



# Alberta **Regional** Consortia

*Dedicated to provision of professional learning opportunities  
at the local, regional and provincial levels*

## EMPLO- Elementary Mathematics Professional Learning Opportunities

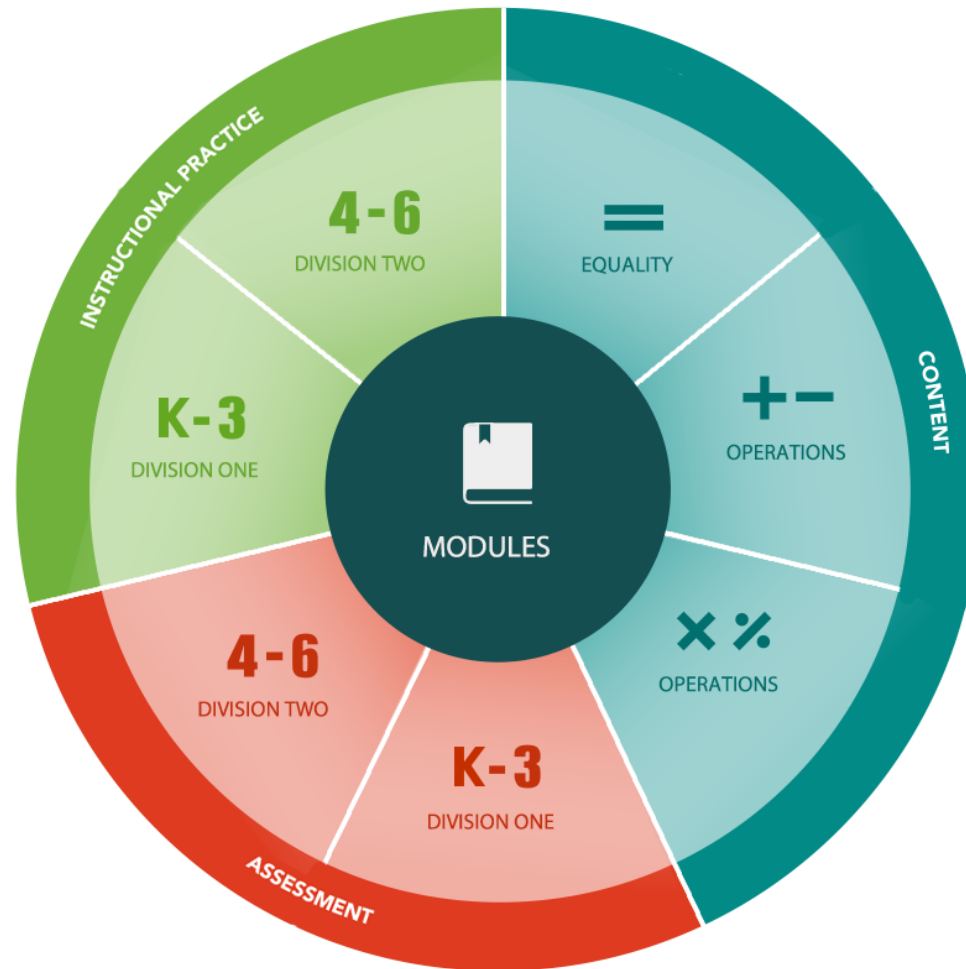
Prepared by SAPDC Learning Facilitators

Marian Biggins and Vicki Glass



## Elementary Mathematics Professional Learning

### Apprentissage professionnel en mathématiques à l'élémentaire



# Developing Mathematical Fluency

- ▶ "A ***deeper*** understanding of Mathematical fluency enables us to envision what it means for our students to be mathematically **proficient**, and to ***shift teaching practices*** that shift our teaching from a ***focus on content*** to a focus on ***application and understanding***"

▶ *Sue O'Connell and John SanGiovanni  
from Putting the Practices into Action*

# Developing Professional Capital

- ▶ The aim of this series is to provide
  - ▶ opportunities,
  - ▶ ideas, and a
  - ▶ safe environment

