

# Trades Access Common Core

## **Line B: Employability Skills** **Competency B-4: Describe the** **Apprenticeship System**





# **Trades Access**

## COMMON CORE

Line B: Employability Skills

Competency B-4: Describe the Apprenticeship System

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### **BCcampus**

Open Education Team  
Hilda Anggraeni, Graphics

### **Camosun College**

Olaf Nielsen, Chair, Trades Development and Special Projects, School of Trades and Technology  
Nannette Plant, Manager, Enterprise Point Operations & Special Projects, Office of the VP Strategic Development  
Rod Lidstone, Instructor, Plumbing and Pipe Trades, Lead Writer/Reviewer  
Brian Coey, Instructor, Sheet Metal and Metal Fabrication, Writer/Reviewer  
Zack (Richard) Zajchowski, Writer/Reviewer  
Matt Zeleny, Camosun Innovates, 3D imaging

### **Open School BC**

Monique Brewer, Director  
Adrian Hill, Instructional Designer  
Dennis Evans, Image Coordinator, Photographer, Graphics, Production Technician (layout)  
Farrah Patterson, Production Technician

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Erin Johnston, Director of Training Delivery  
Cory Williams, Manager, Industry Relations

### **Publishing Services, Queen's Printer**

Spencer Tickner, Director of QP Publishing Services  
Dwayne Gordon, Manager, Electronic Publishing

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To order print copies of any of the Trades Access Common Core resources, please contact us:

Crown Publications, Queen's Printer  
PO Box 9452 Stn Prov Govt  
563 Superior St, 3rd Floor  
Victoria, BC V8W 9V7  
Phone: 250-387-6409  
Toll Free: 1-800-663-6105  
Fax: 250-387-1120  
[crownpub@gov.bc.ca](mailto:crownpub@gov.bc.ca)  
[www.crownpub.bc.ca](http://www.crownpub.bc.ca)

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Ilona Ugro, Copyright Officer, Ministry of Technology, Innovation and Citizens' Services,  
Province of British Columbia

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## Foreword

The BC Open Textbook Project began in 2012 with the goal of making post-secondary education in British Columbia more accessible by reducing student cost through the use of openly licensed textbooks. The BC Open Textbook Project is administered by BCCampus and is funded by the British Columbia Ministry of Advanced Education.

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## Preface

The concept of identifying and creating resources for skills that are common to many trades has a long history in the Province of British Columbia. This collection of Trades Access Common Core (TACC) resources was adapted from the 15 Trades Common Core line modules co-published by the Industry Training and Apprenticeship Commission (ITAC) and the Centre for Curriculum Transfer and Technology (C2T2) in 2000-2002. Those modules were revisions of the original Common Core portion of the TRAC modules prepared by the Province of British Columbia Ministry of Post-Secondary Education in 1986. The TACC resources are still in use by a number of trades programs today and, with the permission from the Industry Training Authority (ITA), have been utilized in this project.

These open resources have been updated and realigned to match many of the line and competency titles found in the Province of BC's trades apprenticeship program outlines. A review was carried out to analyze the provincial program outlines of a number of trades, with the intent of finding common entry-level learning tasks that could be assembled into this package. This analysis provided the template for the outline used to update the existing modules. Many images found in ITA apprentice training modules were also incorporated into these resources to create books that are similar to what students will see when they continue their chosen trades training. The project team has also taken many new photographs for this project, which are available for use in other trades training resources.

The following list of lines and competencies was generated with the goal of creating an entry-level trades training resource, while still offering the flexibility for lines to be used as stand-alone books. This flexibility—in addition to the textbook content being openly licensed—allows these resources to be used within other contexts as well. For example, instructors or institutions may incorporate these resources into foundation-level trades training programming or within an online learning management system (LMS).

### Line A – Safe Work Practices

- A-1 Control Workplace Hazards
- A-2 Describe WorkSafeBC Regulations
- A-3 Handle Hazardous Materials Safely
- A-4 Describe Personal Safety Practices
- A-5 Describe Fire Safety

### Line B – Employability Skills

- B-1 Apply Study and Learning Skills
- B-2 Describe Expectations and Responsibilities of Employers and Employees
- B-3 Use Interpersonal Communication Skills
- B-4 Describe the Apprenticeship System

**Line C – Tools and Equipment**

- C-1 Describe Common Hand Tools and Their Uses
- C-2 Describe Common Power Tools and Their Uses
- C-3 Describe Rigging and Hoisting Equipment
- C-4 Describe Ladders and Platforms

**Line D – Organizational Skills**

- D-1 Solve Trades Mathematical Problems
- D-2 Apply Science Concepts to Trades Applications
- D-3 Read Drawings and Specifications
- D-4 Use Codes, Regulations, and Standards
- D-5 Use Manufacturer and Supplier Documentation
- D-6 Plan Projects

**Line E – Electrical Fundamentals**

- E-1 Describe the Basic Principles of Electricity
- E-2 Identify Common Circuit Components and Their Symbols
- E-3 Explain Wiring Connections
- E-4 Use Multimeters

All of these textbooks are available in a variety of formats in addition to print:

- PDF—printable document with TOC and hyperlinks intact
- HTML—basic export of an HTML file and its assets, suitable for use in learning management systems
- Reflowable EPUB—format that is suitable for all screen sizes including phones

All of the self-test questions are also available from BCcampus as separate data, if instructors would like to use the questions for online quizzes or competency testing.

**About This Book**

In an effort to make this book a flexible resource for trainers and learners, the following features are included:

- An introduction outlining the high-level goal of the Competency, and a list of objectives reflecting the skills and knowledge a person would need to achieve to fulfill this goal.
- Discrete Learning Tasks designed to help a person achieve these objectives
- Self-tests at the end of each Learning Task, designed to informally test for understanding.
- A reminder at the end of each Competency to complete a Competency test. Individual trainers are expected to determine the requirements for this test, as required.
- Throughout the textbook, there may also be links and/or references to other resources that learners will need to access, some of which are only available online.
- Notes, cautions, and warnings are identified by special symbols. A list of those symbols is provided below.

## Symbols Legend



**Important:** This icon highlights important information.



**Poisonous:** This icon is a reminder for a potentially toxic/poisonous situation.



**Resources:** The resource icon highlights any required or optional resources.



**Flammable:** This icon is a reminder for a potentially flammable situation.



**Self-test:** This icon reminds you to complete a self-test.



**Explosive:** This icon is a reminder for a possibly explosive situation.



**Safety gear:** The safety gear icon is an important reminder to use protective equipment.



**Electric shock:** This icon is a reminder for potential electric shock.

### Safety Advisory

Be advised that references to the Workers' Compensation Board of British Columbia safety regulations contained within these materials do not/may not reflect the most recent Occupational Health and Safety Regulation. The current Standards and Regulation in BC can be obtained at the following website: <http://www.worksafebc.com>.

