

Graphing Essentials

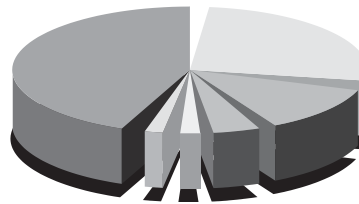
Activity Summary

- In this activity, students will:
- ♦ Read information from various graphs on the Workplace and **Essential Skills**
 - ♦ Select three Technical Sectors of interest and match a list of Authentic Workplace skills to the **Essential Skills** (in pairs)
 - ♦ Create a variety of graphs based on the data provided and collected on **Essential Skills**
 - ♦ Identify trends in the data collected



Prior Knowledge

- **Essential Skills**
- Use of tally charts
- Calculating percents
- Determining ratios
- Reading information from a variety of graphs
- Interpreting numbers written in various forms (i.e. translating 24.2 thousand into 24,200)
- Methods for constructing circle graphs, bar graphs, pictographs, line graphs



Teaching Planning Notes

- Review assignment including prior knowledge required and assessment tools
- Provide students with an **Essential Skills** list including subcategories from Teacher Resource Section at the end of this binder
- Provide envelopes at the front of the room, one for each technical sector with multiple copies of Profile Packages
- Copy job descriptions on a separate sheet than the Match Maker activity so that the sheets may be reused in the future
- Provide students with a 100 point circle for drawing a circle graph (see MAT 2L Course Profile – Unit 3 pg. 22)
- Provide rulers and graph paper for creating bar graphs, pictographs and line graphs
- Provide chart paper or poster board for displaying all three graphs.
- Remind students that their graphs must be large enough so that they may be easily read by the class
- Working Out is an optional activity in which students draw a line graph

Assessment of Student Achievement

Task	Tool / Type
Reading Information from Graphs	Graphing Essentials Checklist and Assessment Tool (Formative)
Matching Tasks with Essential Skills	Graphing Essentials Checklist and Assessment Tool (Formative)
Creating Graphs	Graphing Essentials Checklist and Assessment Tool (Formative or Summative)

FOCUS ON LEARNING

Essential Skills:

Reading Text

Reading Graphs
Match Maker Activity

Document Use

Reading Graphs
Match Maker Technical
Sector Profiles
Creating Graphs

Numeracy

Reading Graphs
Constructing Graphs

Oral Communication

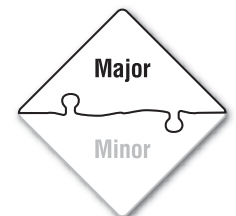
Match Maker Activity
Class Discussion

Thinking Skills

Constructing Graphs
Getting It Together -
Class Discussion

Working with Others

Match Maker Activity



Activity and Assessment Materials

- Graphing Essential Assignment
- Read All About It Worksheet
- Match Maker packages for each technical sector (Skills List, Job Descriptions and Answer Key)
- Graph It All Worksheet
- 100 point circle template (see MAT 2L Course Profile – Unit 3 pg. 22)
- Working Out Worksheet (optional)
- Checklist and Assessment Tool

Curriculum Linkages For Ontario Educators

Essential Skills truly are everywhere and as teachers we are always teaching students the **Essential Skills!** As subject teachers and specialists, we know that many of the curriculum expectations we are accountable to teach and assess, also address the **Essential Skills** and while the linkages are not always readily apparent, the linkages exist nonetheless.

While this activity connects to a variety of courses, it is most closely aligned to the following courses:

- Locally Developed Compulsory Credit Course, Mathematics, Grade 10 – MAT 2L

To assist you, the teacher, in making more transparent linkages, we have identified the following curriculum linkages for this activity.

Locally Developed Compulsory Credit Course, Mathematics, Grade 10 – MAT 2L

Coded Overall Expectations	Coded Specific Expectations
EPRV.02 – communicate information drawn from a variety of sources;	EPR2.01 – read, interpret, and explain, orally and in writing, data displayed in tables and graphs;
	EPR2.02 – construct a variety of graphs (straight line, bar, circle), with and without the use of technology, to assist in identifying patterns in data or drawing conclusions from data;

Graphing Essentials

The use of **Essential Skills** is very important in the workplace. Several employers in various Technical Sectors have been interviewed and have identified the skills required for success in entry-level positions. We will investigate these skills and create graphs to illustrate our findings.

Task 1: Read All About It

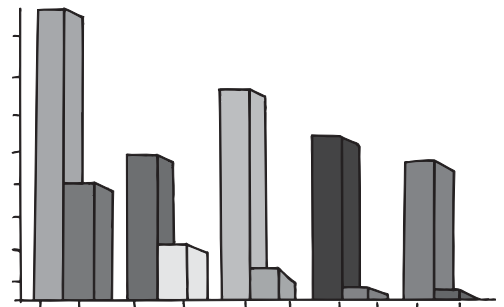
Read the various types of graphs included in this section to find out some information about Careers and the **Essential Skills** used in the Workplace.

