APPRENTICESHIP AND OCCUPATIONAL CERTIFICATION

ESSENTIAL SKILLS ASSESSMENT STUDY GUIDE

March 2008

Table of Contents

About the Essential Skills Assessment

These assessments have been developed to identify whether essential skills training is required in order to be successful as an Apprentice or as a challenger of the Certification Examination.

The skills that will be tested in these assessments are: Reading Comprehension (Literacy), Science, and Mathematics (Numeracy). These are the skills that have been identified as being essential in achieving a successful career in an Apprenticeable trade.

There are five Essential Skills Assessments, divided by trade clusters. Each cluster includes occupations that have similar skill and knowledge requirements. Trades may be very different, but require a similar knowledge of Reading Comprehension, Science and Mathematics.

Depending on which cluster the occupation is in, there will be a set number of questions for each of these areas as shown in the chart:

Cluster	Reading Comprehension	Science	Mathematics	Total Questions
1	10	60	30	100
2	22	28	50	100
3	29	35	36	100
4	22	45	33	100
5	17	35	48	100
Average	**20**	**40**	**40**	

Remediation studies may be recommended to candidates where a weakness has been identified.

To write the Essential Skills Assessment, please contact the nearest Apprenticeship and Occupational Certification office (a list can be found on page 28).

Essential Skills Assessment - Clusters

Cluster 1

Hairstylist

Cluster 2

Baker	Insulator (Heat and Frost)
Blaster	Ironworker (Generalist)
Bricklayer	Lather (Interior Systems Mechanic)
Cabinetmaker	Mobile Crane Operator
Carpenter	Mobile Hoisting Equipment Operator
Concrete Finisher	Painter and Decorator
Cook	Partsperson
Construction Boilermaker	Roofer
Floorcovering Installer	Sheet Metal Worker
Glazier	Steel Fabricator
Heat Treatment Technician	Welder

Cluster 3

Automotive Painter	Motor Vehicle Body Repairer (Metal & Paint)
Automotive Repairer	Motorcycle Mechanic
Automotive Service Technician	Recreation Vehicle Service Technician
Automotive Service Technician (SS&B)	Small Equipment Mechanic
Commercial Trailer Technician	Transport Refrigeration Service Technician
Agricultural Equipment Technician	Truck and Transport Service Technician
Heavy Equipment Service Technician	Water Well Driller

Deleted: Farm

Deleted: Service

Cluster 4

Computerized Numerical Controls Machinist	Plumber
Industrial Mechanic (Millwright)	Sprinkler System Installer
Machinist	Steamfitter/Pipefitter
Oil Burner Mechanic	Tool and Die Maker

Cluster 5

Appliance Service Technician
Construction Electrician
Distribution Construction Lineman
Distribution System Operator
Electrical Mechanic (Electric Utility)
Electric Motor System Technician
Electronics Technician (Consumer Products)
Engineering Assistant
Industrial Electrician

Industrial Instrument Mechanic
Power Engineer 2nd, 3rd, & 4th Class
Power System Operator
Powerline Technician
Refrigeration and Air Conditioning Mechanic
River Control Operator
Staker/Detailer
Switchboard Operator

A pass mark earned on Assessment 5 = deemed to have also passed Assessment 4, 3, 2, and 1.

A pass mark earned on Assessment 4 = deemed to have also passed Assessment 3, 2, and 1.

A pass mark earned on Assessment 3 = deemed to have also passed Assessment 1. Due to the significant differential in math/science content, a pass mark on Assessment 3 does **not** allow a pass mark on Assessment 2.

A pass mark earned on Assessment 2 = deemed to have also passed Assessment 1.

You will have 3 hours to complete your assessment. The pass mark is 70%.

How can the study guide help to prepare for the Assessment?

Writers of the Essential Skills Assessment may have been out of school for several years. This guide will provide examples of the types of questions that will be on the assessment; this may help identify areas where preparation may be required. It can help refresh the knowledge that will be required for the assessment, and also improve your study and assessment writing skills.

If additional help is required contact your local Apprenticeship and Occupational Certification office for further information.

