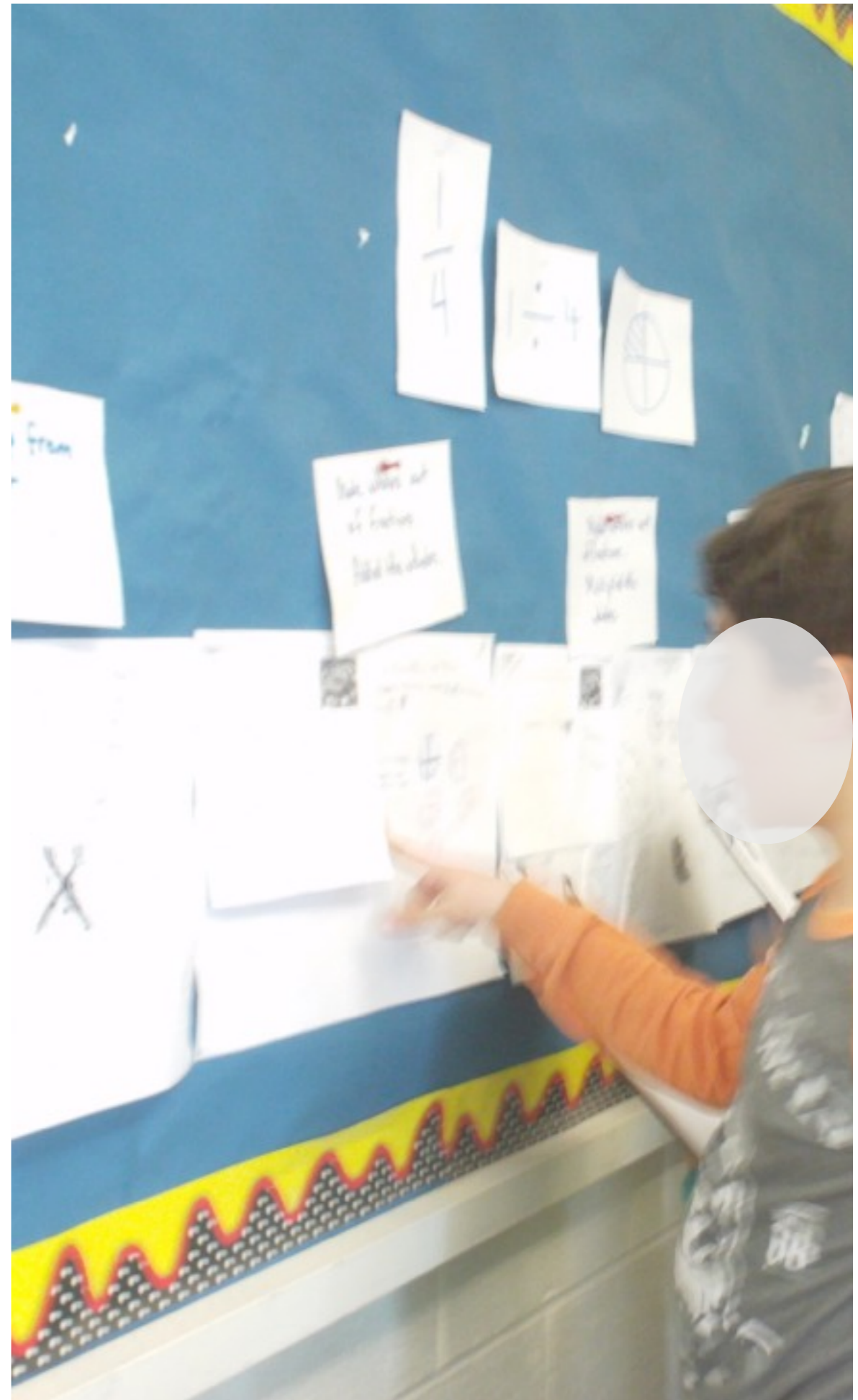
Grade 3/4

- 24 students
- 8 IEPs
- Middle level LOI
- Amazing parents
- 1 Twitter feed
- 1 Youtube channel