Task 2: Match Maker

With a partner, select a Match Maker package for three different Technical Sectors. Each package contains a list of workplace tasks that employers have identified as necessary for success in entry-level positions. Match each specific workplace task with one of the nine **Essential Skills**. After you have completed each Match, submit your sheet to the teacher for checking before moving on to the next task.

Task 3: Graph It All!

Complete the “Graph It All” sheets. Complete a Tally Chart for each Technical Sector and answer all questions. Use the data from the tally charts to create three graphs: a circle graph, a bar graph and a pictograph. Display your graphs on a poster or chart paper.



Task 3b: Working Out (optional)

Look at the Labour Force characteristics data from Statistics Canada, showing information from 2000 to 2004. Create a line graph using one aspect of that data.

Task 4: Getting it Together

Looking at all the graphs put together by the class, what observations can you make? Be ready to discuss your observations in class.

Graphing Essentials

Read All About It Worksheet

By reading information from the following graphs we will determine some information about the workplace in Ontario.

Bar Graphs

Example 1: *Essential Skills* Used in the Workplace



Source: Fast Forward: Your Future is Waiting

Which **Essential Skill** group do employers identify most often? _____

Is this skill most important? (circle one) Agree or Disagree

Why? _____

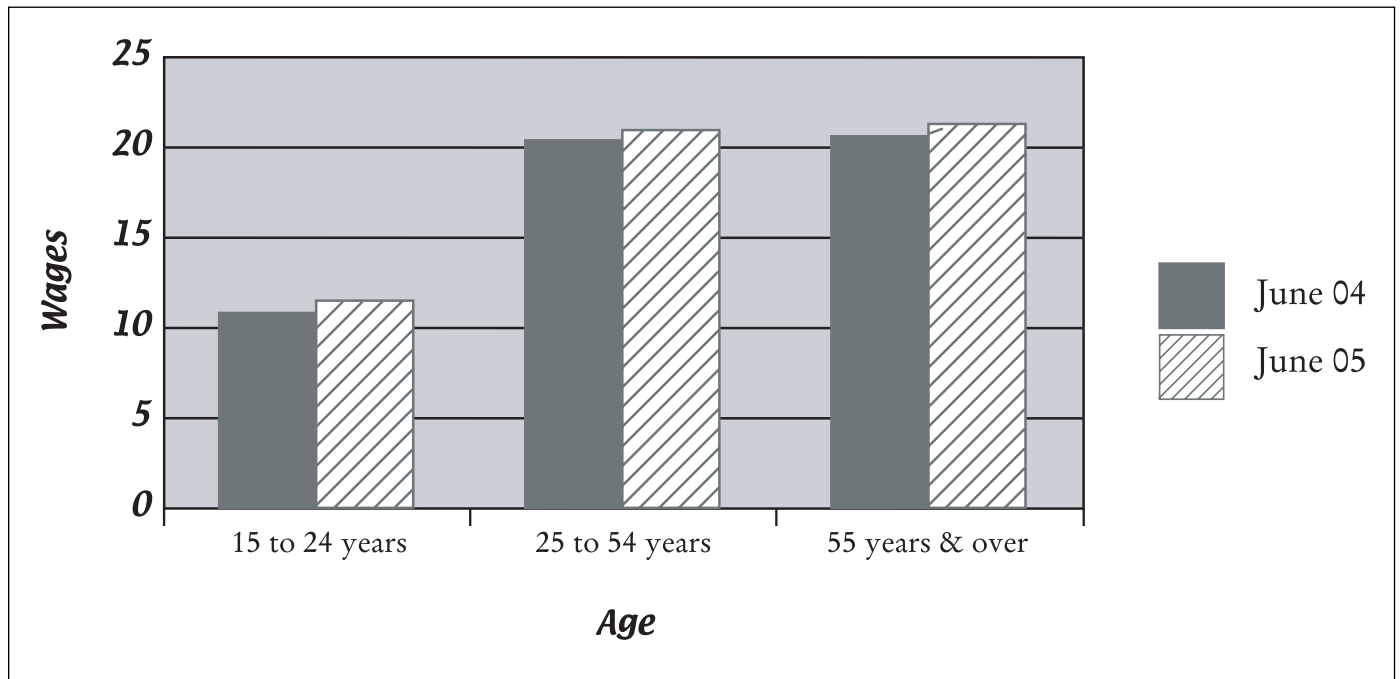
In each bar on the graph above, place the number of tasks performed in that skill category.