About the study guide

This study guide includes:

- sample questions like those on any of the five Essential Skills Assessments;
- an answer key for the questions included in the study guide;
- study and assessment writing tips;
- copy of the formula and metric conversion charts used with the Essential Skills Assessment;
- a sample of diagrams that include some typical diagrams used for the Essential Skills Assessment;
- a list of the occupations included in each cluster.

Using the study guide

There are 50 sample questions included in this guide. Each one covers knowledge needed in at least one of the five clusters. The trade cluster(s) that each question covers are noted below it in the guide.

Preparing for the assessment:

1. Read each question in the study guide carefully to get an idea of the level of difficulty and the knowledge you will be tested on. This will help to focus your studying on the areas that need the most work.

2. Assessment writing takes planning to ensure there is enough time to answer all the questions on the assessment to the best of your ability. These sample questions can help in determining how much time it will take to complete individual questions when writing the assessment. Practice reading over and recognizing the questions that will take more or less time to answer.

3. Look over the diagrams and formulas that are used in the questions. Interpreting what is shown in the diagram is very important. Often, the questions that relate to diagrams will require some interpretation and reasoning.

4. Practicing with the formula and conversion charts is also important. Formula sheets and conversion charts to use during your assessment will be provided

Examination Instructions

These instructions are included in the Essential Skills Assessment booklet:

**DEPARTMENT OF POST-SECONDARY EDUCATION, TRAINING AND LABOUR
APPRENTICESHIP AND OCCUPATIONAL CERTIFICATION BRANCH**

INSTRUCTIONS

1.   The time limit for this examination is 3 hours.

2.   Do **not** write in this booklet.

3.   All questions are of the multiple-choice type. Read each question very carefully.

4.   Your choice of answer for each question is to be indicated on the separate score sheet provided.

5.   Indicate your answer by filling in the bubble over the appropriate letter (A, B, C, or D) for each multiple-choice question, using a soft lead pencil.

6.   The pass mark for this examination is 70%.

7.   Below is a sample question:

    1.   What is the capital city of the Province of New Brunswick?
            A.   Moncton.
            B.   Fredericton.
            C.   Saint John.
            D.   Bathurst.

    (On Score Sheet)
            1.   A ● C D
            2.   A B C D
            3.   A B C D
            4.   A B C D

8.   A formula and metric conversion sheet can be found at the back of this examination.

9.   Scientific calculators are permitted when writing an examination.

10.   Programmable or trade specific calculators, cellular phones, wireless communication devices, personal data assistants, cameras and all other electronic equipment that can store or transmit data are prohibited when writing an examination.

SECTION 01:   <u>**Reading Comprehension**</u>

Studying for the Reading Comprehension section of the Essential Skills Assessment.

All assessments include a section on Reading Comprehension. Cluster 1 also includes questions on grammar. These questions are designed to challenge the candidate's ability to read, apply the rules of good grammar and interpret written materials.

The following are examples of the types of questions from the Reading Comprehension section of the Essential Skills Assessment.

CAREFULLY READ THE FOLLOWING PARAGRAPHS AND ANSWER QUESTIONS 1 TO 3.

Multiple Choice Exam Writing Strategies

Watch Your Time

Each item on the assessment is worth one point. Do the easy questions or section first – this is helpful for calming nerves and establishing your concentration. You may want to note where you are in the assessment after one hour or two hours to ensure you are not falling behind. As mentioned previously, a 3-hour time limit allows approximately 1 1/2 minutes per question for a 100 question assessment.

Process the Question

Careless mistakes are often made when students rush through the "stem" of the question, missing important information. Read the question carefully, noting key terms. Watch for negative or positive phrasing, or qualifying words like "always" or "never" which can drastically change the meaning of a statement. If you do not understand the stem, ask the assessment supervisor for clarification. Before you look at the list of possible responses, try to recall the answer on your own. Then look at the alternatives to see which one best matches your answer. As you read through the possible responses, make a mental note of the ones you know are wrong. This will mean less reading time if you have to come back to the question later. If none of the selections seems close, re-read the question and try to determine what you missed. If you still cannot get it, go on. Something in another question may trigger your memory so you can recall the answer later.

