

Apprenticeship and Certification Study Guide



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Introduction

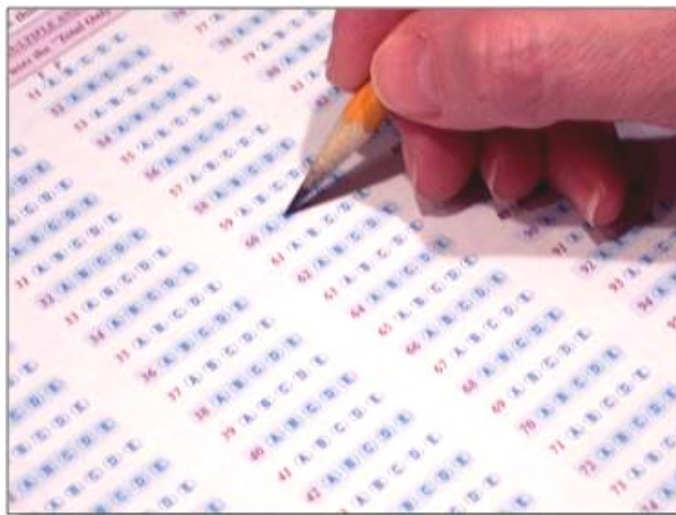
This Study Guide has been developed by the Newfoundland and Labrador Department of Education and Early Childhood Development, Apprenticeship and Trades Certification Division, to assist apprentices and trade qualifiers as they prepare to write the Red Seal Exam. Red Seal Exams are available for all Red Seal trades. For a list of Red Seal trades, please refer to the Department of Education and Early Childhood Development website:

<https://www.gov.nl.ca/atcd/designated-trades/list-of-designated-trades/>

Some of the specific goals of this guide are:

- ⇒ to help you understand the skills and knowledge that might be covered on the exam
- ⇒ to help you identify your strengths and weaknesses
- ⇒ to provide organization and structure for a course of study
- ⇒ to provide a list of resources to help you with your study plan
- ⇒ to support and supplement the teaching and learning process

This study guide outlines the theoretical portion of the program. The intent is not to replace technical training provided under the guidance of instructors. Rather, it is a tool to be used in conjunction with formal training.



Exam Process

Before the Exam

You must contact the nearest Apprenticeship and Trades Certification Divisional office to make request to write the Red Seal exam (*See Appendix A for a list of regional offices*). Upon approval, the Apprenticeship Program Officer (APO) will notify you of your eligibility to write the exam, and provide you with scheduling information. If you require special accommodations due to a disability or language barrier, please contact your regional office for information on applying for this service.

During the Exam

You must bring:

- personal identification such as a photo or signature ID or valid Newfoundland and Labrador driver's license
- your notification letter

The following will be provided:

- a calculator (*see Appendix B for calculator information*)
- all other items required such as pencils, scrap paper, etc.

Important Note:

Personal cell phones, calculators, or other electronic equipment are NOT allowed into the exam room. If you do bring them, they will be stored away and returned to you when you have completed the exam.

After the Exam

Results will be mailed to you approximately seven to ten days after completion of the exam. All necessary instructions and information will be provided in the results letter.

The percentage mark you obtained will be provided. You will also be given a section-by-section breakdown, showing how many questions were in each section, as well as the number of questions in each section you completed successfully.

If you are successful in obtaining a 70% or more on your exam, you will be issued a Newfoundland and Labrador Certificate of Qualification with a Red Seal endorsement.

Exam Format

All Red Seal exams are written in multiple-choice format. Each exam has between 100 and 150 questions. A multiple-choice question consists of a stem (a complete question) followed by four options (A, B, C, D). The stem contains all the information necessary to answer the question. The options consist of the one correct answer and three “distracters.” Distracters are incorrect. *(See Appendix C for a sample answer sheet).*

Red Seal exams contain three types of questions:

Level 1 Knowledge and Recall

Questions at this level test your ability to recall and understand definitions, facts, and principles.

Level 2 Procedural and Application

Questions at this level test your ability to apply your knowledge of procedures to a new situation.