Please note that it is always the responsibility of any person using these materials to inform him/herself about the Occupational Health and Safety Regulation pertaining to his/her area of work.

BCcampus  
January 2015

### Disclaimer

The materials in the Trades Access Common Core Open Textbook project are for use by students and instructional staff and have been compiled from sources believed to be reliable and to represent best current opinions on these subjects. These manuals are intended to serve as a starting point for good practices and may not specify all minimum legal standards. No warranty, guarantee or representation is made by BCcampus as to the accuracy or sufficiency of the information contained in these publications. These manuals are intended to provide basic guidelines for trade practices. Do not assume, therefore, that all necessary warnings and safety precautionary measures are contained in this module and that other or additional measures may not be required.



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## Introduction

Apprenticeship is the most widely used system for training skilled tradespeople. The training of skilled workers dates back to as early as 18th century BC in Babylon. Training for specific trades and crafts was introduced in Europe in the Middle Ages, and from the 11th to 15th centuries, commercial, craft, and merchant guilds spread throughout Europe. During the 19th century, unions were created to protect the interests and rights of each of the trades, and the first documented apprenticeship agreement was created in 1899.

During the 20th century, National Occupational Analyses were created, and the apprenticeship system was formalized in every Canadian province. At the start of the 21st century, the major focus shifted to attracting more individuals to the trades to fill the large void that is expected to grow through 2030 because of the retirement of most baby boomers. Another focus has been on creating greater mobility between provinces for journeypersons and apprentices, and greater harmonization and a look toward a pan-Canadian vision of trades training.

This Competency provides the information necessary for you to understand the trades training system and how to explore any trades you may be interested in. Careers in the trades can be highly rewarding. Forecast shortages in skilled trades mean that there will be significant opportunities for new workers to enter many of the trades.

## Objectives

When you have completed the Learning Tasks in this Competency, you will be able to:

- describe the apprenticeship system
- describe the Interprovincial Standards Red Seal Program

## Resources



You will be required to reference publications and videos available online.

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## LEARNING TASK 1

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# Understanding the apprenticeship system

The apprenticeship system is a model of training that teaches the skills and competencies necessary to work in a skilled trade. It consists of both on-the-job training in industry and technical training. The individual receiving this training is called an “apprentice.”

It is estimated that between 80% to 85% of all apprenticeship training occurs with the employer on the job site, and the remaining 15% to 20% is technical training with an approved training provider. Generally, the apprenticeship makes up the largest component of trades training systems in most developed countries, and this model is rapidly being adopted by many developing nations.

An apprenticeship is an agreement between an apprentice (individual), an employer, and the authority responsible for trades training, and it outlines the obligations of all three parties. The fourth often unwritten partner to the apprenticeship is the person who provides the technical training. In general, the employer is responsible for ensuring that the paid apprentice works under the supervision of a certified journey person who provides the apprentice with on-the-job training and mentorship in their trade. The employer is also responsible for meeting a set of conditions, including ensuring that the apprentice is officially registered with their province or territory, recognizing that further technical training is integral to the apprenticeship program, and tracking and reporting of all time spent on the job site to the relevant authority. The majority of skilled trades have three to four levels of technical training, and an apprenticeship usually lasts between three and six years. Depending on the circumstances, an apprentice may also work for more than one employer during their apprenticeship.

The role of the organization responsible for trades training and certification varies depending on the country. In Canada, trades training and certification are the responsibility of individual provinces and territories, so in effect there are 13 different trades training systems. While there are many similarities between the systems, there are also many differences based on the needs of the individual province or territory.

There are over 200 different trades in Canada; however, not all are recognized (certified) or taught in each province and territory. The majority of skilled trades fall into four different sectors: construction, transportation, manufacturing, and services. Over 40% of all skilled trades workers in Canada are in construction trades, which include electricians, carpenters, plumbers, pipefitters, and welders, to name a few.

In addition to each province and territory having its own trades system, Canada also has a standard of excellence called the “Interprovincial Standards Red Seal Program.” Through this program, tradespersons obtain an endorsement on their provincial/territorial certificates by successfully completing an interprovincial exam in or following the final year of their technical

training. This endorsement makes it easier for journeyed trades workers to move between provinces/territories and employers. In 2012, over 360 000 apprentices were registered in apprenticeship programs, and over 77% of these individuals were working in one of the 57 Red Seal trades (Canadian Council of Directors of Apprenticeship, 2014).

## Exploring trades training

If you are considering going into a trade, it is important to understand what the job is all about. The anticipated shortage of skilled trades workers in Canada has resulted in the creation of numerous websites, videos, and brochures dedicated exclusively to learning about careers in the trades.

Another way to learn about trades programs is to contact your local trades training provider and find out what is available for you. Many colleges that offer trades training also offer short exploratory programs into the various trades they teach at their institution, or special initiatives such as entry-level Aboriginal and Indigenous Trades Training, and Women in the Trades. They also offer information sessions, campus visits, or opportunities to talk one-on-one with an instructor or student in a specific trade. Check out the website of your local training provider or call them to get more information.

Many high schools also offer exploration into trades training, dual-credential programming, and student apprenticeship programming—along with opportunities for visits to local educational institutions and assistance with career programming.

If there is an industry that you'd really like to get into, you might also want to contact an employer or meet with individuals already working in that career to find out first-hand what working in the trade is like—both the rewards and challenges. This can provide you with a better overview of what to expect.

The following are just a few resources you should look at to further explore trades training.