The total number of tasks identified is: _____

What percentage of the tasks is in the Numeracy category? (show work)

Graphing Essentials

Example 2: Average Hourly Wages



Source: Statistics Canada

Bar graphs are used to make comparisons.

What is being compared in this bar graph? _____

What does the solid bar represent? _____

What does the striped bar represent? _____

Which age groups' wages increased the most from 2004 to 2005? _____

What is the hourly wage for each age group in June 2005?

15 – 24 years _____ 25 – 54 years _____ 55 years and over _____

How accurate are your answers? Explain. _____


Graphing Essentials






































































Pictographs


Labour Force Profiles, 2001

CITY	WORKFORCE POPULATION	MANUFACTURING EMPLOYEES	RETAIL TRADE EMPLOYEES	HEALTH CARE EMPLOYEES
Brantford	44 540	12 220	4615	4240
Cambridge	60 685	19 330	6420	4345
Guelph	60 585	15 460	5945	5290
Hamilton	248 225	49 005	28 465	27 425
Kitchener	106 875	28 155	11 880	7950
London	179 510	25 375	21 190	22 325
Waterloo	49 790	9415	5190	3635

Source: Ontario Economic Development Community Profiles, 2001

Pictographs are also used to make comparisons, but pictures are used instead of bars. First you must decide the value of each picture. For this data we will use:  to represent a certain number of people

CITY	WORKFORCE POPULATION
Brantford	   
Cambridge	     
Guelph	     
Hamilton	                   
Kitchener	         
London	                 
Waterloo	    

For the pictograph above:  = _____ people

Graphing Essentials

Find the ratio of the:

Cambridge workforce to the London workforce. _____

Cambridge workforce to the Brantford workforce. _____

Hamilton workforce to the Waterloo workforce. _____

Is a pictograph accurate? Explain. _____

To create a pictograph for Health Care Employees we would round the number of employees to an appropriate value. For this pictograph, we would use:

$\frac{1}{2}$ = _____ people

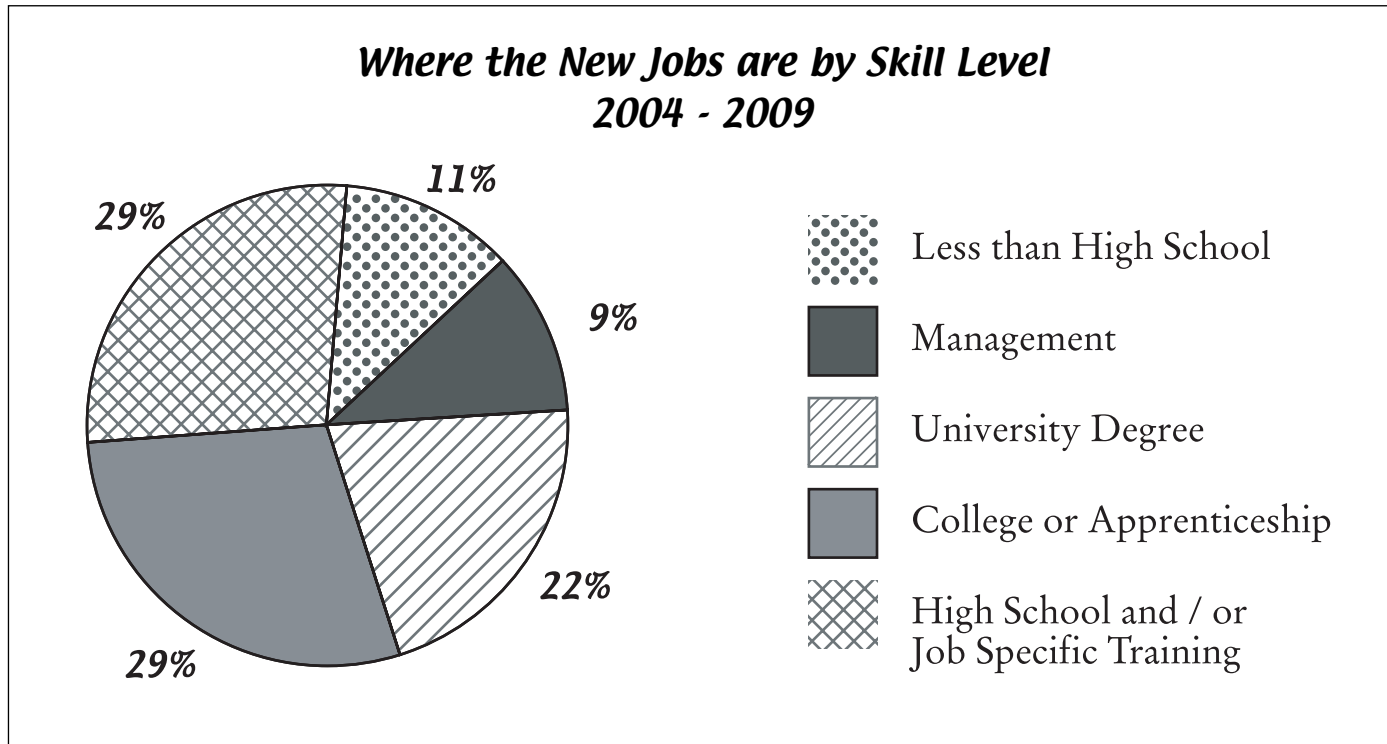
Complete the following chart:

CITY	HEALTH CARE EMPLOYEES	ROUNDED VALUE	NUMBER OF $\frac{1}{2}$
Brantford	4240		
Cambridge	4345		
Guelph	5290		
Hamilton	27 425		
Kitchener	7950		
London	22 325		
Waterloo	3635		

Graphing Essentials

Circle Graphs

Example 1: Future Job Prospects



Source: HRDC, Ontario Division

Two skill levels share the same percentage of new jobs.

They are: _____ and _____

If 25,000 new jobs are created in Ontario in the next 5 years, how many of those jobs will need each skill level? (Show work for each.)

Less than High School: _____

Management: _____

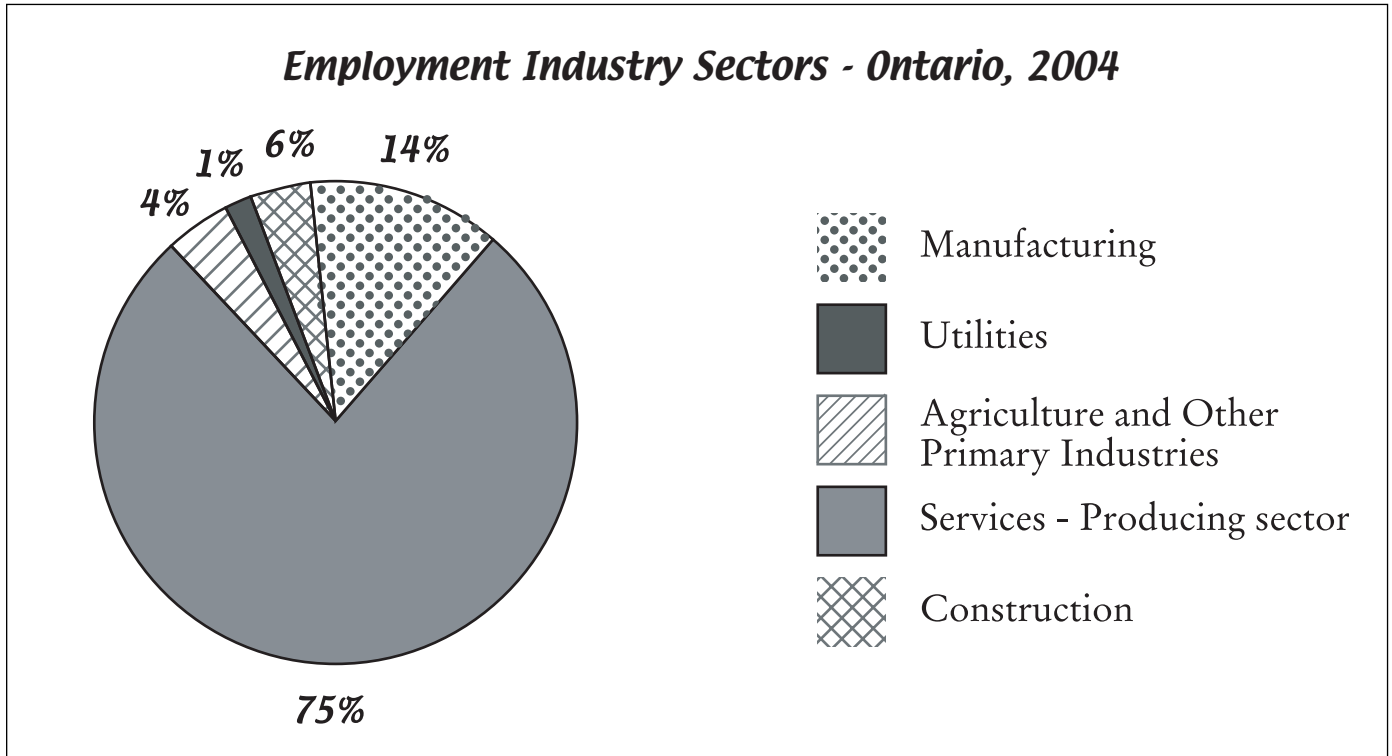
University Degree: _____

College or Apprenticeship: _____

High School and/or Job Specific Training: _____

Graphing Essentials

Example 2: Employment Sectors



Source: Statistics Canada, 2005

Agriculture, Utilities, Construction and Manufacturing make up what is called the **Goods-Producing Sector**.