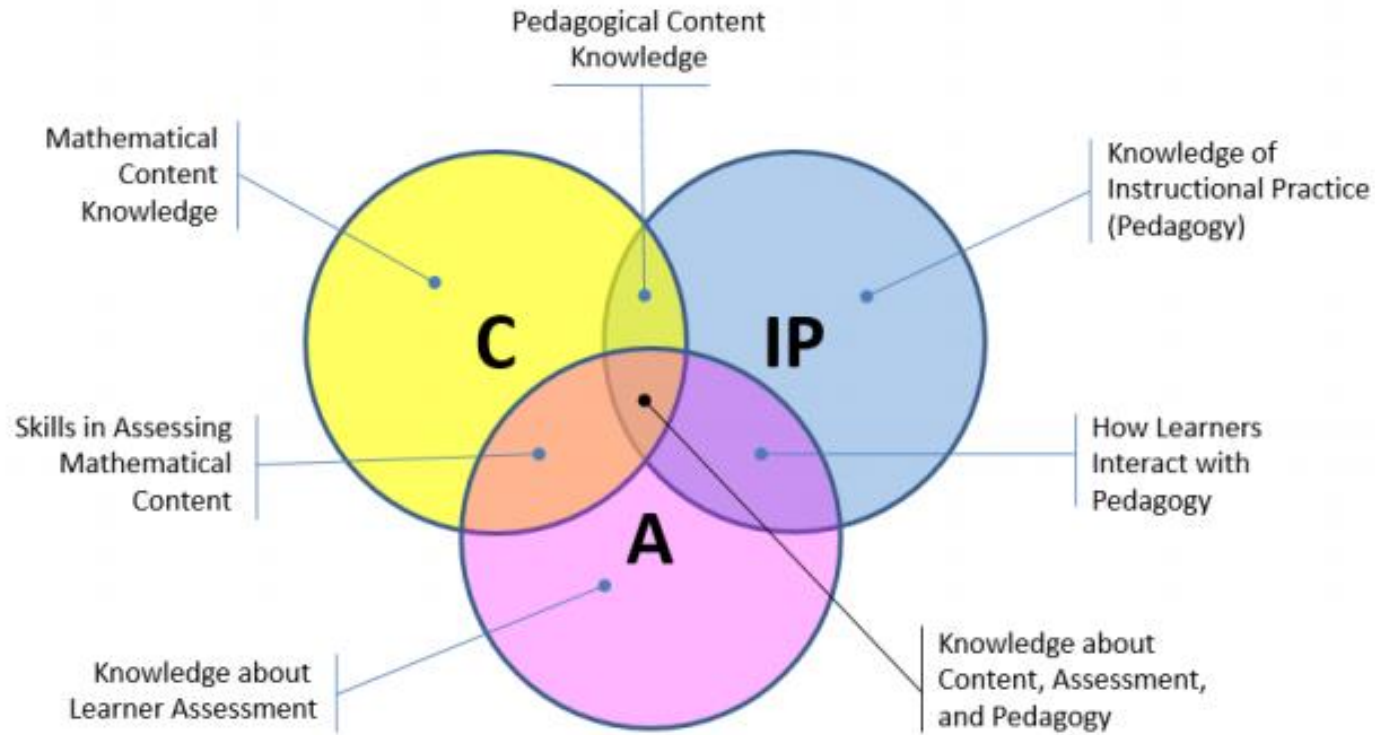
for teachers to work collaboratively to enhance and further develop their Professional Capital

(as described by Fullan and Hargreaves, cited in A Great School for All - ATA, 2012).

- ▶ The series is a collaborative effort involving
  - ▶ Classroom teachers
  - ▶ ATA staff
  - ▶ Post secondary
  - ▶ Math consultants
  - ▶ CASS
  - ▶ ARPDC representatives
- ▶ Funded through a grant from AB Education



# Enhancing Professional Capital



# Guiding Questions for educators to consider

- ▶ What do I want my students to **learn**?
  - ▶ (based on the Alberta Program of Studies)
- ▶ How will I know, track, **evaluate**, and communicate how well they are learning it?
- ▶ What **activities**, **resources**, and **structures** will I select to further student **understanding**?

# Extending the EMPL Learning Opportunity

Resources being created are meant to support **follow-up learning opportunities**

Teachers will **work collaboratively** to develop instruction that:

- ▶ addresses the desired **content**
  - ▶ determines the degree of **mastery**
  - ▶ utilizes appropriate **resources** and learning **activities**
  - ▶ **evaluates** the **success** in promoting student growth
- 
- ▶ Your local consortia can provide follow up tailored to meet your district's/schools' needs

Webinars and resources will be developed for each of the areas

Content

Assessment

Instructional Practices





Currently the equality and additive thinking sections are accessible.