Level 3 Critical Thinking

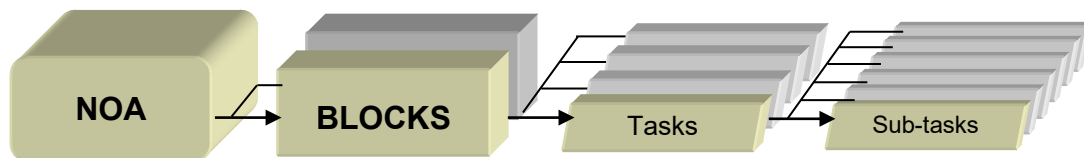
Questions at this level test your ability to interpret data, solve problems and arrive at valid conclusions.

Exam Content

Understanding the *National Occupational Analysis (NOA)*

The NOA is a document used for Red Seal trades that describes the knowledge, skills and abilities required by a fully competent tradesperson working in that trade. The content for the Red Seal exam is based on the NOA. The NOA is an excellent tool to use as you study for the Red Seal exam. NOAs can be found at <https://www.red-seal.ca/>.

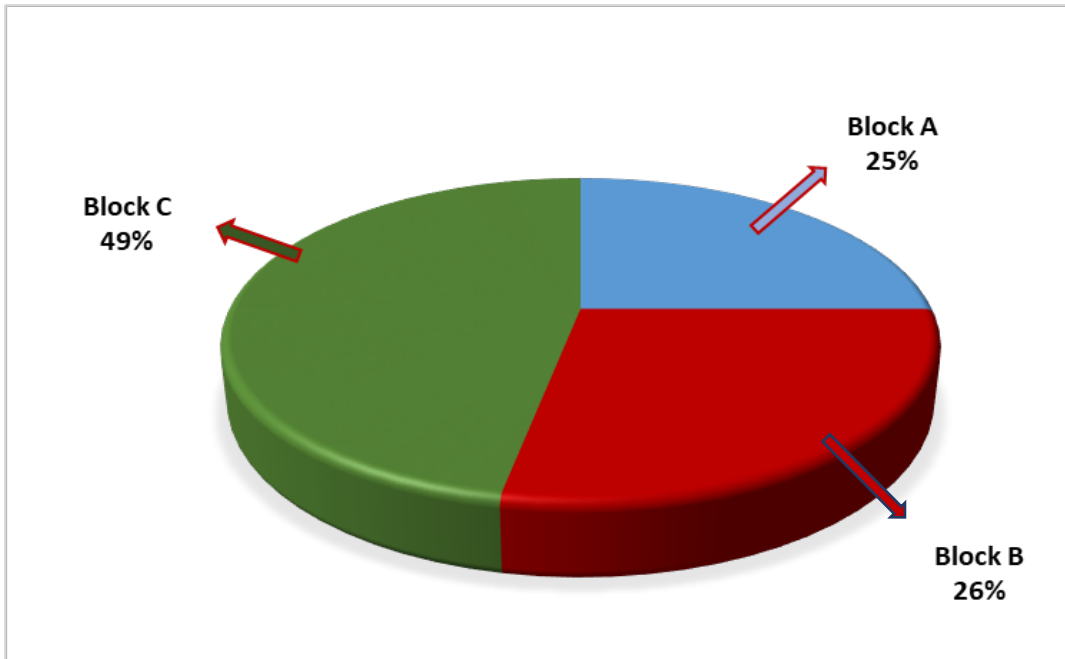
NOA material is organized into major content areas called **BLOCKS**. The blocks are further broken down into **TASKS** and **SUB-TASKS**.



NOA Pie Chart

The NOA Pie Chart presents the block percentages in the form of a pie chart, which tells you the approximate number of questions from each block. For example, 25% of the questions on the **Heavy Equipment Operator Exam** will be based on **Block A**.

