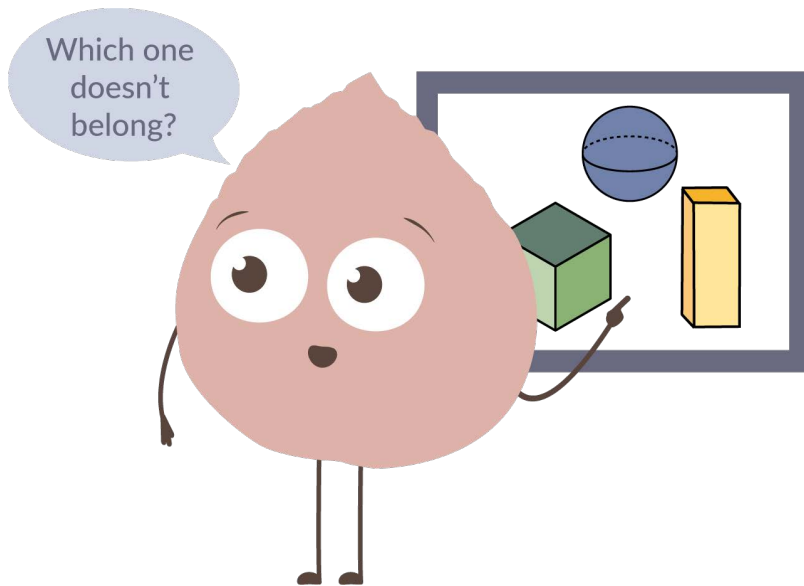


# ANALYZE

K - 3

To consider in detail in order to find meaning and determine relationships, patterns, similarities, differences, etc.



*Analyzing* requires students to find meaning within information given through text, numerical data, images and other auditory or visual stimuli. It involves pulling ideas and objects apart, looking closely at the elements or features and then reorganizing the ideas by similarities and differences, patterns and relationships. Additionally, *analyzing* trends over time provides students with opportunities to find patterns and relationships that can be used to draw conclusions.

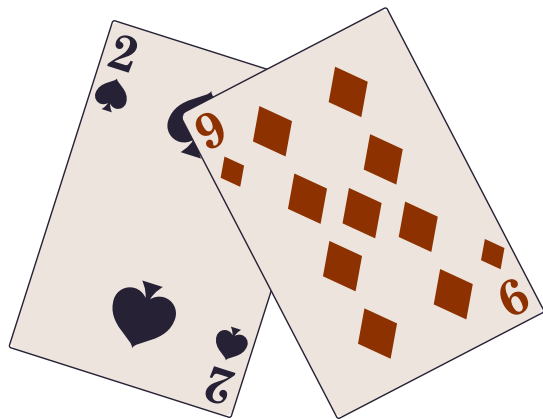
The table below shows where **analyze** is included as student action within Alberta's K-3 Math curriculum.

Grade Level	Learning Outcomes	Skills & Procedures
Kindergarten		
Grade 1		
Grade 2	Students <b>analyze</b> quantity to 1 000. Students <b>analyze</b> and explain geometric attributes of shape. Students explain and <b>analyze</b> patterns in a variety of contexts.	
Grade 3	Students <b>analyze</b> and apply strategies for multiplication and division within 100. Students <b>analyze</b> patterns in numerical sequences.	

To best support learners, student action verbs should be explicitly taught, modeled and practiced through multiple experiences. The illustrative examples can provide clarification about how student understanding might be developed. It is important to reference the curriculum to view the entire context of the Learning Outcome and related KUSPS.

## Illustrative Examples

Learning Outcome 2N1.1: Students **analyze** quantity to 1 000.

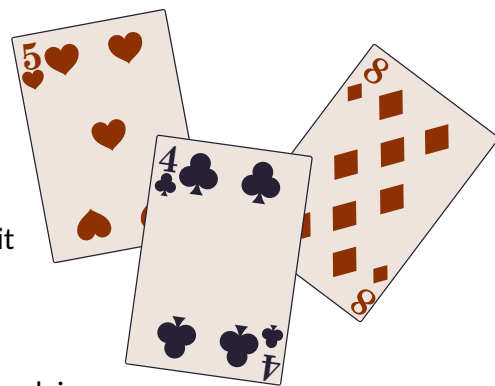


### Stage 1.

- Shuffle a deck of cards from which the face cards and 10s have been removed. Take the top 2 cards and show them to the class. In this example the cards show 2 and 9. Write those numbers on the board or screen so students can see them.
- Ask students to identify the smallest one-digit number and then the largest one-digit number from those two cards. Write them in that order on the board.
- Students use their Math journal, sticky note, individual whiteboard, etc., to write the biggest 2-digit number possible using the 2 and the 9.
- Ask students to discuss with their table group or partner, 'Why is 92 the largest?' 'What about 29?' Students may use manipulatives, words and/or pictures to **analyze** and explain how they know that one of these is larger than the other. Ask them to point out which digit is the 10's place and which is the one's place. (You can repeat the process with other cards as needed.) Teacher would be circulating through the room to check on student understanding or misconceptions (which would need to be addressed with the applicable students).

### Stage 2.

- Take 3 new cards from the deck. For this example, they are 5, 4 and 8. Follow Stage 1. a. and b. above.
- Ask students to tell you how to order these one-digit numbers from largest to smallest and then vice versa.
- Individually or with a partner, students are asked to write as many 3-digit number combinations as they can. (548, 485, 854, etc. There are 6 possibilities.) When done, each student should say those numbers out loud to a classmate and compare their lists.
- Students may use manipulatives, words and/or pictures to **analyze** and explain how they know which one of the numbers from the list is the largest. The other partner can do the same for the smallest.
- Their **analysis** will lead students to order each of the number combinations they created and identify the place value of each digit in those numbers. (This step may take place another day.)



(continued on next page)

To best support learners, student action verbs should be explicitly taught, modeled and practiced through multiple experiences. The illustrative examples can provide clarification about how student understanding might be developed. It is important to reference the curriculum to view the entire context of the Learning Outcome and related KUSPS.

### Stage 3.

Once students have practiced this process with the teacher, at another time they could do this as a Math station or as a whole-class-in-partners activity. As an extension to the above, each student would take their own set of 3 cards and try to make the largest number (or smallest—students or teacher can decide) they can with their cards. They decide together which of the 3-digit numbers makes the biggest number. This could be made into a game depending on the students involved. A point would be given to the student with the highest or lowest number (pre-determined).

### Additional Resources

[Manitoba Government teacher resources.](#)

### References

Bilyk, C. & Watt, W. *Developing Conceptual Understanding of Number*. (n.d.). Manitoba Education.  
[https://www.edu.gov.mb.ca/k12/cur/math/c\\_u/b\\_comparing\\_numbers.pdf](https://www.edu.gov.mb.ca/k12/cur/math/c_u/b_comparing_numbers.pdf)