Additional supports will be added as completed

Upcoming webinars include:

Jan. 11- Additive Thinking-1-2 or 4-5

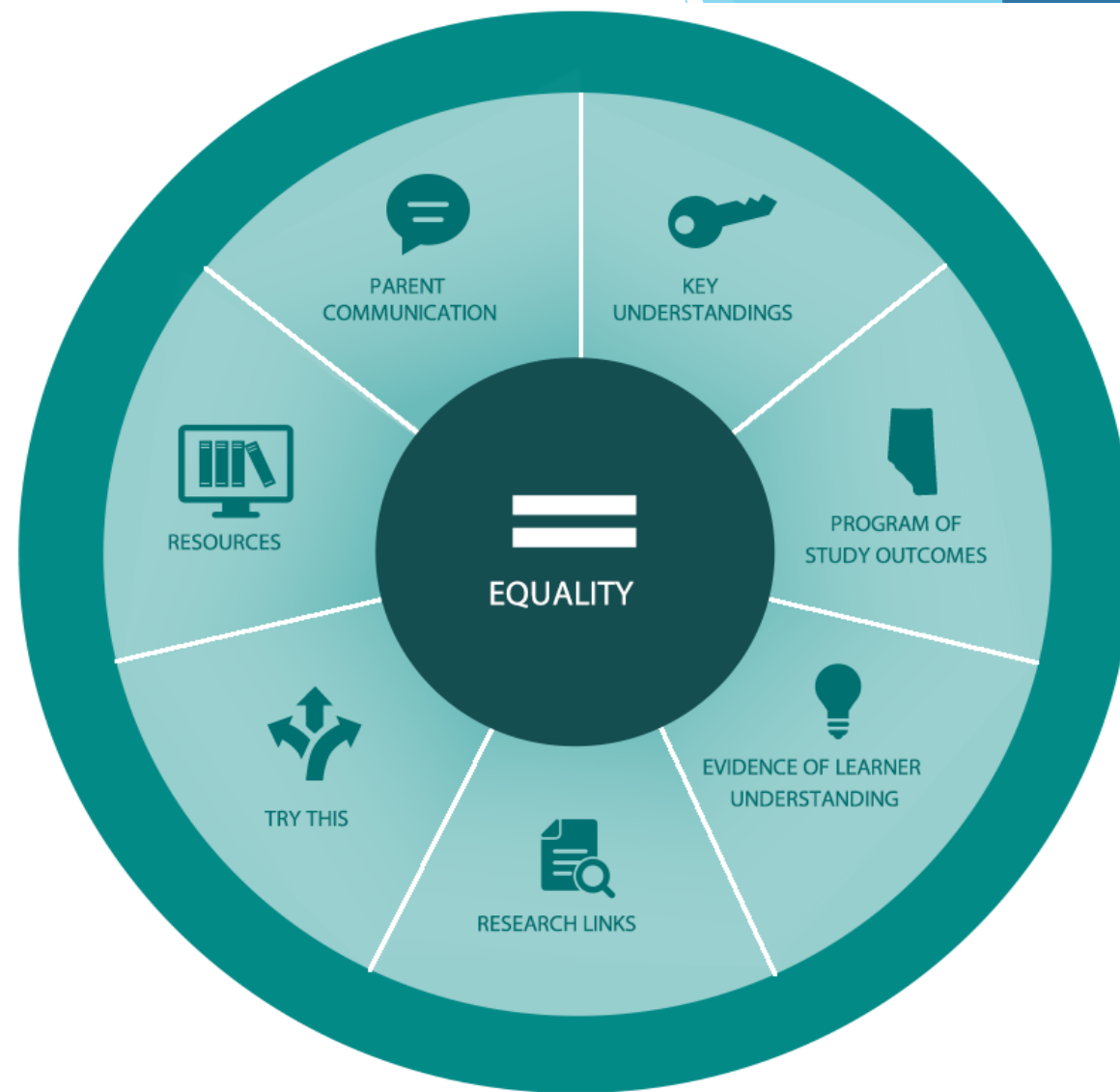
Jan. 18- Multiplicative Thinking  
1-2 or 4-5