HEAVY EQUIPMENT OPERATOR (Tractor-Loader-Backhoe)



TITLE OF BLOCKS	
Block A	Common Occupational Skills
Block B	Heavy Equipment Inspection and Basic Maintenance
Block C	Heavy Equipment Operator (Tractor-Loader-Backhoe)

Exam Breakdown

The **Heavy Equipment Operator (Tractor-Loader-Backhoe)** exam currently has 100 questions. The following table shows a breakdown of the number of questions that come from each NOA block. It is important to note that the exact number of questions can change at any time. When you are ready to write your exam, you may contact your regional office to verify the number of questions (See Appendix A).

		# of Questions
Block A	Common Occupational Skills	25
Task 1	Uses and maintains tools and equipment.	6
Task 2	Maintains safe work environment.	10
Task 3	Organizes work.	9
Block B	Heavy Equipment (Tractor-Loader-Backhoe) Inspection and Basic Maintenance	26
Task 4	Performs scheduled maintenance.	14
Task 5	Performs inspections.	12
Block C	Heavy Equipment Operator (Tractor-Loader-Backhoe) Tasks	49
Task 6	Performs basic heavy equipment operator (tractor-loader- backhoe) functions.	18
Task 7	Transports equipment	8
Task 8	Operates tractor-loader-backhoes	23
TOTAL		100

NOA Sub-tasks

The following *NOA Task Profile Checklist* outlines the blocks, tasks and sub-tasks for your trade. The Red Seal exam is written to test your knowledge and abilities regarding the sub-tasks in the NOA. This chart can be used to review your current knowledge. You can review by placing a check mark (✓) next to those, you understand fully.

Place your focus on those you do not understand and study them until you are comfortable with the material. Think of possible questions in that particular content area.

The NOA also contains a list of “supporting knowledge and abilities” for each sub-task. They are the skills and knowledge you must have to perform a sub-task. The supporting knowledge and abilities identified under each sub-task will be very helpful as you review. The list can be found in the NOA for your trade.

Task Profile Checklist
Based on 2014 NOA
Heavy Equipment Operator (Tractor-Loader-Backhoe)

Block A: Common Occupational Skills

Task 1: Uses and maintains tools and equipment

Sub-Tasks

- Maintains hand and power tools
- Maintains measuring and testing equipment
- Uses grade checking and tracking instruments
- Uses rigging and lifting equipment
- Uses personal protective equipment (PPE) and safety equipment

Task 2: Maintains safe work environment

Sub-Tasks

- Assesses potential hazards
- Plans worksite safety strategies
- Secures unattended equipment
- Communicates with others
- Performs spill control procedures
- Performs sediment control procedures
- Handles material

Task 3: Organizes work

Sub-Tasks

- Checks grade
- Uses documentation
- Interprets survey indicators and data
- Determines method of approach

Block B: Heavy Equipment (Tractor-Loader-Backhoe) Inspection and Basic Maintenance

Task 4: Performs scheduled maintenance

- Sub-Tasks*
- Maintains heavy equipment operator (tractor-loader-backhoe) station
 - Maintains drive train systems, tires and rims
 - Performs preventative maintenance
 - Performs basic maintenance on attachments

Task 5: Performs inspections

- Sub-Tasks*
- Performs pre-operational inspections
 - Performs post operational inspections
 - Completes daily equipment logbook

Block C: Heavy Equipment Operator (Tractor-Loader-Backhoe) Tasks

Task 6: Performs basic heavy equipment operator (tractor-loader-backhoe) functions

- Sub-Tasks*
- Maintains control of equipment
 - Positions equipment for task
 - Monitors performance of equipment
 - Troubleshoots equipment problems
 - Installs attachments
 - Performs emergency procedures
 - Compacts material using attachments
 - Performs cut and fill operations
 - Clears snow and ice

Task 7: Transports equipment

- Sub-Tasks*
- Prepares equipment for transportation
 - Loads equipment and attachments for transportation
 - Assists in securing equipment for transportation
 - Unloads equipment and attachments
 - Drives equipment on roads

Task 8: Operates tractor-loader-backhoes

- Sub-Tasks*
- Places material
 - Excavates trenches and ditches
 - Backfills trenches and excavations
 - Loads trucks
 - Lifts material
 - Stockpiles material
 - Performs clean-up operations

Create a Study Plan

As you prepare for your exam, it is important to plan a schedule. The following two tables will help you stay on track.