## Websites

### Careers in Trades

<http://www.careersintrades.ca>

### BC Industry Training Authority—Youth Page

<http://www.itabc.ca/youth/trades/>

### BC Industry Training Authority—Trade Programs

<http://www.itabc.ca/discover-apprenticeship-programs/search-programs>

### Skills/Compétences Canada

<http://skillscompetencescanada.com/en/careers/>

## Trades Training BC

<https://www.tradetrainingbc.ca/>

## Supports and Resources: BC Industry Training Authority

<http://www.itabc.ca/info-employers/supports-and-resources>

## Skills Exploration 10-12: BC Industry Training Authority

<http://www.itabc.ca/youth/educators#skills-exploration>

## It's Your Life: Explore a Career in the Resource Trades

[http://tradesrock.com/video\\_gallery.php](http://tradesrock.com/video_gallery.php)

## Videos

### Women in the Trades

<https://youtu.be/ONDjdtbS8Sc>

## Publications

### Apprentice Guidebook: BC Industry Training Authority

[http://www.itabc.ca/sites/default/files/docs/discover/ITA\\_Apprentice\\_Guidebook.pdf](http://www.itabc.ca/sites/default/files/docs/discover/ITA_Apprentice_Guidebook.pdf)

### Trades Guide: BC Industry Training Authority

[http://makeisawesome.com/ITA-2014\\_Viewbook\\_Final\\_INTERACTIVE\\_PDF.pdf](http://makeisawesome.com/ITA-2014_Viewbook_Final_INTERACTIVE_PDF.pdf)

### Trades Apprenticeship Information: BC Industry Training Authority

[http://www.itabc.ca/sites/default/files/docs/discover/Youth/ApprenticeshipOverview\\_FINAL.pdf](http://www.itabc.ca/sites/default/files/docs/discover/Youth/ApprenticeshipOverview_FINAL.pdf)

## Jurisdictional training authorities

In addition to researching the trades certified in your own province, you might want to look at those trades that are recognized in other provinces and territories. The following is a list of all organizations responsible for trades training in Canada:

### Alberta Apprenticeship and Industry Training

<http://tradesecrets.alberta.ca/>

### BC Industry Training Authority (ITA)

<http://itabc.ca>

### Apprenticeship Manitoba

<http://www.gov.mb.ca/wdis/apprenticeship/contact/index.html>

**New Brunswick—Apprenticeship and Occupational Certification**

[http://www2.gnb.ca/content/gnb/en/services/services\\_renderer.2195.Apprenticeship\\_and\\_Occupational\\_Certification.html](http://www2.gnb.ca/content/gnb/en/services/services_renderer.2195.Apprenticeship_and_Occupational_Certification.html)

**Newfoundland and Labrador—Apprenticeship and Trades Certification**

<http://www.aes.gov.nl.ca/default.htm>

**Northwest Territories—Apprenticeship, Trades, and Occupation Certification**

<http://www.ece.gov.nt.ca/advanced-education/apprenticeship-trades-occupation-certification>

**Nova Scotia Apprenticeship Agency**

<http://nsapprenticeship.ca/>

**Nunavut**

<http://nni.gov.nu.ca/taopportunities>

**Ontario College of Trades**

<http://www.collegeoftrades.ca/about>

**Prince Edward Island—Workforce and Advanced Training**

<http://www.gov.pe.ca/ial/apprenticeship>

**Quebec**

<http://www.emploiquebec.gouv.qc.ca/>

**Saskatchewan Apprenticeship and Trade Certification Commission**

<http://www.saskapprenticeship.ca/>

**Yukon**

[http://www.education.gov.yk.ca/continued/trades\\_apprentice.html](http://www.education.gov.yk.ca/continued/trades_apprentice.html)

**Trades training in British Columbia**

In British Columbia, the Industry Training Authority (ITA) is responsible for leading and coordinating the skilled trades training and credentialing system. The ITA also provides support and customer service to apprentices, employers, and industry. It sets program standards, maintains credential records, and issues the highly regarded Red Seal and Certificate of Qualifications. British Columbia is one of the few provinces that use the Interprovincial Red Seal exam as their final level exam for specific trades.

It is well worth your time to check out the ITA website with its vast amount of available information. For each trade that is certified in the province, there is information on the program, interprovincial exams, the process for recognizing prior learning experience, and current jobs available in the specific field in British Columbia.

You can find the information about a trade you are interested in here:

### **Trade Programs: BC Industry Training Authority**

<http://www.itabc.ca/discover-apprenticeship-programs/search-programs>

You can also look at the detailed program outline for a trade by conducting a simple search on the ITA website using the name of the trade and the words “program outline.” The detailed outline lists line by line all competencies required for each level of the training program.

To view an example of a program outline for the Steamfitter/Pipefitter program, visit:

### **Program Outline: Steamfitter/Pipefitter: BC Industry Training Authority**

<http://www.itabc.ca/sites/default/files/program-information/steamfitter-pipefitter-outline-january-2014.pdf>

## **Essential skills and trades training**

The Government of Canada (and many other nations) recognizes nine essential skills as being integral to creating a competitive and productive workforce. These skills are used in different combinations and levels for every occupation, and they are the foundation that you need to learn other new skills.

The nine essential skills are:

- reading
- document use
- numeracy (math and working with numbers)
- writing
- oral communication
- working with others
- digital technology (formerly computer skills)
- thinking
- continuing learning

While most people possess some of these skills, they may not possess the combination of skills at the level required to succeed or excel in the job they are performing or would like to get into. As well, like any skill, if you don't use it, your performance may be less than expected on the job.

Three of these essential skills have been identified as being critical to success in technical trades training, namely:

- reading
- numeracy (math and working with numbers)
- document use

You may wonder what essential skills have to do with you and why it is so important to make sure that your skills, particularly in these three areas, are at the required level before you begin your technical training. Studies show that apprentices with the required essential skills levels:

- are eight times more likely to pass their technical exams
- are likely to make more money on the job
- learn faster and are more likely to enjoy their job
- are less likely to injure themselves or others at work

Read the following documents to find out why essential skills are so important in the trades:

### **Why Essential Skills Matter in the Trades**

[http://ita.essentialskillsgroup.com/pdfs/Why\\_Essential\\_Skills\\_Matter\\_in\\_the\\_Trades.pdf](http://ita.essentialskillsgroup.com/pdfs/Why_Essential_Skills_Matter_in_the_Trades.pdf)

### **Essential Skills: BC Industry Training Authority**

<http://ita.essentialskillsgroup.com/index.php?p=itaresources>

There are numerous types of standardized formal and informal assessments to determine the levels of your essential skills in these three areas. In British Columbia, you can take the free online assessment that the ITA has created to determine your current level of essential skills.

Once you complete the assessment, the system will generate a report for you that compares your results to the requirements for the trade you are interested in. It also provides you with information on how to improve your performance in specific areas where needed. You may log on to this site on your own or through your training organization or employer.

To find out how your essential skills match up to the requirements of a specific trade, visit:

### **Registration to use ITA Essential Skills Tools: BC Industry Training Authority**

<http://ita.essentialskillsgroup.com/index.php?p=itaregisterpre>

After you've had the time to work on some of your skill areas, retake the test and see if you have improved.

Other provinces have similar essential skills assessments that you can access online or in print.