SAPDC will be hosting

Munch and Learn sessions from 4-5 with  
**Free pizza**

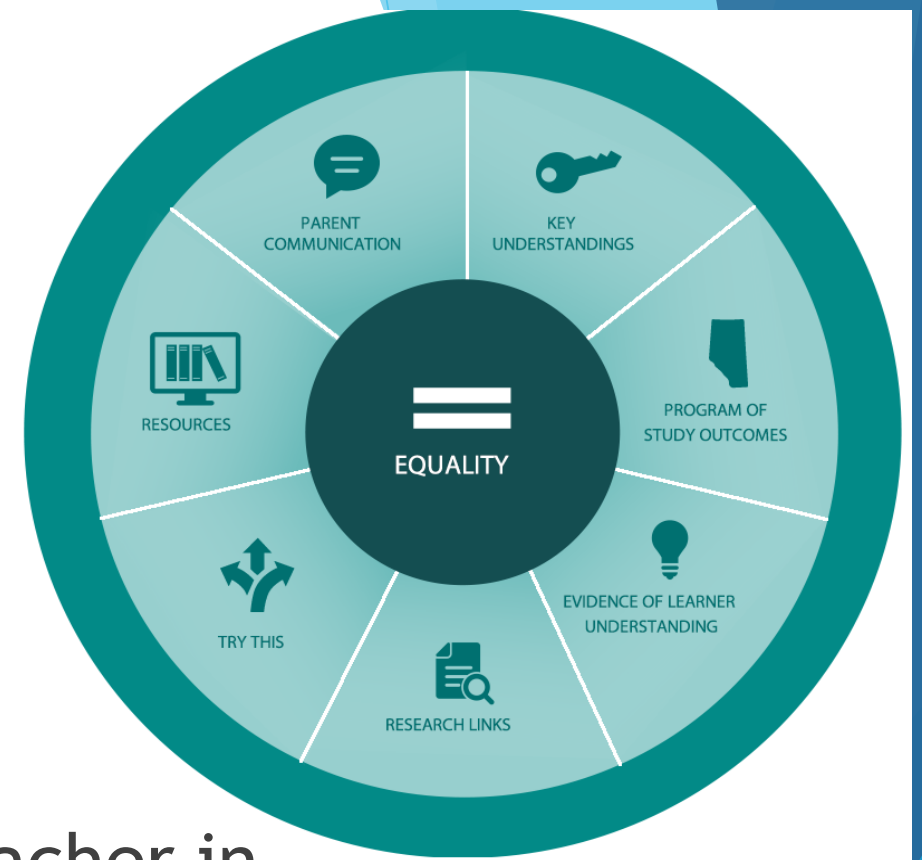
Registration Required- [www.sapdc.ca](http://www.sapdc.ca)