The first table is a **“Weekly Study Plan.”** In this table, list the areas you will focus your study for each day. You should include items you need to review as well as items you need to study. Remember, more time will be needed for study in areas you find difficult, whereas you may only require review in areas you are more familiar with. As you work through the NOA sub-task list, you can start to fill in this table.

The second table is a **“Study Time Table.”** It is important to create a study schedule where you determine the best days of the week and times of day for you to study.

Print several copies of these tables and fill out for each week of study. It is important to stick to your study schedule.

Weekly Study Plan for Week of: _____

	Area of Study 1	Area of Study 2	Area of Study 3	Area of Study 4	Area of Study 5	Area of Study 6
Mon.						
Tues.						
Wed.						
Thu.						
Fri.						
Sat.						
Sun.						

Study Time Table for Week of: _____

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
8:00 AM - 9:00 AM							
9:00 AM - 10:00 AM							
10:00 AM - 11:00 AM							
11:00 AM - 12:00 Noon							
12:00 Noon - 1:00 PM							
1:00 PM - 2:00 PM							
2:00 PM - 3:00 PM							
3:00 PM - 4:00 PM							
4:00 PM - 5:00 PM							
5:00 PM - 6:00 PM							
6:00 PM - 7:00 PM							
7:00 PM - 8:00 PM							

Resources - Websites

Study information can be drawn from a variety of sources. A sample list of study materials is provided below. These and other helpful resources may be found in a local college bookstore, on the internet, or at your place of employment. You may also be able to borrow them from an apprentice or journey person in your trade.

Study Strategies and Exam Preparation Guide

The *Study Strategies & Exam Preparation Guide* is meant to be used in conjunction with this study guide. It provides direction and information on such areas as study habits, test preparation and test taking techniques.

<https://www.gov.nl.ca/atcd/exams/study-guides/>

Plan of Training (POT)

A *Provincial Plan of Training* details the full scope of learning for a particular occupation, including both technical training competencies and industry experiences necessary to write a Red Seal exam (and complete the requirements for Red Seal Certification). The Plan of Training is based on the NOA.

<https://www.gov.nl.ca/atcd/designated-trades/pots-aacs/plans-of-training-pot/>

Red Seal Website

National Occupational Analysis - The NOA is a document used for Red Seal trades that describes the knowledge and abilities required by a fully competent tradesperson working in that trade. The content for the Red Seal exam is based on the NOA.

<https://www.red-seal.ca/>

Heavy Equipment Operator (Tractor-Loader-Backhoe) PRACTICE Exam

This is **NOT** a Red Seal exam. This is a practice exam provided by the Red Seal Standards program. It was developed using similar question types to that of a Red Seal exam. The exam is intended to be used for self-assessment in preparation for writing a Red Seal exam.

<https://www.red-seal.ca/s.1mpl.2.2x.1mQ.5.2st.3.4ns-eng.html?tid=105>

Red Seal Exam Self-Assessment Guide

Use this self-assessment tool to rate your own understanding and experience with the tasks of the trade that are on the Red Seal examination:

<https://www.red-seal.ca/eng/resources/selfexamspace.shtml?tid=105>

Tools and Equipment

The Red Seal website lists Tools and Equipment, which will be helpful in preparing for your Red Seal exam:

https://www.red-seal.ca/eng/trades/heavyequipop_tlb/2015n.4.1_.1pp.1_t.4.4ls.shtml/

Glossary

The Red Seal website has a Glossary list, which will be helpful in preparing for your Red Seal exam:

https://www.red-seal.ca/trades/heavyequipop_tlb/2015n.4.1_.1ppb_gl.4ss.1ry-eng.html

Acronyms

The Red Seal website includes an Acronyms list, which will be helpful in preparing for your Red Seal exam:

https://www.red-seal.ca/trades/heavyequipop_tlb/2015n.4.1_.1ppc_.1cr.4nym-eng.html

Disclaimer

Various external resources (websites, textbooks) have been listed in this study guide to assist an individual in preparing to write a Red Seal Exam. This does not mean the Department of Education and Early Childhood Development, Newfoundland and Labrador endorses the material or that these are recommended as the best resources. There may be other resources of equal or greater value to an individual preparing for a Red Seal exam. The Department of Education and Early Childhood Development has no control over the content of external textbooks and websites listed, and no responsibility is assumed for the accuracy of the material.

