Numeracy

This learning tool has the goal of helping users to:

1. Understand the skill
2. Reflect on and identify ways they use the skill
3. Participate in activities to build skills

What is numeracy?

The Office of Skills for Success defines numeracy as:

Your ability to find, understand, use, and report mathematical information presented through words, numbers, symbols, and graphics.

Reflection

Check off the numeracy tasks you can confidently complete.

- ☐ Perform simple calculations using addition or subtraction.
- ☐ Perform more complex calculations using multiplication or division.
- ☐ Perform calculations that require multiple steps/operations.
  For example, finding the average test score for a class of 30 learners (add all of the scores and divide by 30).
- ☐ Convert numbers from one unit of measurement to another.
  For example, converting inches to feet or grams to ounces.
- ☐ Perform financial transactions.
  For example, giving change for a cash payment or adding a tip to a dinner bill.
- ☐ Measure quantities or dimensions.
  For example, measuring the area of a room.
- ☐ Use templates to organize numerical data.
  For example, creating a work schedule for shift workers or managing a budget.
- ☐ Analyze numerical data to identify trends or compile statistics.
  For example, reviewing twelve months of financial transactions to identify the highest and lowest sales periods.
- ☐ Make estimations when values are unknown.
  For example, estimating the amount of time required to complete a task.

Look at the tasks you did not check off. We call these your “skills to build”.

How do you use your numeracy skills at home and/or at work?

Activity One

Tom was rushed when he left for work this morning and forgot to get gas on the reserve. He ended up paying $50.00 for gas at an off-reserve gas station. If he had filled up at the reserve gas station, where fuel tax is not charged, he would have saved $7.00.

How much would Tom have paid for the same amount of gas at the reserve gas station?

- [ ] $7.00
- [ ] $25.00
- [ ] $37.00
- [ ] $43.00

Activity One: Review

Skills Coach Answer:

$43.00

To answer this question there are two steps:

- First, you need to identify the mathematical operation (addition, subtraction, multiplication, or division) needed to complete the task. In this case you need to use subtraction.
- Second, is to use that operation to find your answer.

So, 50 minus 7 is 43. That means Tom would have paid $43.00 for gas if he purchased it on the reserve.

The Skills for Success has five levels of difficulty for numeracy tasks. This is a level one numeracy task because we had to identify and use one mathematical operation. With level one tasks, operations are used one at a time. Identifying the numbers we need to use to complete a numeracy task is also known as “translation”.

Activity Two

You and your cousin need to fly from Calgary to Fort McMurray to work a 14-day cycle in camp. You have been asked to purchase both plane tickets. One plane ticket for this flight costs $1,300.00, without GST (which is 5%).

How much is the total cost of the two tickets, including GST?

- [ ] $1,365.00
- [ ] $2,730.00
- [ ] $2,800.00
- [ ] $125.00

Activity Two: Review

Skills Coach Answer:

$2,730.00

This question is more complex than the first question. It requires multiple steps of calculation. Additionally, you need to recognize that GST must be added to the total ticket cost. This question also requires you to identify that two operations, multiplication and addition, are needed.

There are two ways to perform these operations.

Option 1:

1. First, you multiply the flight cost by 2 tickets.
   $1,300.00 (flight cost) x 2 (tickets) = $2,600.00
2. Second, you multiply the cost of the two flights by the 5% GST.
   $2,600.00 (2 flights) x 5% (GST) = $130.00
3. Third, you add the cost of the tickets to the cost of the GST, this will give you the correct answer to this question.
   $2,600.00 (2 flights) + $130.00 (GST) = $2,730.00 (total cost of two tickets, including GST)

Option 2:

1. First, you multiply the cost of one flight by the 5% GST.
   $1,300.00 (flight cost) x 5% (GST) = $65.00
2. Second, you add the cost of the ticket to the cost of the GST.
   $1,300.00 (flight cost) + $65.00 (GST) = $1,365.00 (total cost of one ticket, including GST)
3. Third, you multiple the total cost of one ticket by two, this will give you the correct answer to this question.
   $1,365.00 (flight cost, including GST) x 2 (tickets) = $2,730.00 (total cost of two tickets, including GST)So, 50 minus 7 is 43. That means Tom would have paid $43.00 for gas if he purchased it on the reserve.

This question has a higher level of complexity than the previous question. This is a level two numeracy task because we needed to complete two types of calculation: addition and multiplication over several steps. And we needed to know how to calculate percentages and interpret the results.

Activity Three

At the airport you meet another worker taking the same flight to Fort McMurray. They had found an online discount coupon for their flight. Your ticket cost $1,300.00. But their ticket only cost $975.00.

What percentage discount did the coupon provide?

- [ ] 25%
- [ ] 40%
- [ ] 0%
- [ ] None of the above.

Activity Three: Review

Skills Coach Answer:

25%

This question is more complex than the previous ones.

1. First, you take the last-minute flight cost of $1,300.00 and subtract the discounted ticket price of $975.00, which would leave you with $325.00.
   $1,300.00 (last-minute flight cost) - $975.00 (discounted ticket) = $325.00
2. Next, you would take the discounted amount of $325.00 and divide by the original ticket price of $1,300.00 to determine the percentage.
   $325.00 (discount amount) ÷ $1,300.00 (full last-minute ticket price) = 0.25
3. Finally, you then need to recognize that 0.25 is 25% and decide the coupon provided a 25% discount.

This is a level three numeracy task; it is more complex than the previous questions. We had to make connections between the information we know (the two different ticket prices) and the information we are trying to figure out (the percentage difference between these two ticket prices). We used a combination of operations (subtraction and division) to complete this task.

Importance of Numeracy skills

Understanding mathematical computations allows us to manage our budgets and more, however understanding numbers goes beyond basic arithmetic and helps us to understand the world we live in. For example, a steady rise in global temperatures over time allows us to interpret and understand complex global phenomena like climate change.

For more information on Numeracy Skills visit the skill components and proficiency descriptors on the Skills for Success Website. For more information on the Indigenous Skills for Success Journey Refresh Project please visit the Douglas College Website.

Continue the Journey

How can you continuously improve your numeracy skills?