\*Save Feb. 22- Assessment Webinar



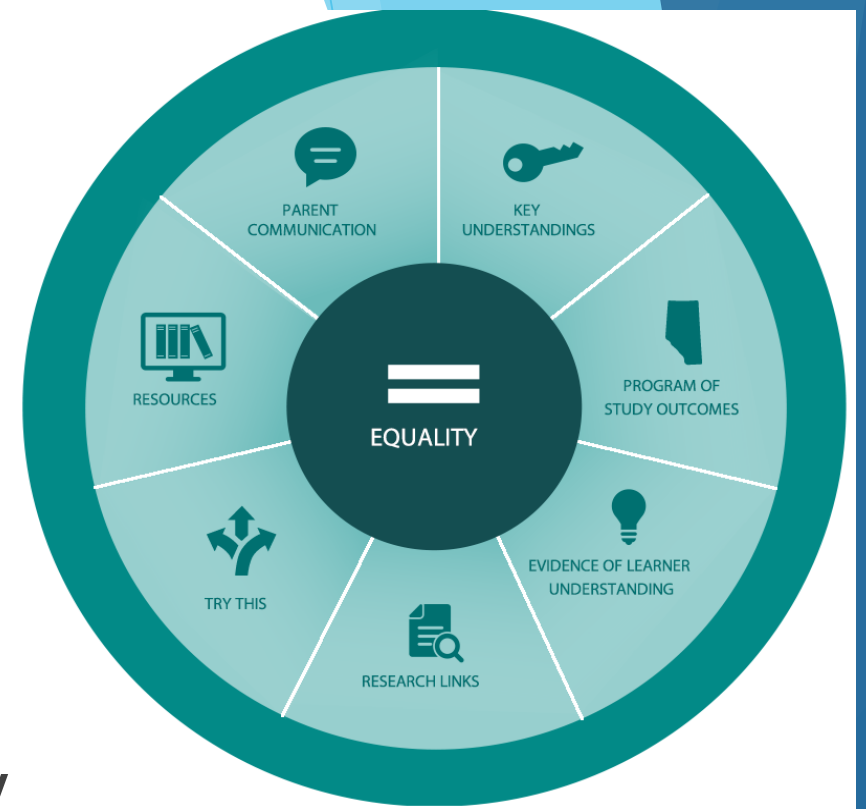
# Key Understandings

- ▶ “Big Ideas”
- ▶ Why is this concept Important?
- ▶ Teacher Background Knowledge
  - ▶ What prior understanding is necessary?
- ▶ Pdf guides- What do I need to know as a teacher in order to be able to teach the concept(s)?
- ▶ Vocabulary



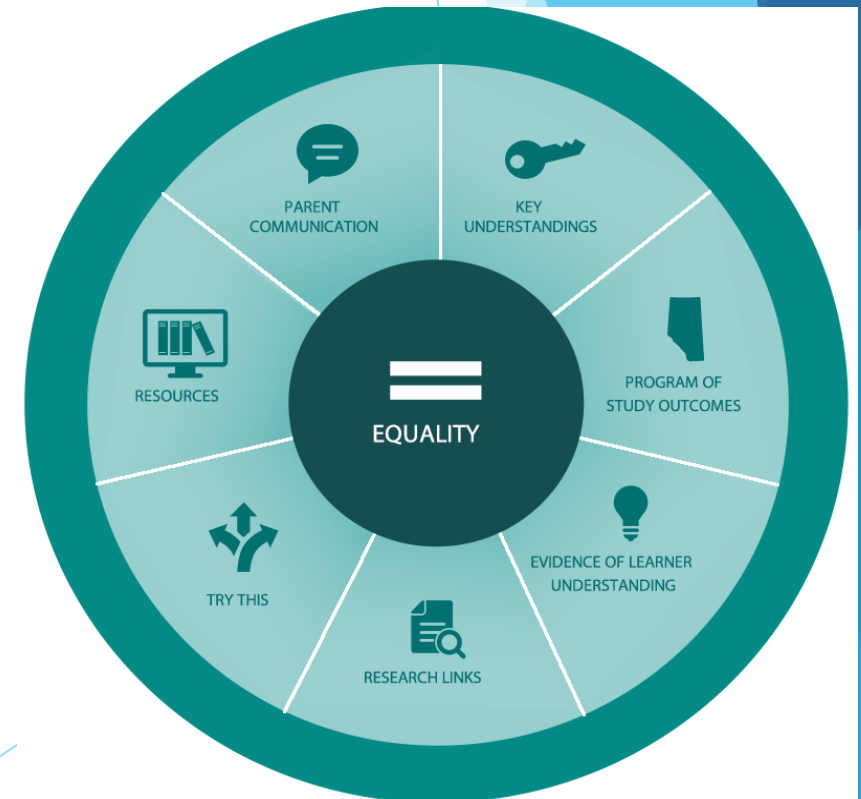
# K-9 Program of Studies

- ▶ (Key) Outcomes from the program of studies related to the concept (K-6)
  - ▶ If those understandings have not been achieved this resource allows you to quickly access supports that can be used to scaffold individual learning
- ▶ Includes a pdf of possible resources with suggestions for use