What percentage of jobs in 2004 were in the Goods-Producing Sector? _____

What is the ratio of Services-Producing jobs to Goods-Producing jobs? _____

If 6,000,000 people were employed in Ontario in 2004, how many people would be employed in the Construction Industry? (show your work)

Graphing Essentials Match Maker

General Instructions

With your partner, select three Match Maker packages from the eight (8) technical sectors available (Business Support Services, Construction Technology, Horticulture and Landscaping, Hospitality, Personal Care Services, Retail, Tourism, and Transportation). You have chosen:

1. _____
2. _____
3. _____

For each of the three (3) technical sectors you have chosen, there is a list of 20 to 30 tasks that have been identified as being performed on the job. For each workplace task, identify its matching **Essential Skill** category and place the correct numeric code in your chart by using the table below.

Essential Skills:

- 1 - Reading Text
- 2 - Document Use
- 3 - Writing
- 4 - Numeracy
- 5 - Oral Communication
- 6 - Thinking Skills
- 7 - Working with Others
- 8 - Computer Use
- 9 - Continuous Learning

Example: In the Business Support Services Sector:

WORKPLACE SKILL	Essential Skill
Skim incoming mail to see who should deal with it	1
Complete a variety of forms, such as supply order forms, bill payments, invoices and fax forms	2

After you have completed your first Match Maker sheet, submit it to your teacher to be checked.

Graphing Essentials Match Maker

Technical Sector: Business Support Services

Entry Level Jobs: General Office Clerk, Customer Service Information and Related Clerks, Mail and Postal Clerks, Shippers and Receivers, Cleaners

WORKPLACE TASK	Essential Skill
Write letters and reports from rough drafts given by the managers	
Weigh single boxes then calculate the weight of a skid	
Type reports, memos and letters	
Talk to clients in person or on the phone to provide them with information and answer questions	
Skim incoming mail to see who should deal with it	
Share information with co-workers to complete tasks	
Write reminder notes to themselves or write notes to co-workers to obtain information	
Send e-mail messages to supervisors and co-workers	
Scan supplier catalogues when preparing purchase orders	
Read labels on supply shelves or incoming mail and produce labels for outgoing mail	
Read catalogues to find descriptions of items and ordering information	
Page employees over an intercom system	
Look up phone numbers and addresses in phone books and office directories	
Interact with couriers to clarify pick up and delivery times	
Estimate the correct volume of cleaning product to be added to a certain volume of water	
Record shipments on a receiving log	
Write brief loading and delivery instructions to truck drivers	
Estimate how much inventory is available to fill an order	
Handle complaints from dissatisfied customers	
Complete tasks within a given amount of time	
Complete labels for shipments	
Complete a variety of forms, such as supply order forms, bill payments, invoices and fax forms	
Communicate with co-workers to coordinate schedules and tasks	
Read order forms to obtain information such as the contents, customer, destination, billing instructions, etc.	
Accept payment from customers and check that the amount is correct and give change if required and issue receipts	

Graphing Essentials

Match Maker

Technical Sector: Business Support Services

- Job Descriptions

Entry Level Jobs: General Office Clerk, Customer Service Information and Related Clerks, Mail and Postal Clerks, Shippers and Receivers, Cleaners

General Office Clerk

General office clerks type and file correspondence, reports, statements and other material, operate office equipment, answer telephones and perform clerical duties of a general nature according to established procedures. They are employed in offices throughout the public and private sectors.

Customer Service Information and Related Clerks

This unit group includes clerks who answer enquiries and provide information regarding an establishment's goods, services and policies and who provide customer services such as receiving payments and processing requests for services. They are employed by retail establishments, insurance, telephone and utility companies and by other establishments throughout the private and public sectors.

Mail, Postal and Related Clerks

This unit group includes clerks who process and sort mail and parcels in post offices, mail processing plants and internal mail rooms, and clerks who serve customers and record transactions at sales counters and postal wickets. Mail, postal and related clerks are employed by Canada Post Corporation, courier and parcel express services and establishments throughout the public and private sectors.

Shippers and Receivers

Shippers and receivers ship, receive and record the movement of parts, supplies, materials, equipment and stock to and from an establishment. They are employed by retail and wholesale establishments, manufacturing companies, and other commercial and industrial establishments.

Cleaners

Light duty cleaners clean the lobbies, hallways, offices and rooms of hotels, hospitals, schools, office buildings and private residences. They are employed by hotels, motels, hospitals, school boards, office building management companies and cleaning service companies.