## How to start an apprenticeship, and registration

Finding an apprenticeship has a lot to do with your personal connections and your ability to be proactive and look for possible industry sponsors. It may be easier for individuals with family and friends in the trades to leverage these connections, but even if you don't have this advantage you can still actively look for a potential sponsor. The following are a few ideas on how to find an industry sponsor:

1. Remember that in this period of skilled labour shortages many employers are actively looking for individuals to take on as apprentices. This matching service may also help you:

### **Apprentice Job Match: BC Industry Training Authority**

<http://www.itabc.ca/apprentice-job-match>

2. Do your research. Find out what companies in your area hire apprentices in your field. Call and ask to meet with someone from the company or talk to them over the phone to find out what they are looking for in an apprentice and if they are aware of any upcoming openings in the company. Be prepared before you contact an employer. They are often very busy, and knowing the questions you'd like to ask ahead of time goes a long way to showing that you are respectful of their time. If you set a date or time to meet with an employer, be prompt and always remember to send a thank-you note or email afterwards to acknowledge the time they have given you. Remember to take notes during these conversations so that you can follow up on any leads or contact the company and individual again at a later date.
3. A number of trades programs don't require you to have an industry sponsor to complete the initial levels of training. These programs are known by a number of different names, including Foundation, Pre-Apprenticeship, and Apprenticeship (no industry sponsor). In these types of programs, the training institution takes on the role of an industry sponsor and the additional hours students spend in the shops under the supervision of their instructors (all journeymen) count toward their required apprenticeship hours. Upon successful completion, many of these programs provide the equivalency of Level 1 of apprenticeship training.

For more information on these programs visit:

### **Foundation Programs: BC Industry Training Authority**

<http://www.itabc.ca/get-job-ready/foundation-programs>

You can also find out where these programs are offered in British Columbia's public post-secondary education providers by visiting:

### **Foundation Training: Trades Training BC**

<https://www.tradestrainingbc.ca/Foundation>

4. If you are in a Foundation program, take advantage of every opportunity to meet with potential sponsors and find out more about their needs for apprenticeships. It is important to keep in mind that when you are in a Foundation program, your instructor is taking on the role of a journey person and training and evaluating your practical work in the same way as would be done in industry. This training is recognized as work experience and counts toward

the hours required for your apprenticeship. It also provides you with equivalency to a level of apprenticeship training in most trades. Your program may also offer work experience in industry. Often, employers in search of new apprentices will visit training institutions or let your instructors know that they are looking for new apprentices.

5. Keep current. Trades are a hot topic in the news, print, and online, and new or existing companies' training needs are often the source of stories and may provide you with additional leads.

Once you have an apprenticeship lined up, the most important thing to do is register with the ITA (or the provincial/territorial counterpart outside of BC). To do so you need information on your industry sponsor as well as your own contact information. You can complete the necessary paperwork online or do it manually and mail it in.

You can obtain more information on registering your apprenticeship in British Columbia at:

### **Forms: How to Register: BC Industry Training Authority**

<http://www.itabc.ca/apply-apprenticeship/forms>

## **Apprenticeship roles and responsibilities**

The role of the apprentice is to:

- Read and make sure that they understand all of the requirements of their specific trade.
- Keep an ongoing dialogue with the journey person responsible for their training and any other individuals assisting with their apprenticeship to make sure they are getting feedback on their performance, including their strengths and areas where improvement can be made.
- Meet with their employer to discuss and determine the best time to arrange for technical training each year for the length of their apprenticeship. In general, most trades have three or four levels of apprenticeship training. Remember that technical training opportunities may be very limited. If possible, register ahead of time for the next two to three years of technical training so that you know that your place has been reserved. Also keep in mind that technical training for some trades may be available from a limited number of training suppliers and are not necessarily located in the city where you live. You may need to make plans to travel to another city to complete your apprenticeship training. If you have family or other commitments, it may require some time and effort on your part to make the necessary arrangements ahead of time. Advance planning will help reduce your stress level and make you better prepared to complete your training.
- Keep track of their hours on the job by monitoring the record in the ITA database and bringing to the employer's attention any discrepancies. On average, employers will update an apprentice's record every 6 to 12 months.

The role of the employer/sponsor is to:

- Teach the apprentice the skills required for the trade under the supervision of a certified journey person or other qualified individual as approved by the ITA.
- Provide the apprenticeship with mentorship and constructive feedback on their performance.
- Work with the apprentice to determine the best time to schedule their technical training each year.
- Track the apprentice's hours and report them every 6 to 12 months. If there are any discrepancies, they must review them with the apprentice and make any changes as necessary.
- Recommend the apprentice for certification when all of their program requirements are complete (technical training certification and hours of experience).

The role of the ITA is to:

- Manage BC's industry trades training and certification system, and work with employers, employees, industry, labour, training providers, and governments to increase opportunities in the trades. This includes:
  - managing apprenticeships, setting program standards, issuing credentials, and increasing opportunities in the trades
  - providing information and assistance online, by phone, or in person to apprentices, employers, and other individuals and organizations associated with trades training
  - registering apprentices and employer/sponsors, maintaining apprentice records, overseeing exams and assessments, and funding training at public and private institutions
  - setting standards for skilled trades training programs, training provider requirements, and for challenging certification (when work hours and experience count toward certification)

The role of the training provider is to:

- Teach the apprentices according to the competencies detailed in the program description for their program.
- Provide apprentices with feedback on their performance and prepare them to take the level exams or Interprovincial Red Seal exam at the end of their level of technical training.
- Work with employers as required to assist in registering and scheduling apprentices for their programs.

## Scheduling your technical training

The following are tips on how to schedule your technical training:

- Work with your employer to identify the best periods in which to take your technical training. This will ensure that your employer has sufficient employees on site or can make alternate arrangements to get the additional staff needed. Since larger employers may have numerous apprentices, planning will also allow them to stagger technical training across the year.
- Find out ahead of time if any financial support will be coming from your employer. You may have discussed this at your time of hire, and you may need to revisit it.
- Try to schedule multiple years of technical training at the onset. The availability of technical training can be very limited in some programs, and your ability to schedule multiple years of training will allow you to complete longer-range plans.
- Remember that you may have to travel to take your training. Find out where the various approved training providers are for your program so that you can consider this issue when you discuss your training with your employer, family, and friends. It will also allow you to prepare for any additional financial costs with studying away from home or any arrangements you may need to make if you have a family to support.
- Try to keep on schedule with training. For each year of your apprenticeship you should be doing one level of training. If you fall off schedule, try to get back on as soon as possible.
- If you've changed your employer/sponsor, make sure all the paperwork necessary is completed with the ITA prior to starting your next level of technical training.
- If you haven't scheduled your technical training and need to as soon as possible, check with the potential training providers and see if they can add you to a waitlist for upcoming training. You may be provided with only a few days' warning before a place opens up, so make sure that you've discussed this with your employer and any other individuals who would be affected by your quick departure from the job site or home if training is out of town.
- Do your homework and prepare financially for your studies, and be aware of the different sources of funding that can assist you during your technical training and how and when to apply for them.