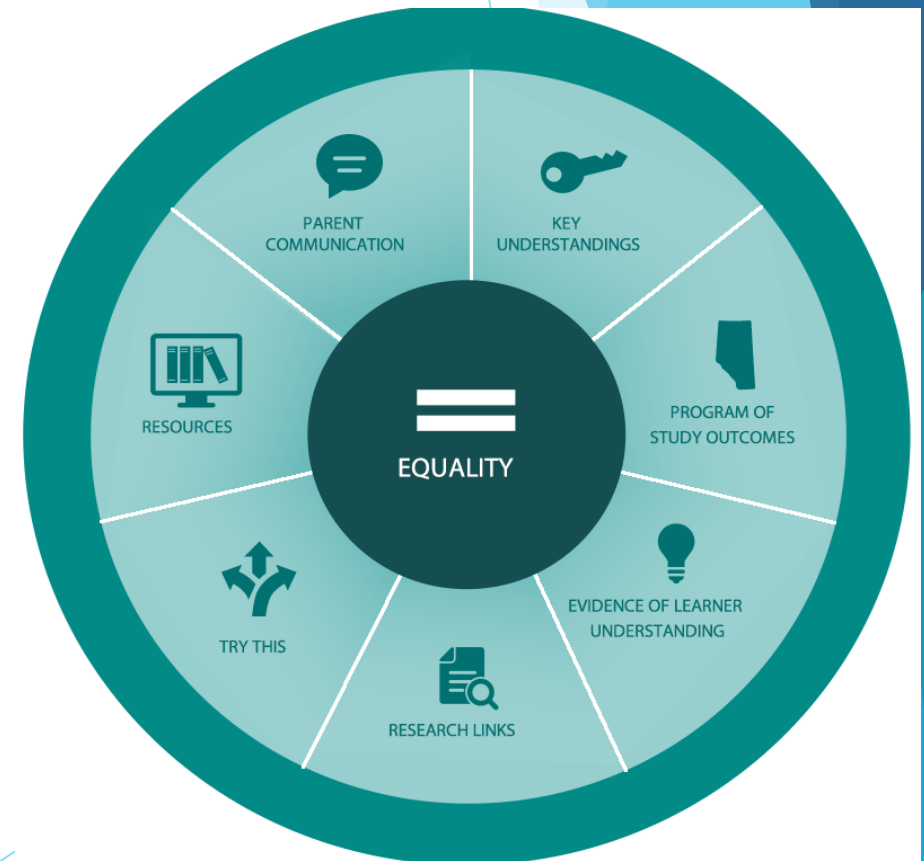
# Evidence of Learner Understanding

- ▶ What level of understanding do your students have regarding the concept?
- ▶ Sample evidence is provided for each Big Idea in order to guide you when assessing your students' level of understanding.
  - ▶ Big Idea
  - ▶ What it might mean
  - ▶ Possible evidence of understanding



# Research Links

- ▶ A synthesized list of research or articles will further enhance teacher capital



# Try This

- ▶ Suggested activities to try with students
- ▶ Assessment Rubrics- in Pdf and Word
- ▶ Special emphasis is on making the learning visible
- ▶ Activities include- Pdf, Word and Exemplars