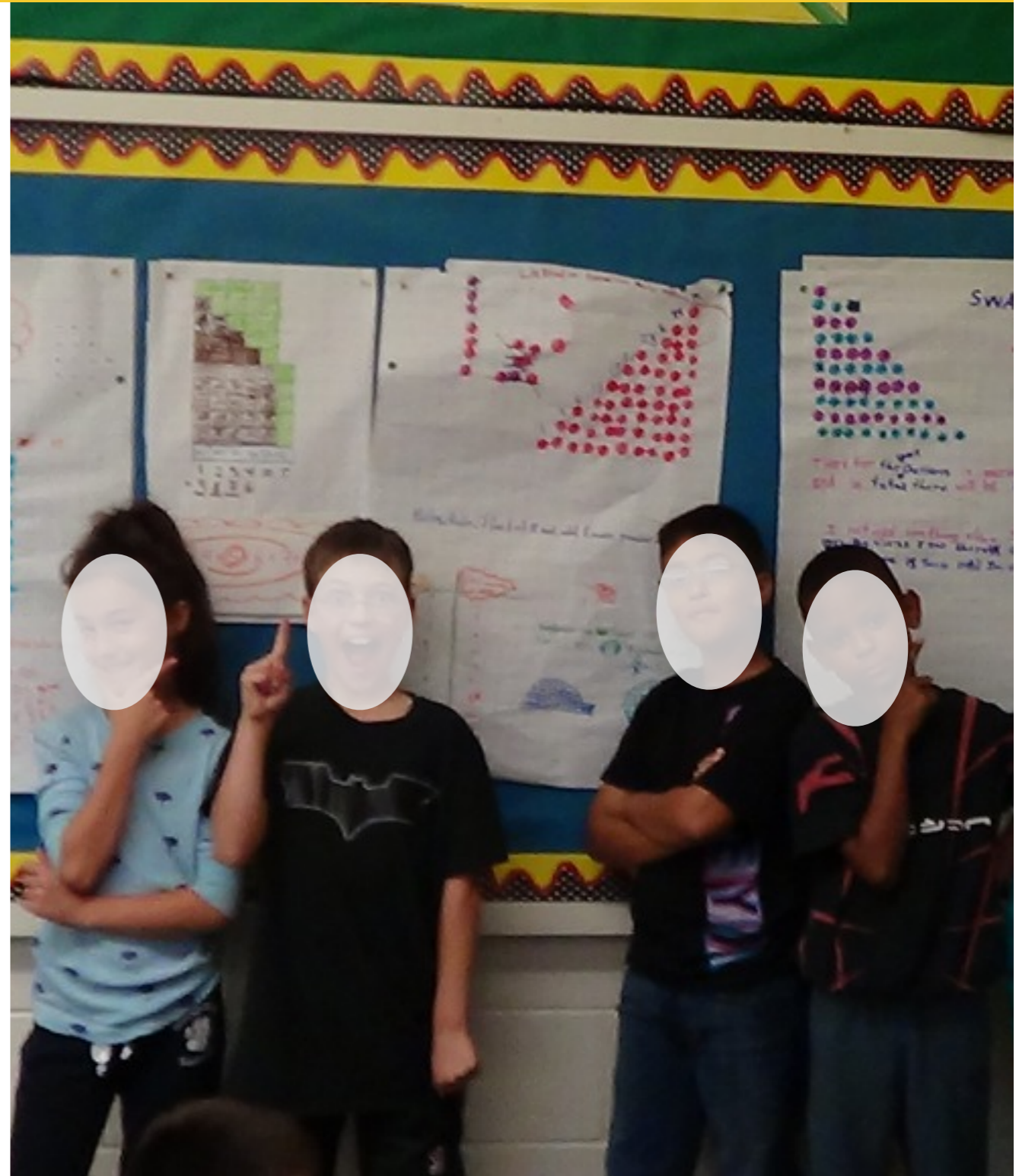
Learning through problem solving

Intentionally public about sharing our learning



Group work - we all achieve

- Grade level standards - a good place to start.



Curriculum

 Ontario

Ministry of Education

REVISED

The Ontario Curriculum
Grades 1-8

Mathematics



- Begin here - always.
- Visit often.

2005

Group work - individual learning

- To accommodate and differentiate for the largest number, we learn together.