## Financial support for training

Access to financial support is often an integral part of a decision to pursue further education. It's important to know the sources of funding that may be available to you. Remember to think outside the box to find all of the different funding sources that may be available to you and your particular circumstances.

Two very good starting points to look at for funding available for trades training in British Columbia are the Trades Training BC site and the provincial government's Apprenticeship Training support page:

### **Financial Assistance Options for BC Trades Students: Trades Training BC**

<https://www.tradetrainingbc.ca/FinancialAssistance>

### **Apprenticeship Training Supports: WorkBC**

<https://www.apprenticeonline.gov.bc.ca/Static/HomePage.aspx>

Different types of trades training are eligible for different types of support. For example, longer-term Pre-Apprentice or Foundation trades training at a community college may be eligible for regular provincial student loan programs as well as institutionally specific scholarships and bursaries. While apprentices are not eligible for these resources, they are eligible for other types of support, including employment insurance during their studies.

Another source of information about apprenticeship support is the Government of Canada webpage:

### **Support for Apprentices: Government of Canada**

[http://www.esdc.gc.ca/en/support\\_apprentices/index.page](http://www.esdc.gc.ca/en/support_apprentices/index.page)

Apprentices should also find out if their employers offer any kind of training support. If you did not discuss this at the time of hiring, ask your employer now if any kind of professional development funds are available and can be used toward your studies. Depending on your employer, this can range from no financial support to full financial support, covering the costs of your studies and textbooks upon successful completion of your program. In addition, some employers also link successful completion of an apprenticeship level to an increase in salary or a bonus, so it is worth finding out this information from your employer ahead of time.

High school students entering a trade may also be eligible for prizes and scholarships that they can use toward their postsecondary studies. Check with your school to find out what is available.

Occasionally there are also federal and provincial initiatives that support trades training for individuals meeting specific criteria. The trades training department of your local institution can advise you of any initiatives that may currently be available and let you know if you satisfy the eligibility criteria.



Now complete the Learning Task Self-Test.

## Self-Test 1

1. The apprenticeship system is a model of training that teaches the skills and competencies necessary to work in a skilled trade.
  - a. True
  - b. False
2. An apprenticeship consists of on-the-job training only.
  - a. True
  - b. False
3. What is the estimated percentage of the training of apprentices that occurs on the job site?
  - a. 50% to 70%
  - b. 75% to 80%
  - c. 80% to 85%
  - d. 90% to 100%
4. What percentage of apprenticeship training is theoretical and takes place with a training provider/trades school?
  - a. 45% to 50%
  - b. 35% to 40%
  - c. 25% to 30%
  - d. 15% to 20%
5. Apprenticeship training makes up the largest part of the trades training system in Canada.
  - a. True
  - b. False
6. Within which jurisdiction does Canadian trades training fall?
  - a. Federal
  - b. Provincial/territorial
  - c. Private accreditation bureaus and unions
  - d. Combination of federal and provincial/territorial

7. How many different trades are there in Canada (though not all are recognized, certified, or taught in each province and territory)?
  - a. 100
  - b. 150
  - c. 200
  - d. 250
  
8. Within which four sectors do the majority of trades fall?
  - a. Services, fabrication, construction, and manufacturing
  - b. Construction, transportation, heavy duty, and hospitality
  - c. Construction, services, manufacturing, and transportation
  - d. Manufacturing, construction, telecommunications, and electrical
  
9. There are many free sources of information on trades training available in Canada.
  - a. True
  - b. False
  
10. The Industry Training Authority (ITA) is responsible for leading and coordinating the skilled trades training and credentialing system in British Columbia.
  - a. True
  - b. False
  
11. There are 11 essential skills recognized by the Government of Canada.
  - a. True
  - b. False
  
12. Essential skills are used in different combinations and levels for every occupation, and they are the foundation skills you need in order to learn new skills.
  - a. True
  - b. False
  
13. Which of the following are considered essential skills?
  - a. Reading, document use, numeracy
  - b. Writing, oral communication, working with others
  - c. Digital technology, thinking, and continuous learning
  - d. All of the above

14. What are the three skills that have been identified as critical to being successful in technical trades training?
  - a. Reading, numeracy, and document use
  - b. Math, thinking, and continuous learning
  - c. Reading, listening, and working with others
  - d. Document use, math, and manual dexterity
  
15. In addition to formal assessments, there are numerous essential skills self-assessments available on the Web.
  - a. True
  - b. False
  
16. Apprenticeships are found for trades apprentices by the trades training provider.
  - a. True
  - b. False
  
17. Once you have found an apprenticeship, it is important that you and your employer register with the ITA (in British Columbia) or your provincial/territorial equivalent.
  - a. True
  - b. False
  
18. Which of the following is not included as part of an apprenticeship?
  - a. Complete technical training
  - b. Working directly under a journeyperson (or equivalent)
  - c. Making decisions about which job sites you will work on for your employer
  - d. Keeping track of hours on the job and reporting any discrepancies to your employer
  
19. What is the role of the employer in trades apprenticeships?
  - a. Teach the apprentice skills required for the job, provide supervision, and mentor and recommend apprentices for certification
  - b. Report apprenticeship hours to the ITA every 6 to 12 months and determine the best time for the apprentice to be absent from the company to complete technical training
  - c. All of the above
  - d. None of the above



20. What is the principal role of the training provider?
- Teaching apprentices theory and best practices in the shop
  - Creating trades programs that align with the National Occupational Analysis
  - Creating individual programs that best support the needs of individual learners
  - Teaching apprentices based on the ITA's program outline for their trade, and provide them with feedback
21. What is the best way to schedule your future years of technical training?
- Wait until your employer makes the decision and books the training for you.
  - Contact the institution of your choice and pre-book all years of training at the time you choose.
  - Wait for your training institution to contact you regarding the need to take your next level of training.
  - Be proactive and discuss the subsequent levels of technical training needed and how/when they should be scheduled.
22. For most trades there are ample apprenticeship courses offered and you can usually get into the institution of your choice.
- True
  - False
23. All employers pay the costs of technical training and books.
- True
  - False
24. It is your responsibility to research the funding available for your apprenticeship training program, complete the necessary applications/forms, and ensure that you have sufficient funding to complete your apprenticeship training.
- True
  - False



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## LEARNING TASK 2

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# Describe the Red Seal program

The Red Seal program is the Canadian standard of excellence for skilled trades, setting common standards to assess the skills of tradespersons across Canada. The program has been in existence for over 50 years and is administered by each of the designated provincial and territorial apprenticeship authorities under the guidance of the Canadian Council of Directors of Apprenticeship (CCDA). The formal name of this program is the Interprovincial Standards Red Seal Program.