1.   What is a recommended strategy for ensuring you have enough time to complete
      the assessment?

      A.   Read each question quickly trying to get a sense of what is being asked.
      B.   Estimate how far you should progress through the assessment for each
            hour and mark on your notepaper.
      C.   Ask the assessment supervisor to give you a reminder when each hour
            has passed.
      D.   As you read through the possible responses, make a mental note of the
            ones you know are wrong.

      This question is applicable to all Clusters.

2.   How should you work through a question that appears to have more than one
      correct answer?

      A.   Ask for assistance from someone around you.
      B.   Guess since it is only one question.
      C.   If you are not sure always choose option "D".
      D.   Start by eliminating the answers you know are wrong.

      This question is applicable to all Clusters.

3.   Why is it important to read through the "stem" carefully when answering the
      question?

      A.   There may be words like "always" and "never" that drastically change the
            meaning of the statement.
      B.   It may be possible to answer the question on your own before looking at
            the list of possible responses.
      C.   You may be able to trigger something in your memory that will help with
            an earlier question you were not able to answer.
      D.   You will get a better sense of how long it is going to take to write the
            assessment and be able to judge more accurately if you still have enough
            time.

      This question is applicable to all Clusters.

4.   Which sentence uses correct grammar?

        A.   Our printers don't work too good.
        B.   Brewing coffee results in bitterness using more water.
        C.   Apprenticeship involves a combination of work experience and formal
                training.
        D.   Tests used to measure your knowledge take long to write.

        This question is applicable to Cluster 1.

5   Which group of words is **not** a complete thought?

        A.   Building a large house takes time.
        B.   When you have a chance to travel to a tropical location.
        C.   Given enough information, you should be able to answer the question.
        D.   Take a sweater along, it may be chilly.

        This question is applicable to Cluster 1.

6.   Which is the correct spelling?

        A.   Adressed.
        B.   Adresed.
        C.   Addresed.
        D.   Addressed.

        This question is applicable to Cluster 1.

SECTION 02: <u>**Science**</u>

Studying for the Science section of the Essential Skills Assessment.

Each Essential Skills Assessment includes a section for Science questions. The questions are designed to challenge the candidate's ability to recall basic information, manipulate basic equations and interpret basic scientific relationships. The types of questions asked and the difficulty will vary with the assessment for each cluster.

The following are examples of the types of questions from the Science section of the Essential Skills Assessment.

---

7.   What does 6.4 L of water equal in imperial gallons?

    A.   1.408 gal.
    B.   3.635 gal.
    C.   5.628 gal.
    D.   5.632 gal.

    This question is applicable to Clusters 2, 4, and 5.

8.   Convert 11.4 km to miles and express it to two decimal places.

    A.   5.70 mi.
    B.   7.08 mi.
    C.   9.79 mi.
    D.   18.34 mi.

    This question is applicable to all Clusters.

9. A steel ship floats in water because the weight of water displaced is

    A. more than the ship's weight.
    B. less than the ship's weight.
    C. equal to the ship's weight.
    D. not related to the ship's weight.

    This question is applicable to all Clusters.

10. The cooling effect of alcohol on the skin is the result of

    A. sublimation of liquids.
    B. condensation of liquids.
    C. evaporation of liquids.
    D. contraction of liquids.

    This question is applicable to all Clusters.

11. The pressure gauge on a bottle containing a gas would show a lower reading if the gas in the bottle was

    A. to expand.
    B. cooled.
    C. heated.
    D. a constant temperature.

    This question is applicable to all Clusters.

12. Which state is matter in if it has a definite shape and a definite volume?

    A. Solid.
    B. Liquid.
    C. Gas.
    D. Fluid.

    This question is applicable to all Clusters.

13. Compared to an elevation of 1 000 m, the air pressure at sea level is generally

   A.   lower.
   B.   higher.
   C.   the same.
   D.   lower in the summer.

   This question is applicable to all Clusters.

14. Assuming equal volumes, the expansion of solids is usually

   A.   greater than liquids.
   B.   the same as liquids.
   C.   greater than gases.
   D.   less than liquids.

   This question is applicable to all Clusters.