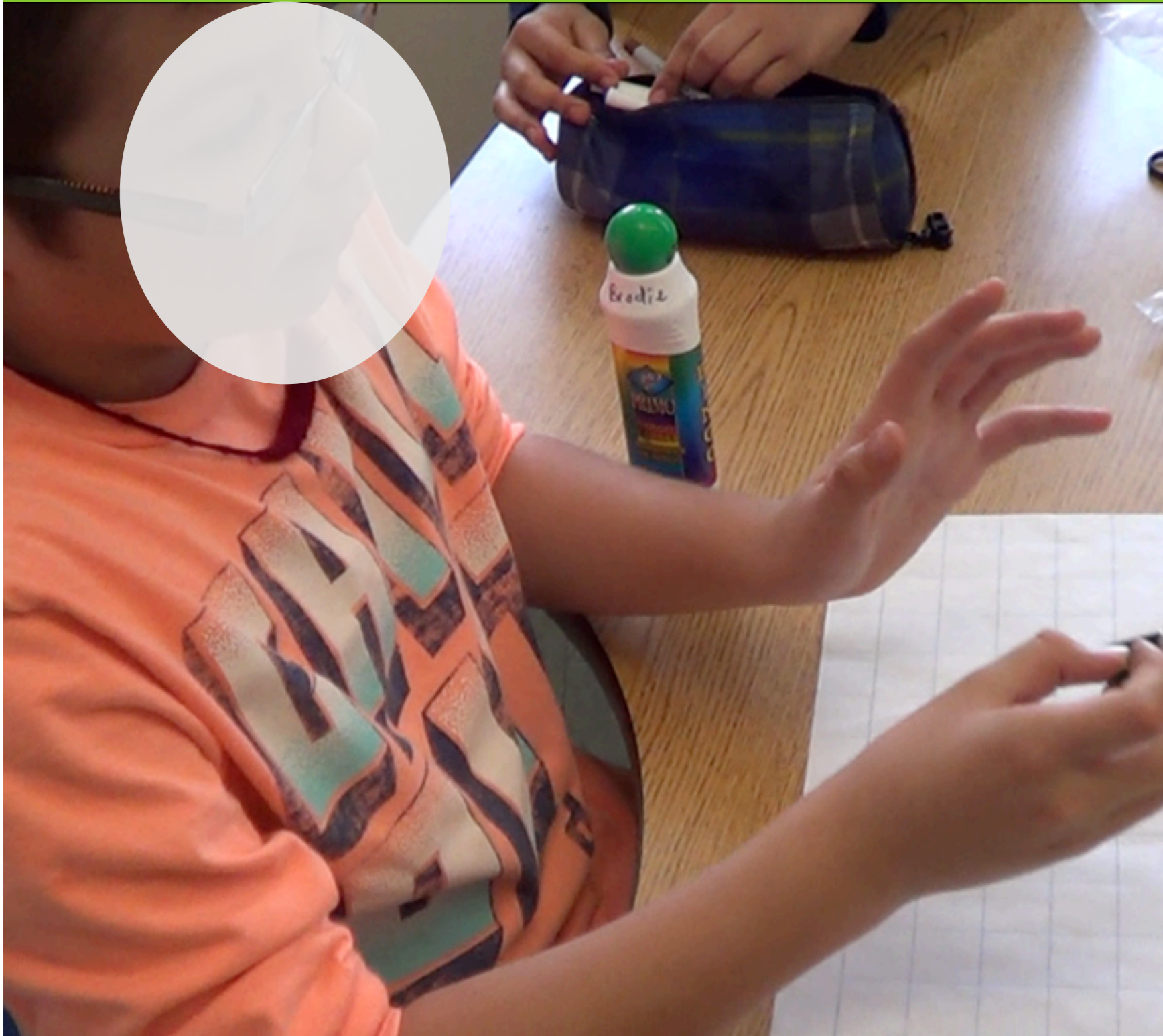


Interdependence

- Good questions are perhaps better than good answers.



If you don't know...ask



- Observation is good enough for research scientists, why not teachers?

Assessment ≠ Evaluation

Evaluation vs. Assessment

- Evaluation from the root word value.
- When we evaluate, we are assigning a value to a body of work or learning in the form of a mark.
- Assessment is the process of gathering information that accurately reflects how well a student is achieving the curriculum expectations in a subject or course.

From Growing Success

Evaluation vs. Assessment

- The primary purpose of assessment is to improve student learning.