Conclusion

We hope this guide has provided you with some useful tools as you prepare for your Red Seal exam. If you have any questions regarding your Red Seal exam, please contact your regional office, (*see Appendix A for a list of regional offices*).

We appreciate your comments and feedback regarding the usefulness of this study guide. If you have any comments or suggestions, we welcome your feedback. The feedback form at the end of this guide can be used for this purpose.

Appendix A: Regional Offices

If you have any questions regarding your Red Seal exam, please contact one of the following regional offices:

Department of Education and Early Childhood Development
Apprenticeship and Trades Certification Division
Toll Free: 1-877-771-3737

<https://www.gov.nl.ca/atcd/contact-us/staff-listing-and-office-locations/>

Corner Brook

1-3 Union Street
Aylward Building, 2nd Floor
Corner Brook, NL A2H 5M7

Telephone: (709) 637-2366
Facsimile: (709) 637-2519

Grand Falls-Windsor

42 Hardy Avenue
Grand Falls-Windsor, NL
A2A 2J9

Telephone: (709) 292-4215
Facsimile: (709) 292-4502

Clarenville

45 Tilley's Road
Clarenville, NL
A5A 1Z4

Telephone: (709) 466-3982
Facsimile: (709) 466-3987

St. John's

P.O. Box 8700
1170 Topsail Road
Mount Pearl, NL A1B 4J6

Telephone: (709) 729-2729
Facsimile: (709) 729-5878

Happy Valley-Goose Bay

163 Hamilton River Road
Bursey Building
Happy Valley-Goose Bay, NL
A0P 1E0

Telephone: (709) 896-6348
Facsimile: (709) 896-3733

Wabush

1D Grenfell Drive
P.O. Box 160
Wabush, NL
A0R 1B0

Telephone: (879) 382-1920
Facsimile: (709) 282-3007

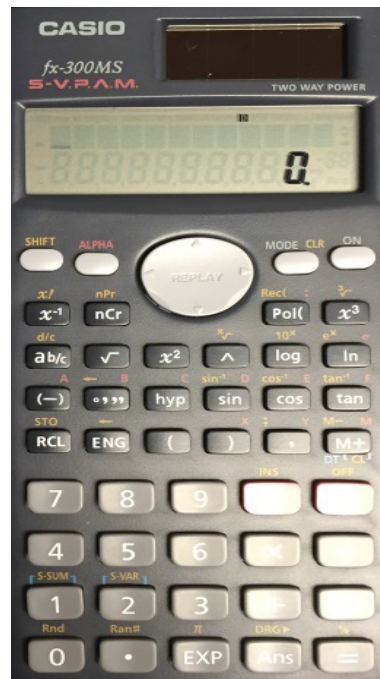
Appendix B: Calculator Use

The picture below shows a calculator with the same functions as the one you will be provided with during your exam. It is advisable to borrow or purchase one with similar functions so that you can familiarize yourself with it before you write your exam.

Casio FX-260



Casio FX-300 MS



Appendix C: Answer Sheet Example

With your exam, you will be given an answer sheet similar to the one below. When answering multiple choice questions be sure to fill the circle completely and fill the circle that corresponds to the question on the exam.

Dual readhead scanner required to score this sheet

KEY ID
A B C D

SCORING & PRINTING OPTIONS:
 RESCORE MULTIPLE ANSWER SCORING
 This sheet always uses the "Total Only" scoring option.