Specialized cleaners clean and refurbish building exteriors, carpets, chimneys, industrial equipment, railway cars, ventilation systems, windows and other surfaces, using specialized equipment and techniques. They are employed by specialized cleaning services companies or may be self-employed.

Janitors, caretakers and building superintendents clean and maintain the interior and exterior of commercial, institutional and residential buildings and their surrounding grounds. They are employed by office and apartment building management companies, school boards, hospitals, recreational facilities, shopping malls and other establishments.

Graphing Essentials Match Maker

Technical Sector: Business Support Services (Answer Key)

Entry Level Jobs: General Office Clerk, Customer Service Information and Related Clerks, Mail and Postal Clerks, Shippers and Receivers, Cleaners

WORKPLACE TASK	Essential Skill
Write letters and reports from rough drafts given by the managers	3
Weigh single boxes then calculate the weight of a skid	4
Type reports, memos and letters	8
Talk to clients in person or on the phone to provide them with information and answer questions	5
Skim incoming mail to see who should deal with it	1
Share information with co-workers to complete tasks	7
Write reminder notes to themselves or write notes to co-workers to obtain information	3
Send e-mail messages to supervisors and co-workers	8
Scan supplier catalogues when preparing purchase orders	2
Read labels on supply shelves or incoming mail and produce labels for outgoing mail	2
Read catalogues to find descriptions of items and ordering information	1
Page employees over an intercom system	5
Look up phone numbers and addresses in phone books and office directories	2
Interact with couriers to clarify pick up and delivery times	5
Estimate the correct volume of cleaning product to be added to a certain volume of water	4
Record shipments on a receiving log	2
Write brief loading and delivery instructions to truck drivers	3
Estimate how much inventory is available to fill an order	4
Handle complaints from dissatisfied customers	5 and 6
Complete tasks within a given amount of time	6
Complete labels for shipments	3 and 8
Complete a variety of forms, such as supply order forms, bill payments, invoices and fax forms	2
Communicate with co-workers to coordinate schedules and tasks	5
Read order forms to obtain information such as the contents, customer, destination, billing instructions, etc.	2
Accept payment from customers and check that the amount is correct and give change if required and issue receipts	4

Graphing Essentials Match Maker

Technical Sector: Construction Technology

Entry Level Jobs: Carpenter, Sawmill Operator, Heavy Equipment Operator, Bricklayer, Construction Trade Helpers and Labourers

WORKPLACE TASK	Essential Skill
Calculate how many boards of various lengths should be cut to fill an order	
Clear jammed wood from saws or conveyers while avoiding injury	
Complete time cards	
Consult with other workers to share knowledge and experience	
Count construction material at start and end of day to record how much was used	
Give and receive signals for the all-clear to start or stop equipment	
Keep a vehicle maintenance log, noting repairs made and when the machine was serviced	
Measure length, height and angles to lay flooring, to erect walls and to install drywall	
Read announcements on a bulletin board	
Measure the dimensions of finished boards to check that they are to specifications	
Participate in group discussions at a work site concerning how to do a particular job	
Maintain a job diary to record info and relevant details of their day's work	
Read equipment manuals to learn about maintenance procedures	
Take direction from more experienced workers	
Read inspection forms for equipment and machinery	
Convert between metric and imperial measurement	
Read safety and hazard signs on construction sites	
Read sheets that identify hazards on site	
Receive job assignments and direction from supervisors, contractors or union dispatchers	
Record information about particular jobs in log books	
Refer to blueprints and specifications to obtain detailed project information	
Relay information to supervisors or co-workers in person or using a walkie-talkie	

Graphing Essentials

Match Maker

Technical Sector: Construction Technology

- Job Descriptions

Entry Level Jobs: Carpenter, Sawmill Operator, Heavy Equipment Operator, Bricklayer, Construction Trade Helpers and Labourers

Carpenter

Carpenters construct, erect, install, maintain and repair structures and components of structures made of wood, wood-substitutes and other materials. They are employed by construction companies, carpentry contractors, maintenance departments of factories, plants and other establishments, or they may be self-employed.

Sawmill Operator

Sawmill machine operators operate, monitor and control automated lumber mill equipment to saw timber logs into rough lumber; saw, trim and plane rough lumber into dressed lumber of various sizes; and saw or split shingles and shakes. They are employed in sawmills and planning mills.

Heavy Equipment Operator

Heavy equipment operators operate heavy equipment used in the construction and maintenance of roads, bridges, airports, gas and oil pipelines, tunnels, buildings and other structures; in surface mining and quarrying activities; and in material handling work. They are employed by construction companies, heavy equipment contractors, public works departments and pipeline, logging, cargo-handling and other companies. Heavy equipment operator apprentices are included in this unit group.