The Red Seal is not a certificate. It is an endorsement that is affixed to a provincial or territorial trades certificate upon successful completion of all provincial requirements and the Red Seal exam. It is available in 57 different trades, and over 625,000 tradespeople in Canada have obtained the Red Seal Endorsement (RSE) to date. The top 10 Red Seal trades based on endorsements issued to date are:

- construction electrician
- automotive service technician
- carpenter
- industrial mechanic (millwright)
- plumber
- welder
- heavy-duty equipment technician
- cook
- steamfitter/pipefitter
- truck and transportation mechanic

A listing of all Red Seal trades can be viewed at:

### Red Seal Trades

[http://www.red-seal.ca/trades/tr.1d.2s\\_l.3st@-eng.jsp](http://www.red-seal.ca/trades/tr.1d.2s_l.3st@-eng.jsp)

### Importance of the Red Seal

The Red Seal is important because it provides a standard of competency that is recognized across Canada and is respected in a number of other countries. It denotes that an individual has the knowledge and skill sets for accomplishing work in their trade.

Once you have received your Red Seal endorsement, you may use the RSE acronym on your résumé, business cards, and promotional information.

## Red Seal exam

The Red Seal exam is administered to determine whether apprentices and experienced tradespeople meet the Canadian Red Seal standards. The examinations are developed for each of the Red Seal trades with the assistance of industry trade experts from across the country and are based on the National Occupational Analysis (NOA). (More information on the NOA is provided below.)

To qualify to write a Red Seal exam, an individual must have fulfilled all requirements set out by their provincial/territorial apprenticeship authority. The criteria for eligibility to write the exam differ from one trade to another and depend on the type of applicant (e.g., apprentice, trade qualifier/challenger, journeyperson).

The Red Seal Endorsement Official Mark on a provincial/territorial trades certificate signifies that you have completed the Canadian recognized standard of competency in your trade.

In some cases (e.g., in British Columbia), the Red Seal exam is taken in lieu of a provincial exam in the final level of the apprenticeship training. In other provinces or territories the exam may be taken in addition to other provincial requirements.

To receive your Red Seal endorsement, you must achieve a mark of 70% or higher on the Red Seal exam. If you are unsuccessful in passing the exam, you must wait a set period of time before your next attempt. The waiting period is determined by the individual province or territory. Should you be unsuccessful a second time, you will be required to follow a course of study as defined by your jurisdiction (province or territory) prior to any subsequent attempt.

A guide on the Red Sea Exam is available at:

### Get Ready for Your Red Seal Exam

<http://www.red-seal.ca/docms/getready-eng.pdf>

## National Occupational Analysis

The National Occupational Analysis (NOA) document for each trade is the basis for the Red Seal Program as well as all provincial and territorial training programs. These profiles are one of the outcomes of the first Canadian National Apprenticeship in Trades and Industry conference held in 1952.

Every NOA provides a comprehensive analysis of a trade completed by a committee of industry experts, and is representative of all jurisdictions. An NOA looks at all of the following issues:

- safety
- scope of the trade, which provides:
  - a general summary of the trade, including all major activities covered in the trade
  - the work environment
  - employment options
  - hazards specific to the trade
  - attributes of workers
  - overlap with other trades
- occupational trends, including changes in technologies, techniques, products, and materials
- essential skills summary for all nine essential skills

Following this information, the NOA provides a detailed analysis of the trade by block, task, and sub-task. Provided at least 70% of the responding jurisdictions perform a sub-task, then it is included in the NOA. Below each sub-task title is a chart indicating whether that particular sub-task is performed in each of the Canadian provinces and territories. The additional notations in this field are “ND,” indicating that a trade is not designated in that jurisdiction, or “NV,” indicating that the analysis was not validated by a jurisdiction.

The full NOA for the carpentry trade can be viewed at:

### **National Occupational Analysis: Carpenter 2013: Red Seal Program**

[http://www.red-seal.ca/docms/carpenter\\_noa2013\\_eng.pdf](http://www.red-seal.ca/docms/carpenter_noa2013_eng.pdf)

At the end of each NOA is a series of appendices that list:

- all of the tools and equipment required for a trade
- a glossary of terms associated with the trade
- a list of acronyms
- block and task weighting by province and overall national average
- a pie chart indicating the national breakdown of exam questions by block
- a Task Profile Chart (also referred to in BC as a “DACUM”)

To review the National Occupational Analyses for all trades visit:

### **Consult your trade’s NOA: Red Seal Program**

[http://www.red-seal.ca/resources/n.4.1\\_l.3st@-eng.jsp](http://www.red-seal.ca/resources/n.4.1_l.3st@-eng.jsp)

## Ellis Chart

The Ellis Chart compares apprenticeship programs across all jurisdictions (i.e., provinces and territories). There are Ellis Charts for over 300 different trades across Canada, and all can be viewed at:

### Ellis Chart

<http://www.ellischart.ca/h.4m.2@-eng.jsp>



Now complete the Learning Task Self-Test.

## Self-Test 2

1. The Red Seal program is the Canadian standard of excellence for skilled trades in Canada.
  - a. True
  - b. False
2. The Red Seal program does not set common standards to assess the skills of tradespersons across Canada.
  - a. True
  - b. False
3. The Red Seal is a certification issued by the Canadian government.
  - a. True
  - b. False
4. How many Red Seal trades exist to date?
  - a. 10 to 20
  - b. 50 to 60
  - c. More than 100
  - d. All trades are Red Seal
5. All provinces and territories use the Red Seal exam in their final level of apprenticeship training for Red Seal trades.
  - a. True
  - b. False
6. When do apprentices receive the Red Seal endorsement?
  - a. After they have passed the exam with a grade of 70% or higher
  - b. Automatically upon completion of the final level exam of the apprenticeship training
  - c. After they have successfully completed the Red Seal exam and all other requirements for their apprenticeship
  - d. After they have successfully completed the Red Seal exam and the score has been passed on to their jurisdictional authority
7. The National Occupational Analysis (NOA) is a comprehensive analysis of a trade completed by industry experts in the trades and with representation from all Canadian provinces and territories.
  - a. True
  - b. False

8. What is included in the NOA for a trade?
  - a. Information on employers
  - b. All the qualifications required in order to work in a trade
  - c. Information on what needs to be taught in every Canadian jurisdiction
  - d. Safety, scope of the trade, occupational trends, and an essential skills summary
  
9. An Ellis Chart for a trade compares a number of different aspects of trades training and delivery between which regions?
  - a. Between Canada and the United States
  - b. Between North America and the rest of the world
  - c. Between Canadian provinces and territories
  - d. Between Canadian regions (e.g., Atlantic Canada, Western Canada)



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## LEARNING TASK 3

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# Becoming a journeyperson and new opportunities

Once you have completed the final level of apprenticeship for your trade, including all of the work hours required on site, you will become a certified journeyperson. If you are completing your apprenticeship in British Columbia in an applicable trade, upon successful completion of the Red Seal exam you will also receive your Red Seal endorsement (RSE).