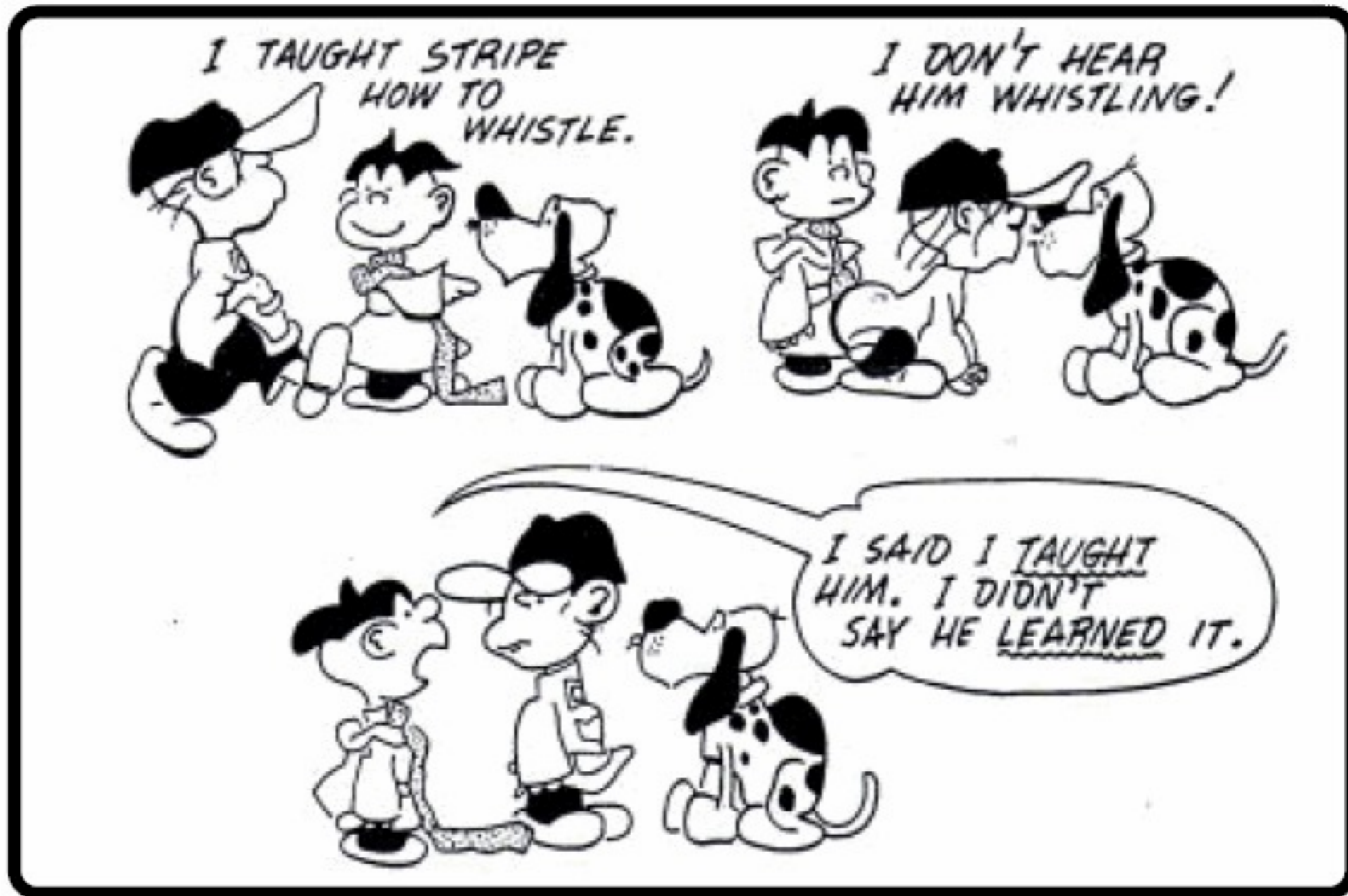
From *Growing Success*

What do we do to
accomplish this in a
cooperative setting?