15. What term defines the ability to do work?

   A.   Power.
   B.   Energy.
   C.   Force.
   D.   Effort.

   This question is applicable to all Clusters.

16. A series circuit includes several lamps. When the light bulb from one lamp is removed the other lamps will

   A.   stay lit.
   B.   stay lit and get brighter.
   C.   stay lit and get dimmer.
   D.   no longer be lit.

   This question is applicable to Clusters 3, 4, and 5.

17. Refer to Figure 1. To ensure safe climbing practice, the base of a straight ladder should be 1 m out for every 4 m of height to the point of support. If h = 8 m, what is the value of d?

    A.   2 m
    B.   2.5 m
    C.   3.2 m
    D.   4 m

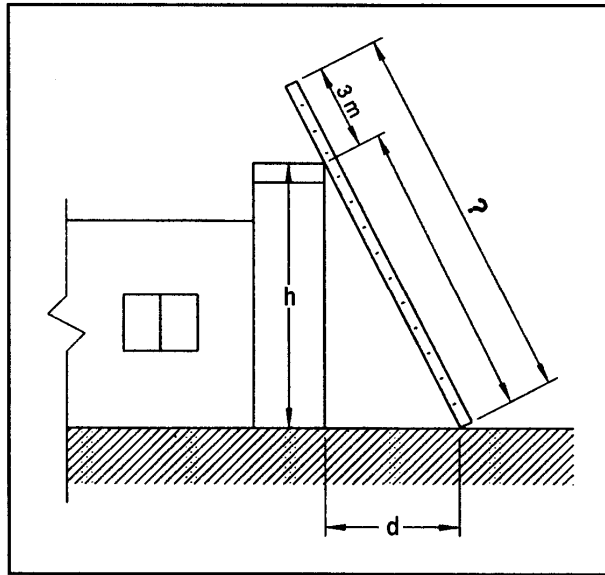   *This question is applicable to all Clusters.*

Figure 1

18. Given the relationship E (voltage) = I (current) $\times$ R (resistance), what is the current in a circuit with E = 6 V and R = 15 Ω?

    A.   0.04 A
    B.   0.40 A
    C.   4.00 A
    D.   40.00 A

    This question is applicable to Clusters 3, 4, and 5.

19. What does a fulcrum support?

   A. Ramp.
   B. Lever.
   C. Wedge.
   D. Drawer.

   This question is applicable to Clusters 2, 3, 4, and 5.

20. If friction can cause heat to be released, what does letting a cord slide quickly through your hands cause?

   A. Your hands to feel stiff.
   B. Your hands to feel cool.
   C. Your hands to feel warmer.
   D. Your hands to become wet.

   This question is applicable to all Clusters.

21. Which term describes a chemical combination of two or more elements?

   A. Ion.
   B. Catalyst.
   C. Isotope.
   D. Compound.

   This question is applicable to all Clusters.

22. What will result if gas is compressed in a closed space?

   A. It will solidify.
   B. It will move more slowly.
   C. It will increase in temperature.
   D. It will decrease in temperature.

   This question is applicable to Clusters 3, 4, and 5.

23. What is the volume of a cube which is 5 m per side?

  A. 5 m^3
  B. 25 m^3
  C. 75 m^3
  D. 125 m^3

This question is applicable to Clusters 2, 3, 4, and 5.

24. Refer to Figure 2. Four pumps are shown in the diagram. Arrows show the direction line piston is being moved. Which is the only pump that will pump water?

  A.   A
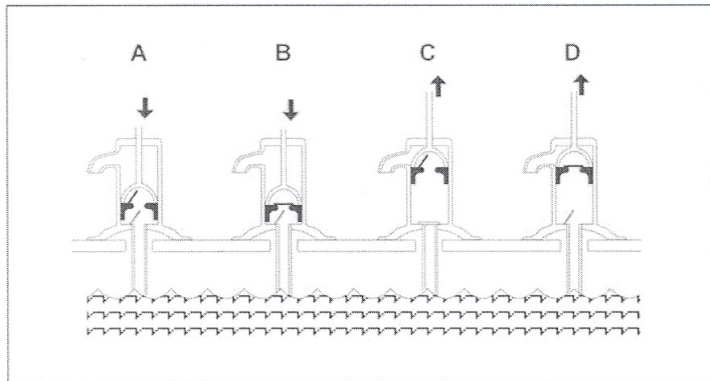 B.   B
  C.   C
  D.   D

Figure 2

This question is applicable to Clusters 3 and 4.