Bricklayer

Bricklayers lay brick, concrete block, stone and other similar materials to construct or repair walls, arches, chimneys, fireplaces and other structures in accordance with blueprints and specifications. They are employed by construction companies and bricklaying contractors or they may be self-employed.

Construction Trade Helpers and Labourers

Construction trades helpers and labourers assist skilled trades persons and perform labouring activities at construction sites. They are employed by construction companies and trade and labour contractors.



Graphing Essentials Match Maker

Technical Sector: Construction Technology (Answer Key)

Entry Level Jobs: Carpenter, Sawmill Operator, Heavy Equipment Operator, Bricklayer, Construction Trade Helpers and Labourers

WORKPLACE TASK	Essential Skill
Calculate how many boards of various lengths should be cut to fill an order	4
Clear jammed wood from saws or conveyers while avoiding injury	6
Complete time cards	2
Consult with other workers to share knowledge and experience	7 or 9
Count construction material at start and end of day to record how much was used	4
Give and receive signals for the all-clear to start or stop equipment	5
Keep a vehicle maintenance log, noting repairs made and when the machine was serviced	2 and 3
Measure length, height and angles to lay flooring, to erect walls and to install drywall	4
Read announcements on a bulletin board	1
Measure the dimensions of finished boards to check that they are to specifications	4
Participate in group discussions at a work site concerning how to do a particular job	5
Maintain a job diary to record info and relevant details of their day's work	3
Read equipment manuals to learn about maintenance procedures	1
Take direction from more experienced workers	5
Read inspection forms for equipment and machinery	2
Convert between metric and imperial measurement	4
Read safety and hazard signs on construction sites	2
Read sheets that identify hazards on site	1
Receive job assignments and direction from supervisors, contractors or union dispatchers	5
Record information about particular jobs in log books	3
Refer to blueprints and specifications to obtain detailed project information	2
Relay information to supervisors or co-workers in person or using a walkie-talkie	5

Graphing Essentials Match Maker

Technical Sector: Horticulture and Landscaping

Entry Level Jobs: Nursery and Greenhouse Workers, Landscape and Grounds Maintenance Labourers

WORKPLACE TASK	Essential Skill
Read work schedules	
Write plant identification tags	
Calculate the amount of concentrate needed to prepare a plant food solution	
Read tags on nursery stock	
Communicate with other greenhouse staff to co-ordinate work schedules and tasks	
Read Material Safety Data Sheets (MSDS)	
Deal with plants that are withering or dying, try to find the reason and take corrective action	
Estimate the amount of fertilizer required for lawns of various dimensions	
Read labels on fungicides and pesticides	
Write billing information on invoices	
Interpret landscape design drawings	
Read labels on chemical containers to check their uses and hazards	
Measure required amounts of plant food, soil mixtures and fertilizers	
Prioritize tasks to meet the goals of the greenhouse manager	
Read gardening and horticulture magazines to learn about plant life cycles and diseases	
Talk to customers to help them to select their purchases	
Read herbicide charts and product application-rate tables	
Read instructions for the use of weed killers and fertilizers	
Write notes to office to indicate items which are out of stock	
Receive instructions from supervisors and clarify tasks with them	
Refer to price lists of the products for sale in the greenhouse	
Total bills, take payment and make change for purchases	
Read nursery catalogues to become familiar with varieties of flowers	
Write claim forms giving details of damage when requesting a refund from the supplier	

Graphing Essentials Match Maker

Technical Sector: Horticulture and Landscaping - Job Descriptions

Entry Level Jobs: Nursery and Greenhouse Workers, Landscape and Grounds Maintenance Labourers

Nursery and Greenhouse Workers

Nursery and greenhouse workers plant, cultivate and harvest trees, shrubs, flowers and plants, and serve nursery and greenhouse customers. They are employed in indoor and outdoor nurseries and greenhouses.



Landscape and Grounds Maintenance Labourers

Landscaping and grounds maintenance labourers perform manual work to assist in the construction of a landscape and related structures and to maintain lawns, gardens, athletic fields, golf courses, cemeteries, parks, landscaped interiors and other landscaped areas. They are employed by landscaping and lawn care companies, golf courses, cemeteries, and by landscaping departments of governments and private establishments.