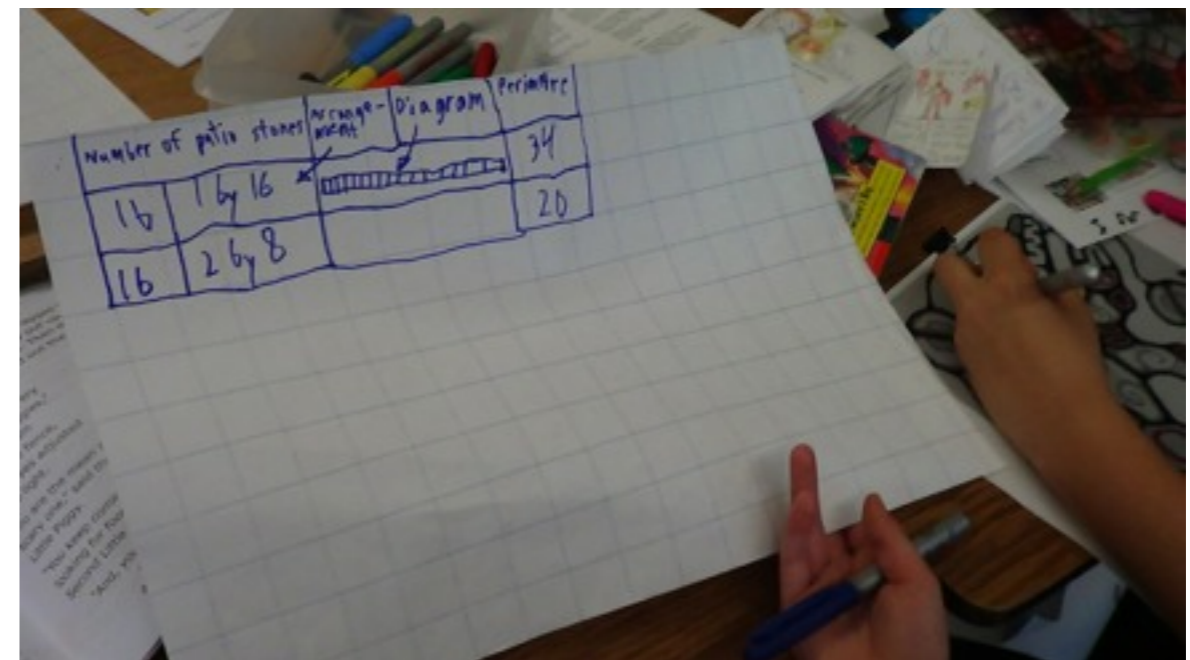
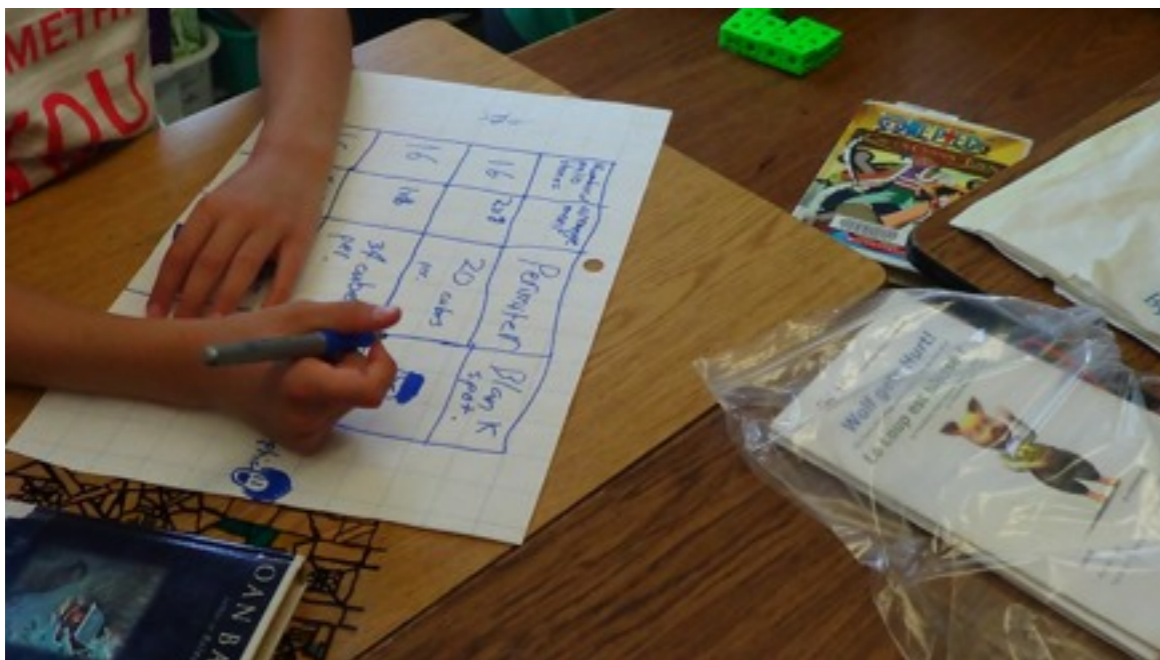
Example 1

Assessment for Learning

(Source unknown.)



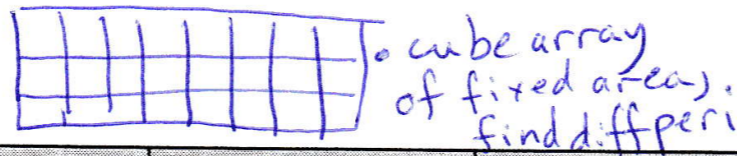
Finding perimeter given a fixed area



Assessment for Learning

Students Names		Student's Thinking	Errors & Misconceptions	Observations & Anecdotal Notes
		1, 2		Student's Thinking 1. identifies perimeter 2. identifies area 3. 4.
		1 2		
		1, 2		
		2	B	
			B	
			C	
		1, 2		
		1		
		4 2	B	
		1,		

Grade: 3/4
 Unit Title: Perimeter & Area
 Task/Question:



Curriculum Expectations:
 3s - peri - std units
 area - grid, arrays
 4s - relationship btwn area/peri
 - meaningful probs distinguish peri/area

Assessment for Learning

		B	4.
		C	
1, 2			
1			
4, 2		B	
1,			
1, 2		A	<p>Errors & Misconceptions</p> <p>A. Counts interior blocks (area)</p> <p>B. misses the corner block (perimeter)</p> <p>C. confuses counting blocks counts outside blocks (perimeter)</p> <p>D.</p>
1, 2		A	
1, 2+			
1		C B	
1, 2			
1, 2			
1, 2			
1, 2			
1, 2			
1, 2			

Who are we assessing?