25. Refer to Figure 3. Which diagram shows what happens when heat is applied to a bi-metal strip consisting of stainless steel on the top and brass on the bottom? (Brass has the higher expansion rate.)
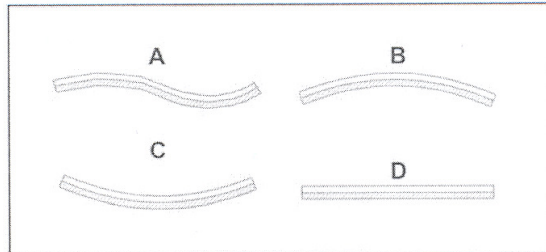
A. A
B. B
C. C
D. D

Figure 3

This question is applicable to Cluster 1.

SECTION 03: **Mathematics**

Studying for the Mathematics section of the Essential Skills Assessment.

Each Essential Skills Assessment includes a section for Mathematics questions. The questions are designed to challenge the candidate's ability to perform basic calculations, manipulate basic equations and use formulas. The types of questions asked and the difficulty will vary with the assessment for each cluster.

The following are examples of the types of questions from the Mathematics section of the Essential Skills Assessment.

26.   Solve. $11 \times 6 + 7 \times 4$

    A.   94
    B.   101
    C.   292
    D.   572

This question is applicable to Clusters 2, 3, 4, and 5.

27.   Which is the smallest number?

    A.   0.01001
    B.   0.00998
    C.   0.00385
    D.   0.00297

This question is applicable to Clusters 2, 3, and 5.

28   Solve.   -23.7 + 88 – 56 + 407.9

A.   202.9
B.   287.6
C.   416.2
D.   463.6

This question is applicable to Clusters 2, 4, and 5.

29.   Solve.   7 ft. 4 in. + 10 ft. 9 in.

A.   183 in.
B.   197 in.
C.   203 in.
D.   217 in.

This question is applicable to Clusters 2, 4, and 5.

30.   If 5 L of paint covers 20 m^2, how many litres are required to cover 400 m^2?

A.   40 L
B.   52 L
C.   80 L
D.   100 L

This question is applicable to Clusters 2, 3, 4, and 5.

31.   Solve.   3/8 + 3/4

A.   9/32
B.   1/2
C.   1 1/8
D.   1 1/4

This question is applicable to Clusters 2, 3, 4, and 5.

32. A piece of sheet metal is 28 1/2 in. wide. A piece 13 5/16 in. is cut off. How wide is the remaining piece of sheet metal?

    A.   14 1/4 in.
    B.   15 3/16 in.
    C.   15 13/16 in.
    D.   16 1/4 in.

    This question is applicable to Clusters 2, 3, and 5.

33. When 2.49 is multiplied by 0.17, what would be the result? (Round off to 2 decimal places.)

    A.   0.04
    B.   0.42
    C.   4.23
    D.   42.33

    This question is applicable to Cluster 1.

34. Subtract 64.85 from 209.11.

    A.   44.260
    B.   144.260
    C.   202.625
    D.   273.960

    This question is applicable to all Clusters.

35. Express 3/8 as a decimal.

    A.   0.240
    B.   0.267
    C.   0.375
    D.   2.667

    This question is applicable to Clusters 2, 3, and 4.

36. Solve. 8^2

    A.   10
    B.   16
    C.   64
    D.   82

This question is applicable to Cluster 1.

37. What is the area of a circle with a diameter of 240 mm?

    A.   75.36 cm^2
    B.   150.72 cm^2
    C.   452.16 cm^2
    D.   1 808.64 cm^2

This question is applicable to Clusters 1 and 2.

