



Alberta Regional Consortia

Insight into Equality

Elementary Mathematics Professional Learning

GRADE 2 : NUMBER

5. Compare and order numbers up to 100.

+Resources

Short article : “Children’s Understanding of Equality: A Foundation for Algebra”

(Karen P. Falkner, Linda Levi, and Thomas P. Carpenter)

5 pages: Focus your attention on the big ideas and the conversation that the teacher facilitates to dig deeper.

Teacher Resource: [click here](#)

Activity from an article: “Equality”

(Parslow-Williams & Cockburn, 2008) pp. 25-26, 28)

(To be used as a mental math starter with students, powerful discussion piece, not to be used as paper/pencil tasks.)

Look at Figures 1.2 and 1.3 (see below) and the considerations made by the teacher

Also the Challenge problem at the bottom of page 28

Suggestions of how to use these problems:

Blue Pen, Red Pen (you pick the writing tools . . .)

Have students use the blue pen to answer the questions they are confident that they know the answer to

Use the red pen to solve the ones they can solve with time

Stop when you cannot answer any more problems

Follow up with a class discussion about each equality:

Chunk this to do only a few problems at a time.

Discuss what the “=” sign means (many students see the “=” sign as a command to act and a prompt to “compile” what has happened to that point.)

Discuss possible answers (students may believe that there is more than one possible answer . . .)

Article “Equality”: [click here](#)





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This could be used as a quick diagnostic or exit slip with students - follow up or continuation.

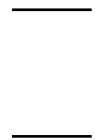
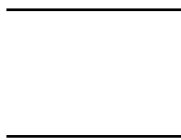
Challenge

Consider how you might complete the following: $6 ? 1 ? 5$ (each ? represents a mathematical symbol). Is there more than one possible solution?

Figure 1.2 A series of equality problems based on addition

Can you complete these number sentences?

- a) $7 + 2 = \square$
- b) $5 + \square = 8$
- c) $\square + 4 = 9$
- d) $\square = 3 + 4$
- e) $5 = \square + 1$
- f) $8 = 5 + \square$
- g) $5 + 4 = \square + 8$
- h) $6 + 2 = 3 + \square$
- i) $1 + \square = 6 + 2$
- j) $\square + 3 = 7 + 2$
- k) $5 + \square = \square + 7$
- l) $9 = \square$
- m) $5 + 4 = \square + 6 = \square$
- n) $4 + 3 = 2 + \square = \square + 1 = \square$





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Figure 1.3 A series of equality problems based on subtraction

Can you complete these number sentences?

a) $9 - 3 = \square$

b) $7 - \square = 2$

c) $\square - 4 = 5$

d) $\square = 4 - 1$

e) $5 = \square - 1$

f) $5 = 7 - \square$

g) $5 - 4 = \square - 8$

h) $6 - 2 = 9 - \square$

i) $7 - \square = 8 - 2$

j) $\square - 3 = 7 - 5$

k) $6 - \square = 8 - \square$

l) $5 - 4 = 7 - \square = \square$

m) $8 - 5 = 5 - \square = 6 - \square = \square$