To take on the role of a journeyperson you may also need further education. This may include individual learning, such as becoming aware of all of the recent changes and trends in the industry and acquiring in-depth knowledge of the apprenticeship's training program and what needs to be taught in the workplace at each level of the apprenticeship. As a journeyperson, you may also want to acquire additional formal training to become better acquainted with mentoring and coaching of an individual; for example by completing a continuing education course in leadership.

As you will have noted from looking at the National Occupational Analyses, all trades require some degree of continual learning to keep up with changes in the industry brought on by new technologies (products or tools), changes in code, or new government legislation. In addition, the use of communication technologies continues to grow rapidly and affect the trades. This includes use of smart phone applications, social media, Web applications, and business-related software and hardware, particularly for individuals who are self-employed or own a small trade-related company. Your ability to keep up with these new demands will ensure that you keep competitive in your field.

## Role of the journeyperson in training

A journeyperson is knowledgeable about all aspects of his or her trade. One of the roles of the journeyperson is to assist in the work-based training of new apprentices. The assignment of an apprentice to a journeyperson for mentoring or coaching will be the decision of your employer.

The size of a company will determine the role a journeyperson will have in training a new apprentice. In large companies, the training of an apprentice may be a team approach, with individuals in the firm taking on different orientation and/or training. In smaller companies, this role may fall largely in the hands of the journeyperson and their supervisor.

The duties assigned to a journeyperson may include assistance with or responsibility for:

- teaching apprentices all aspects of the trade
- orienting new apprentices to the workplace, including advising on any company policies and procedures that may need to be followed on the job site
- informing apprentices about the company's expectations and what they will receive

- helping apprentices better understand their trade, the tools and equipment they use, and safety standards
- developing a training plan for the apprentices
- supervising, mentoring, and/or coaching the apprentice
- providing constructive feedback in all aspects of the job, including priorities and time management
- helping apprentices develop strategies to improve in areas where their skills may fall short, and monitoring their progress in these areas
- providing feedback to the supervisor on the progress of apprentices
- evaluating apprentices' roles in the workplace for certification

## Other opportunities

As a journeyman, you will be exposed to many different opportunities that you can pursue related to your trade and career path. The following are just a few that you may wish to explore further:

- Many journeymen hold multiple trade credentials and additional certifications. This allows them to perform multiple functions on job sites and increases their marketability. For example, a metal fabricator may hold a welding ticket, allowing for more versatility.
- Some journeymen use their credentials to travel and find work in other Canadian provinces or internationally. They may do so by looking for opportunities through employment agencies or by joining large international organizations where travel is one of the expectations of the job.
- Some journeymen work as subject matter experts for industry, associations, and unions, including working in the role of safety inspectors.
- Many journeymen pursue supervisory or management positions. In order to do so they may need to take formal education in areas related to administration or business.
- Many journeymen are entrepreneurial and start their own small businesses.
- Some journeymen take on positions related to trades training at public or private institutions. Doing this requires pursuing the appropriate qualifications (see below).

All of the opportunities listed above may necessitate acquiring additional information or formal training. For example, the qualifications for teaching a trade usually include:

- Red Seal or highest level of certification for a trade
- five or more years of experience working in that trade in industry
- previous teaching and/or supervisory experience

- extensive knowledge about the trade
- knowledge and skills necessary to instruct curriculum
- excellent language skills, written and oral
- effective interpersonal skills
- provincial instructor's diploma (completed or in-progress) an asset
- desire for ongoing professional development
- ability to work as part of a team
- computer literacy
- criminal record check—for positions that include working with vulnerable populations

Completing an apprenticeship can open up many different opportunities. The trades are a rewarding and fulfilling career. It doesn't matter which trade you enter, the path continues past the journey person certification.



Now complete the Learning Task Self-Test.

## Self-Test 3

1. Once you have completed all of the requirements for your apprenticeship (technical training and hours in the trade), you become a certified journeyperson.
  - a. True
  - b. False
2. After you become a journeyperson, you have acquired all of the knowledge needed for the trade and there is no need for additional training.
  - a. True
  - b. False
3. One of the roles a journeyperson may take on for an employer is mentoring or coaching new apprentices.
  - a. True
  - b. False
4. There are many different employment opportunities for journeypersons and skilled trades workers.
  - a. True
  - b. False

## References

Canadian Council of Directors of Apprenticeship. *CCDA 2014 Annual Review*. Retrieved from [http://www.red-seal.ca/others/2014ccd.1\\_1r@-eng.jsp](http://www.red-seal.ca/others/2014ccd.1_1r@-eng.jsp).

## Appendix: Trades Apprenticeship Web Resources

### Exploring Trades Training

#### Websites

##### Careers in Trades

<http://www.careersintrades.ca>

##### BC Industry Training Authority—Youth Page

<http://www.itabc.ca/youth/trades/>

##### BC Industry Training Authority—Trade Programs

<http://www.itabc.ca/discover-apprenticeship-programs/search-programs>

##### Skills/Compétences Canada

<http://skillscompetencescanada.com/en/careers/>

##### Trades Training BC

<https://www.tradestrainingbc.ca/>

##### Supports and Resources: BC Industry Training Authority

<http://www.itabc.ca/info-employers/supports-and-resources>

##### Skills Exploration 10-12: BC Industry Training Authority

<http://www.itabc.ca/youth/educators#skills-exploration>

##### It's Your Life: Explore a Career in the Resource Trades

[http://tradesrock.com/video\\_gallery.php](http://tradesrock.com/video_gallery.php)