- The students?
- Be precise. What exactly do we know?
- The teacher?
- Be honest with yourself. Were you effective at reaching everyone?

Example 2

Assessment as Learning



Bansho



Bansho Basics

Repeated Adding

Handwritten student work illustrating repeated addition. On the left, a vertical list of '15 min' is written, with a downward arrow and a plus sign between each entry, indicating the process of adding 15 minutes repeatedly. On the right, the same '15 min' is written in a column, with plus signs between entries. At the bottom right, the final result is written as '16 pounds' and '4 hours'.

Making Wholes

Handwritten student work illustrating 'making wholes'. At the top, a turkey icon is drawn and labeled '= 4 Pounds'. Below it, four turkey icons are drawn in a row, followed by the equation: $4 \text{ turkey icons} = 240 \text{ minutes} = 4 \text{ hours}$.

Find and Use a Pattern

Handwritten student work showing a table and a conclusion. The table has two columns: 'Pound' and 'hour'. The rows contain the following values:

Pound	hour
4	1
8	2
12	3
16	4

Below the table, the student has written: 'Four pounds can be cooked in one hour.' and 'In 4 hours you can cook the entire turkey.' There are also some faint drawings of turkey legs and other scribbles on the page.

Expanding Bansho

Repeated Adding

1 pound

15 min
+
15 min
+
15 min
+
15 min

Parent Problem
You have a 16 pound turkey to cook for a family get together. If it takes a quarter hour to cook for each pound, how long will it take to cook the entire turkey?

Each pound is 15 minutes.
16 pound \times 15 = 240 minutes.
 $240 \div 60 = 4$ hours.

Multiplying Minutes

Making Wholes

$\frac{1}{4} = 4$ POUNDS

$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = 240$ minutes = 4 hours.

Fractions into Decimals

Find and Use a Pattern

Pound	hour
4	1
8	2
12	3
16	4

Four pounds can be cooked in one hour.

In 4 hours you can cook the entire turkey.

Parent Problem
You have a 16 pound turkey to cook for a family get together. If it takes a quarter hour to cook for each pound, how long will it take to cook the entire turkey?

Summary of Learning

F R A C T I O N T A S K S

Solving Problems Together

Parents and students learn from each other

Not a Worksheet Publications

Issue N° 2 Winter 2014

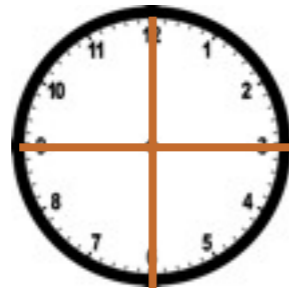


Summary of Learning

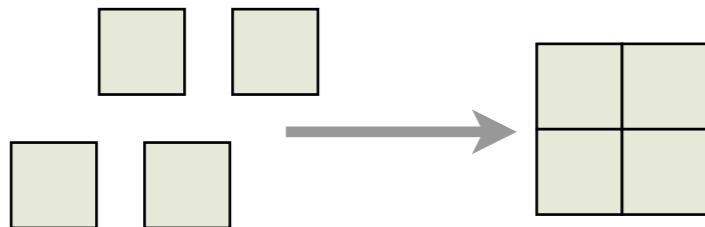
F R A C T I O N T A S K S

Summary of the Mathematics Concepts

Building learning communities

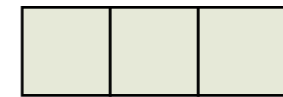


Fractions are always part of something. In this case an hour.

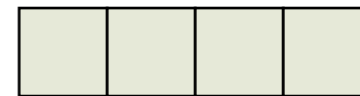


Like fractions can be gathered into wholes.

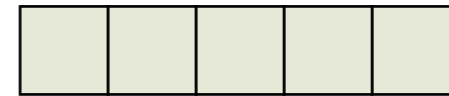
The number of equal parts gives the fraction its name.