38. A corner grocery store sold 14 boxes of oranges. Each box contained 5 lb. of oranges. If the profit per box was $1.85, what was the total profit?

    A. $ 12.95
    B. $ 25.90
    C. $ 37.84
    D. $129.50

This question is applicable to Clusters 2, 3, 4, and 5.

39.   Barry has a job painting new houses. One week he worked the following hours:

Monday	7.5 hours
Tuesday	10.0 hours
Wednesday	6.0 hours
Thursday	12.0 hours
Friday	14.5 hours
Saturday	10.0 hours

What was the average number of hours Barry worked per day?

A.   9.5
B.   10.0
C.   10.5
D.   11.0

This question is applicable to Clusters 2, 3, 4, and 5.

40.   How many cubic metres of cement are required to cover a walkway 7 m long, 0.95 m wide, and 10 cm deep?

A.   0.665
B.   0.737
C.   6.650
D.   66.500

This question is applicable to Clusters 2, 3, 4, and 5.

41.   A rectangular school yard 280 m by 245 m is to be fenced. How many metres of fencing will be required to fence it completely?

A.   525 m
B.   705 m
C.   770 m
D.   1 050 m

This question is applicable to Clusters 2, 3, and 4.

42.   If a contractor pays an average wage of $20.00 per hour and wants to make a
       15% mark-up on the cost of labour, what will the contractor charge as an average
       labour cost on contracts?

       A. $20.30
       B. $21.50
       C. $23.00
       D. $26.00

       This question is applicable to Clusters 3, 4, and 5.

43.   What is the circumference of a circle with a diameter of 50 mm?

       A.   78.5 mm
       B.   157.0 mm
       C.   78.5 cm
       D.   157.0 cm

       This question is applicable Clusters 3, 4, and 5.

44.   Solve: 5/8 ÷ 1/2

       A.   3/16
       B.   1/4
       C.   3/8
       D.   1 1/4

       This question is applicable to Cluster 1.

45.   If $3(y + 3y) = 12$, solve for y.

       A.   0.0
       B.   1.0
       C.   1.5
       D.   2.0

       This question is applicable to Clusters 2, 3, and 5.

46.   If 4(2x + 3x) = 30, solve for x.

     A.   1.50
     B.   1.75
     C.   2.00
     D.   2.50

This question is applicable to Clusters 2, 3, and 5.

47.   What is the simple interest on $1 500.00 for 4 months at 6 3/4% annual interest?

     A. $ 33.75
     B. $ 50.63
     C. $101.25
     D. $222.22

This question is applicable to Cluster 1.

48.   Which polynomial expression would have a value of -2 when x = -2?

     A. $2x^2 + 2x - 2$
     B. $3x^2 - 4x + 1$
     C. $x^2 + 3x + 2$
     D. $-x^2 - 4x - 6$

This question is applicable to Clusters 3 and 5.

49.   What is the radius of a circle with a diameter of 240 mm?

     A.   12.00 mm
     B.   76.43 mm
     C.   120.00 mm
     D.   480.00 mm

This question is applicable to Clusters 2, 3, 4, and 5.

50.   Refer to Figure 4. If x = 12.5 cm, what is the area of the rectangle?

A.   22.73 cm^2
B.   30.25 cm^2
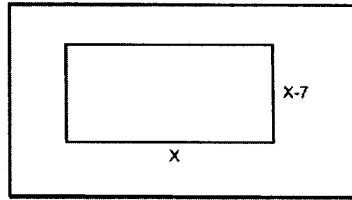C.   68.75 cm^2
D.   87.50 cm^2

Figure 4

This question is applicable to Clusters 1, 2, and 3.

27

Mathematical Formulas

These formulas are included in the Essential Skills Assessment booklet.