#### Videos

##### Women in the Trades

<https://youtu.be/ONDjdtbS8Sc>

#### Publications

##### Apprentice Guidebook: BC Industry Training Authority

[http://www.itabc.ca/sites/default/files/docs/discover/ITA\\_Apprentice\\_Guidebook.pdf](http://www.itabc.ca/sites/default/files/docs/discover/ITA_Apprentice_Guidebook.pdf)

##### Trades Guide: BC Industry Training Authority

[http://makeisawesome.com/ITA-2014\\_Viewbook\\_Final\\_INTERACTIVE\\_PDF.pdf](http://makeisawesome.com/ITA-2014_Viewbook_Final_INTERACTIVE_PDF.pdf)

**Trades Apprenticeship Information: BC Industry Training Authority**

[http://www.itabc.ca/sites/default/files/docs/discover/Youth/ApprenticeshipOverview\\_FINAL.pdf](http://www.itabc.ca/sites/default/files/docs/discover/Youth/ApprenticeshipOverview_FINAL.pdf)

**Jurisdictional training authorities****Alberta Apprenticeship and Industry Training**

<http://tradesecrets.alberta.ca/>

**BC Industry Training Authority (ITA)**

<http://itabc.ca>

**Apprenticeship Manitoba**

<http://www.gov.mb.ca/wdis/apprenticeship/contact/index.html>

**New Brunswick—Apprenticeship and Occupational Certification**

[http://www2.gnb.ca/content/gnb/en/services/services\\_renderer.2195.Apprenticeship\\_and\\_Occupational\\_Certification.html](http://www2.gnb.ca/content/gnb/en/services/services_renderer.2195.Apprenticeship_and_Occupational_Certification.html)

**Newfoundland and Labrador—Apprenticeship & Trades Certification**

<http://www.aes.gov.nl.ca/default.htm>

**Northwest Territories—Apprenticeship, Trades & Occupation Certification**

<http://www.ece.gov.nt.ca/advanced-education/apprenticeship-trades-occupation-certification>

**Nova Scotia Apprenticeship Agency**

<http://nsapprenticeship.ca/>

**Nunavut**

<http://nni.gov.nu.ca/taopportunities>

**Ontario College of Trades**

<http://www.collegeoftrades.ca/about>

**Prince Edward Island—Workforce and Advanced Training**

<http://www.gov.pe.ca/ial/apprenticeship>

**Quebec**

<http://www.emploi.quebec.gouv.qc.ca/>

**Saskatchewan Apprenticeship and Trade Certification Commission**

<http://www.saskapprenticeship.ca/>

**Government of Yukon**

[http://www.education.gov.yk.ca/continued/trades\\_apprentice.html](http://www.education.gov.yk.ca/continued/trades_apprentice.html)

## Trades Training in British Columbia

Trade Programs: BC Industry Training Authority

<http://www.itabc.ca/discover-apprenticeship-programs/search-programs>

Program Outline: Steamfitter/Pipefitter: BC Industry Training Authority

<http://www.itabc.ca/sites/default/files/program-information/steamfitter-pipefitter-outline-january-2014.pdf>

## Essential Skills and Trades Training

Why Essential Skills matter in the trades

[http://ita.essentialskillsgroup.com/pdfs/Why\\_Essential\\_Skills\\_Matter\\_in\\_the\\_Trades.pdf](http://ita.essentialskillsgroup.com/pdfs/Why_Essential_Skills_Matter_in_the_Trades.pdf)

Essential Skills: BC Industry Training Authority

<http://ita.essentialskillsgroup.com/index.php?p=itaresources>

Registration to use ITA Essential Skills Tools: BC Industry Training Authority

<http://ita.essentialskillsgroup.com/index.php?p=itaregisterpre>

## How to start an apprenticeship and registration

Apprentice Job Match: BC Industry Training Authority

<http://www.itabc.ca/apprentice-job-match>

Foundation Programs: BC Industry Training Authority

<http://www.itabc.ca/get-job-ready/foundation-programs>

Foundation Training: Trades Training BC

<https://www.tradestrainingbc.ca/Foundation>

Forms: How to Register: BC Industry Training Authority

<http://www.itabc.ca/apply-apprenticeship/forms>

## Financial Support for Training

Financial Assistance Options for BC Trades Students: Trades Training BC

<https://www.tradestrainingbc.ca/FinancialAssistance>

Apprenticeship Training Supports: WorkBC

<https://www.apprenticeonline.gov.bc.ca/Static/HomePage.aspx>

Support for Apprentices: Government of Canada

[http://www.esdc.gc.ca/en/support\\_apprentices/index.page](http://www.esdc.gc.ca/en/support_apprentices/index.page)

## Red Seal Program

Red Seal Trades

[http://www.red-seal.ca/trades/tr.1d.2s\\_l.3st@-eng.jsp](http://www.red-seal.ca/trades/tr.1d.2s_l.3st@-eng.jsp)

## Red Seal Exam

Get Ready for your Red Seal Exam

<http://www.red-seal.ca/docms/getready-eng.pdf>

**National Occupational Analysis: Carpenter 2013: Red Seal Program**

[http://www.red-seal.ca/docms/carpenter\\_noa2013\\_eng.pdf](http://www.red-seal.ca/docms/carpenter_noa2013_eng.pdf)

**Consult your trade's NOA: Red Seal Program**

[http://www.red-seal.ca/resources/n.4.1\\_l.3st@-eng.jsp](http://www.red-seal.ca/resources/n.4.1_l.3st@-eng.jsp)



## Answer Key

### Self-Test 1

1. a. True
2. b. False
3. c. 80% to 85%
4. d. 15% to 20%
5. a. True
6. b. Provincial/territorial
7. c. 200
8. c. Construction, services, manufacturing, and transportation
9. a. True
10. a. True
11. b. False
12. a. True
13. d. All of the above
14. a. Reading, numeracy, and document use
15. a. True
16. b. False
17. a. True
18. c. Making decisions on which job sites you will work on for your employer
19. c. All of the above
20. d. Teaching apprentices based on the ITA's program outline for their trade and provide them with feedback
21. d. Be proactive and discuss the subsequent levels of technical training needed and how/when they should be scheduled
22. b. False
23. b. False
24. a. True

**Self-Test 2**

1. a. True
2. b. False
3. b. False
4. b. 50 to 60
5. b. False
6. c. After they have successfully completed the Red seal exam and all other requirements for their apprenticeship
7. a. True
8. d. Safety, scope of the trade, occupational trends, and an essential skills summary
9. c. Between Canadian provinces and territories

**Self-Test 3**

1. a. True
2. b. False
3. c. True
4. a. True



### The British Columbia Open Textbook Project

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