Thirds



Fourths or quarters



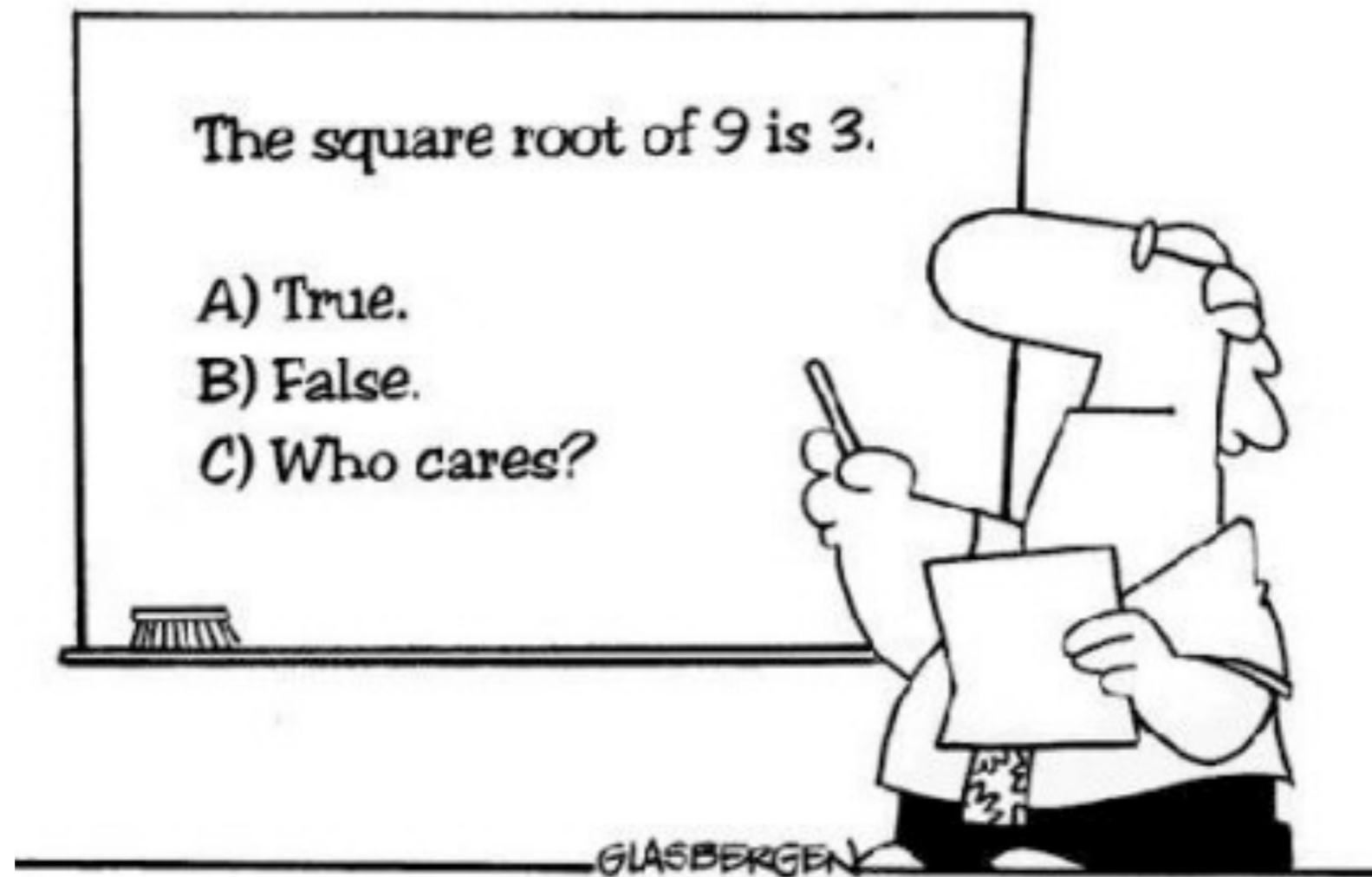
Fifths

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = 4 \text{ hours}$$

Fractions can be combined and counted to get a total. They can be added and multiplied, too.