Formulas

$\pi = 3.14$

Circumference of a circle $= \pi D$

Area of a rectangle $=$ length $\times$ width

Area of a circle $= \pi r^2$

Area of a triangle $= \dfrac{\text{Altitude} \times \text{base}}{2}$

Volume of a cylinder $= \pi r^2 h$

Volume of a cube $=$ length $\times$ width $\times$ height

METRIC CONVERSIONS

Distance

Metric		Imperial
2.540 centimetres	=	1 inch
0.3048 metre	=	1 foot
0.9144 metre	=	1 yard
5.029 metres	=	1 rod
1.609 kilometres	=	1 mile

Metric		Imperial
1 centimetre	=	0.3937 inch
1 metre	=	3.281 feet
1 metre	=	1.094 yards
1 metre	=	0.20 rods
1 kilometre	=	0.6214 mile

Capacity

Metric		**Imperial**			**U.S.**
0.568 litres	=	1 pint	0.473 litre	=	1 pint (U.S.)
4.546 litres	=	1 gallon	0.946 litre	=	1 quart (U.S)
36.369 litres	=	1 bushel	3.785 litres	=	1 gallon (U.S)
28.41 ml	=	1 fluid oz.	158.99 litres	=	1 barrel oil
1.137 litres	=	1 quart	227.00 ml	=	1 cup/8 fl. oz.

Metric		**Imperial**
1 litre	=	1.76 pints
1 litre	=	0.220 gallon
1 litre	=	.88 quart
14.21 ml	=	1 tablespoon
4.74 ml	=	1 teaspoon

Weight

Metric		**Imperial**
31.103 grams	=	1 ounce (troy)
28.350 grams	=	1 ounce (avoir)
373.242 grams	=	1 pound (troy)
453.592 grams	=	1 pound (avoir)
453.592 grams	=	1 ton (short)
0.907 tonne*	=	2 000 lb
1 gram	=	0.032 ounce (troy)
1 gram	=	0.035 ounce (avoir)
1 kilogram	=	2.679 pounds (troy)
1 kilogram	=	2.205 pounds (avoir)
1 tonne	=	1.102 ton (short)

*1 tonne = 1 000 kilograms

Apprenticeship and Occupational Certification - Office Locations

Bathurst

CCNB – Bathurst
95 Youghall Drive, P.O. Box 266
Bathurst NB   E2A 3Z2
Tel: (506) 547-2711
Fax: (506) 549-5277

Campbellton

CCNB – Campbellton
P.O. Box 309, Village Street
Campbellton NB   E3N 3G7
Tel: (506) 789-2402
Fax: (506) 789-2433 (College)

Edmundston

CCNB – Edmundston
225 Power Road
P.O. Box 70
Edmundston NB   E3V 3K7
Tel: (506) 735-2501
Fax: (506) 735-2635

Fredericton

Apprenticeship and Occupational
Certification
500 Beaverbrook Court, 1st Floor
Fredericton NB   E3B 5H1
Tel: (506) 453-2276
Fax: (506) 444-4327

St. Andrews   **(506) 658-2133**
Péninsule Acadienne   **(506) 778-6057**
Sussex   **(506) 658-2133**
Toll Free   **1-877-453-3030**

Miramichi

NBCC- Miramichi
80 University Avenue, PO Box 1053
Miramichi NB   E1N 3W4
Tel: (506) 778-6057
Fax: (506) 778-5259

Moncton

NBCC - Moncton
1234 Mountain Road
Moncton NB   E1C 8H9
Tel: (506) 856-2236
Fax: (506) 856-2844

Saint John

Apprenticeship and Occupational
Certification
8 Castle Street, 3rd Floor
PO Box 5001
Saint John NB   E2L 4Y9
Tel: (506) 658-2133
Fax: (506) 643-2938

Woodstock

NBCC - Woodstock
100 Broadway Street
Woodstock NB   E7M 5C5
Tel: (506) 325-4855
Fax: (506) 325-4545 (College)

Answer Key

Question	Response	Question	Response
1	B	26	A
2	D	27	D
3	A	28	C
4	C	29	D
5	B	30	D
6	D	31	C
7	A	32	B
8	B	33	B
9	C	34	B
10	C	35	C
11	B	36	C
12	A	37	C
13	B	38	B
14	D	39	B
15	B	40	A
16	D	41	D
17	A	42	C
18	B	43	B
19	B	44	D
20	C	45	B
21	D	46	A
22	C	47	A
23	D	48	D
24	D	49	C
25	C	50	C