FEED IN THIS DIRECTION ↑

1	A B C D E	26	A B C D E	51	A B C D E	76	A B C D E
2	A B C D E	27	A B C D E	52	A B C D E	77	A B C D E
3	A B C D E	28	A B C D E	53	A B C D E	78	A B C D E
4	A B C D E	29	A B C D E	54	A B C D E	79	A B C D E
5	A B C D E	30	A B C D E	55	A B C D E	80	A B C D E
6	A B C D E	31	A B C D E	56	A B C D E	81	A B C D E
7	A B C D E	32	A B C D E	57	A B C D E	82	A B C D E
8	A B C D E	33	A B C D E	58	A B C D E	83	A B C D E
9	A B C D E	34	A B C D E	59	A B C D E	84	A B C D E
10	A B C D E	35	A B C D E	60	A B C D E	85	A B C D E
11	A B C D E	36	A B C D E	61	A B C D E	86	A B C D E
12	A B C D E	37	A B C D E	62	A B C D E	87	A B C D E
13	A B C D E	38	A B C D E	63	A B C D E	88	A B C D E
14	A B C D E	39	A B C D E	64	A B C D E	89	A B C D E
15	A B C D E	40	A B C D E	65	A B C D E	90	A B C D E
16	A B C D E	41	A B C D E	66	A B C D E	91	A B C D E
17	A B C D E	42	A B C D E	67	A B C D E	92	A B C D E
18	A B C D E	43	A B C D E	68	A B C D E	93	A B C D E
19	A B C D E	44	A B C D E	69	A B C D E	94	A B C D E
20	A B C D E	45	A B C D E	70	A B C D E	95	A B C D E
21	A B C D E	46	A B C D E	71	A B C D E	96	A B C D E
22	A B C D E	47	A B C D E	72	A B C D E	97	A B C D E
23	A B C D E	48	A B C D E	73	A B C D E	98	A B C D E
24	A B C D E	49	A B C D E	74	A B C D E	99	A B C D E
25	A B C D E	50	A B C D E	75	A B C D E	100	A B C D E

ANSWER KEY INFO.
OF KEYS
ITEM COUNT

0	1	0	2
1	1	1	3
2	2	2	4
3	3	3	5
4	4	4	6
5	5	5	7
6	6	6	8
7	7	7	9
8	8	8	9

PERFORMANCE ASSESSMENT
% OF TOTAL SCORE
POINTS EARNED

00 = 100%			
E	O	V	A
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Bar Code

NUMBER CORRECT	
PERCENT CORRECT	
ROSTER NUMBER	
SCORE	
RESCORE	

COMBINED POINTS EARNED	
COMBINED PERCENT CORRECT	
LETTER GRADE	
SCORE	
RESCORE	

200 ITEM

MARKING INSTRUCTIONS
Use a No. 2 Pencil
Fill oval completely
Erase cleanly

STUDENT ID NUMBER

0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

FEED IN THIS DIRECTION ↑

NAME _____

SUBJECT _____

PERIOD _____ DATE _____

Feedback Form
Study Guide – Heavy Equipment Operator (Tractor-Loader-Backhoe)

Please answer the following:

- (1) This Study Guide is a useful tool for exam preparation.
 strongly agree agree disagree strongly disagree

- (2) The topics contained in the guide are arranged in a logical order.
 strongly agree agree disagree strongly disagree

- (3) The design and format of the guide caught my attention.
 strongly agree agree disagree strongly disagree

- (4) The instructions throughout the guide are clear and to the point.
 strongly agree agree disagree strongly disagree

- (5) The resources listed in this guide are suitable and valuable.
 strongly agree agree disagree strongly disagree

- (6) The guide should contain more information.
 strongly agree agree disagree strongly disagree

Suggested information/resources to include:

Additional Comments:

Please complete this form and return via fax or mail to the following:

Department of Education and Early Childhood Development
Apprenticeship and Trades Certification Division
Standards and Curriculum Unit
45 Tilley's Road, Clarenville, NL A5A 1Z4
Fax: (709) 466-3987

Department of Education and Early Childhood Development
Apprenticeship and Trades Certification Division