Example 3

Assessment of Learning



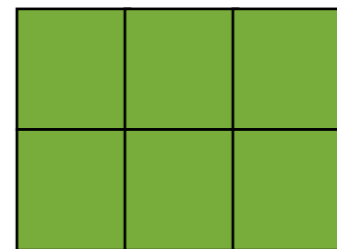
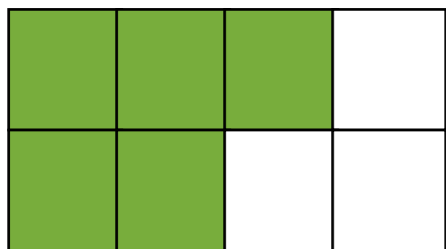
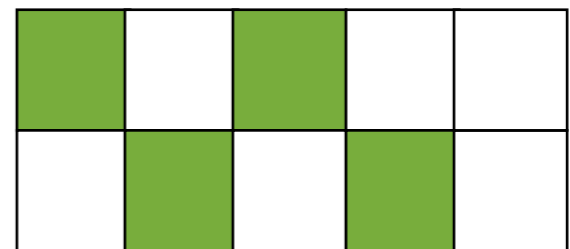
Many students actually look forward to Mr. Atwadder's math tests.

Cooperative Assessment

Name these fractions.

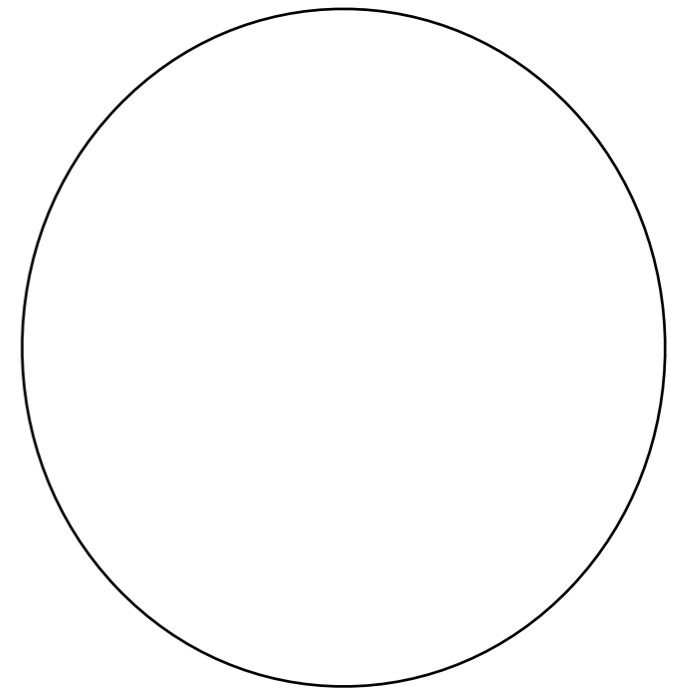
Gr. 3 may use words.

Gr. 4 must use numbers.



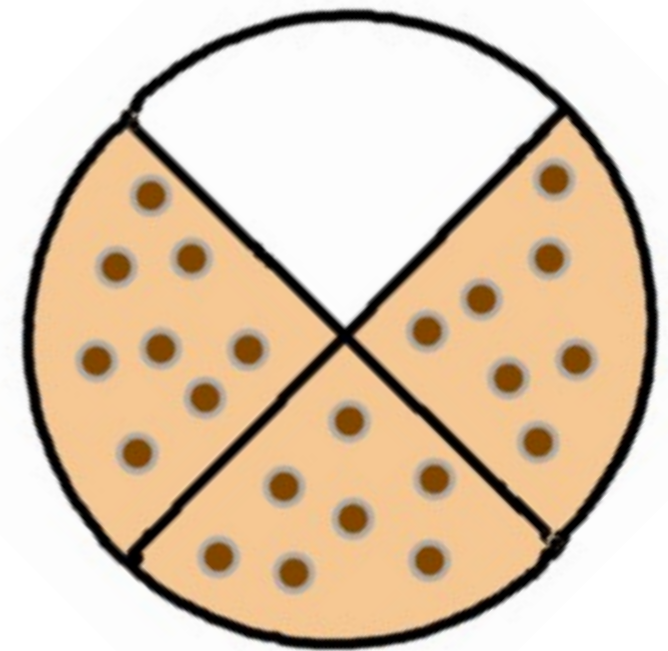
Cooperative Assessment

Divide this circle into a fraction. Explain your fraction.



Cooperative Assessment

Four friends want to share the rest of this pizza equally.
Explain how could they do this.



Cooperative Assessment

Famous baseball coach, Yogi Berra, was hungry after a game and went to order a pizza. The pizza chef asked, "Do you want me to cut your pizza into 8 or 12 pieces, Mr. Berra?"

Yogi replied, "Better cut it into 8. I'm not all that hungry."

Explain what Mr. Berra does not understand about fractions.

Summary

- Observing is good
- Questioning and talking to students is even better
- Public knowledge is shared knowledge that can be built upon
- Children can help make assessment tools



- Children are much smarter and more capable than they are given credit for
- Parents are much more valuable partners than is thought in the literature

Thank you