## Quick Assessment Rubric

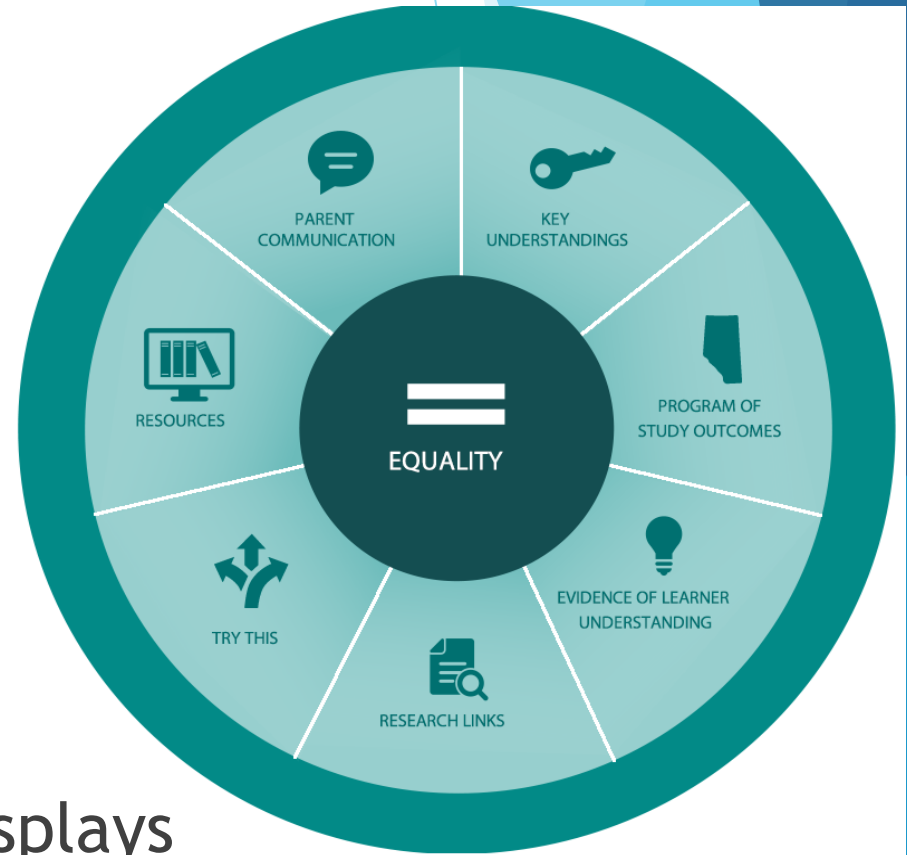
Quick Assessment			
The Answer	<input type="checkbox"/> Is Correct		<input type="checkbox"/> Is Incorrect
	<input type="checkbox"/> Obvious <input type="checkbox"/> Inferred slightly <input type="checkbox"/> Inferred majorly		<input type="checkbox"/> Has a minor mistake <input type="checkbox"/> Has a misunderstanding
The Strategy is a(n)	<input type="checkbox"/> Counting Strategy	<input type="checkbox"/> Additive Thinking Strategy	<input type="checkbox"/> Multiplicative Thinking Strategy
	<input type="checkbox"/> Counting <input type="checkbox"/> Counting on/back	<input type="checkbox"/> Making 10 <input type="checkbox"/> Using doubles (3+3) <input type="checkbox"/> Part-Part-Whole	<input type="checkbox"/> Using Doubles (3x2) <input type="checkbox"/> Arrays <input type="checkbox"/> Part-Part-Whole <input type="checkbox"/> Known Facts
	<input type="checkbox"/> Other		
Notes/Next Steps	Follow up Questions to Ask the Student		
	Follow up Steps for Student		

# Resources

- ▶ Resources are suggested by grade level
- ▶ The key learner outcomes at each grade level are also reviewed
- ▶ Links to resources and some teaching suggestions are included
- ▶ *The use of authorized resources is not mandatory.*
- ▶ *A broad range of learning resources may be used to meet the needs of all students.*
- ▶ **Caution-** *Even when a resource is authorized, it does not mean that it aligns completely with AB Program of Studies*

# Parent Communication

- ▶ Big Ideas
  - ▶ Simple activities you can do with your child
  - ▶ How the concept changes from year to year
  - ▶ Misconceptions
  - ▶ Vocabulary
- 
- ▶ Suggestions for use may include:
    - ▶ monthly parent bulletins/newsletters
    - ▶ Parent-Teacher Conference discussion/displays
    - ▶ Parent Information Night





- ▶ While this site is currently under construction you can see it is already a valuable resource for teachers and families.
- ▶ This project will continue to evolve over next 3 years.
- ▶ This website is meant to complement, not be the sole opportunity to enhance teachers ability to meaningfully engage with the teaching-learning process.
- ▶ As important partners in learning, the website is also intended to help inform communication with parents.

- ▶ SAPDC will continue to provide on-going support for
  - ▶ Administrators
  - ▶ Teachers
  - ▶ Educational Assistants
  - ▶ Parents/Trustees
  - ▶ Pre-service Teachers
- ▶ Please contact your Learning Facilitator
- ▶ [Marian.biggin@sapdc.ca](mailto:Marian.biggin@sapdc.ca) (West)
- ▶ [Vicki.glass@sapdc.ca](mailto:Vicki.glass@sapdc.ca) (East)
- ▶ Easy access to EMPLO website through [www.sapdc.ca](http://www.sapdc.ca)
  - ▶ Click on ARPDC Learning Portal at top of page
  - ▶ Scroll down left hand side of page to yellow banner
  - ▶ Click on yellow banner



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