Graphing Essentials Match Maker

Technical Sector: Horticulture and Landscaping

(Answer Key)

Entry Level Jobs: Nursery and Greenhouse Workers, Landscape and Grounds Maintenance Labourers

WORKPLACE TASK	Essential Skill
Read work schedules	2
Write plant identification tags	3
Calculate the amount of concentrate needed to prepare a plant food solution	4
Read tags on nursery stock	2
Communicate with other greenhouse staff to co-ordinate work schedules and tasks	5
Read Material Safety Data Sheets (MSDS)	1 and 2
Deal with plants that are withering or dying, try to find the reason and take corrective action	6
Estimate the amount of fertilizer required for lawns of various dimensions	4
Read labels on fungicides and pesticides	1 and 2
Write billing information on invoices	3
Interpret landscape design drawings	2
Read labels on chemical containers to check their uses and hazards	2
Measure required amounts of plant food, soil mixtures and fertilizers	4
Prioritize tasks to meet the goals of the greenhouse manager	6
Read gardening and horticulture magazines to learn about plant life cycles and diseases	1 or 9
Talk to customers to help them to select their purchases	5
Read herbicide charts and product application-rate tables	2
Read instructions for the use of weed killers and fertilizers	1
Write notes to office to indicate items which are out of stock	3
Receive instructions from supervisors and clarify tasks with them	5
Refer to price lists of the products for sale in the greenhouse	2
Total bills, take payment and make change for purchases	4
Read nursery catalogues to become familiar with varieties of flowers	1 or 9
Write claim forms giving details of damage when requesting a refund from the supplier	3

Graphing Essentials Match Maker

Technical Sector: Hospitality

Entry Level Jobs: Cooks, Food and Beverage Servers, Food Counter Attendants, Kitchen Helpers

WORKPLACE TASK	<i>Essential Skill</i>
Write suggestions for future menus	
Read product labels to identify ingredients that may be excluded from restricted diets	
Estimate the amounts of food in different sized containers	
Decide where to seat customers, based on availability of tables and how busy the restaurant is	
Read cooking texts and/or trade magazine articles	
Write customer orders	
Convert between metric and imperial measurements	
Use item listing forms for ordering specific products	
Total bills, take payment and make change for purchases	
Talk to dishwashers and stewards about cleanup and availability of cutlery	
Select which cleaner to use for particular cleaning tasks	
Respond to customer inquiries about particular menu items	
Convert recipes by multiplying or dividing all ingredients	
Read recipes and use them to prepare food	
Read menus and price lists	
Write notes to managers when food and beverage stocks are in short supply	
Prepare bills for catering functions, including taxes	
Measure ingredients according to menu specifications and the number of people being served then weigh food to ensure proper portion size	
Interact with servers to clarify orders or to explain how to serve specialty dishes	
Read rules for keeping cooking and stewarding areas clean	
Discuss menus, schedules and customer complaints or requests with their supervisor	
Determine how to satisfy a customer complaint	
Count out floats at the beginning of shifts	
Read customer orders and prepare accordingly	
Estimate the time it will take for a meal to be prepared	
Communicate with supervisors and co-workers to organize and coordinate their work and receive instructions	

Graphing Essentials

Match Maker

Technical Sector: Hospitality

- Job Descriptions

Entry Level Jobs: Cooks, Food and Beverage Servers, Kitchen Helpers and Line Cooks

Cooks

Cooks prepare and cook a wide variety of foods. They are employed in restaurants, hotels, hospitals and other health care institutions, central food commissaries, educational institutions and other establishments. Cooks are also employed aboard trains, ships and at construction and logging camps.

Food and Beverage Servers

Food and beverage servers take patrons' food and beverage orders and serve orders to patrons. They are employed in restaurants, hotels, bars, taverns, private clubs, banquet halls and similar establishments.

Kitchen Helpers and Line Cooks

Workers in this unit group, clear tables, clean kitchen areas, wash dishes, and perform various other activities to assist workers who prepare or serve food and beverages. They are employed in restaurants, hotels, fast food outlets, cafeterias, hospitals and other establishments.



Graphing Essentials Match Maker

Technical Sector: Hospitality (Answer Key)

Entry Level Jobs: Cooks, Food and Beverage Servers, Food Counter Attendants, Kitchen Helpers

WORKPLACE TASK	Essential Skill
Write suggestions for future menus	3
Read product labels to identify ingredients that may be excluded from restricted diets	2
Estimate the amounts of food in different sized containers	4
Decide where to seat customers, based on availability of tables and how busy the restaurant is	6
Read cooking texts and/or trade magazine articles	1
Write customer orders	3
Convert between metric and imperial measurements	4
Use item listing forms for ordering specific products	2
Total bills, take payment and make change for purchases	4
Talk to dishwashers and stewards about cleanup and availability of cutlery	5
Select which cleaner to use for particular cleaning tasks	6
Respond to customer inquiries about particular menu items	5
Convert recipes by multiplying or dividing all ingredients	4
Read recipes and use them to prepare food	1
Read menus and price lists	2
Write notes to managers when food and beverage stocks are in short supply	3
Prepare bills for catering functions, including taxes	2 and 4
Measure ingredients according to menu specifications and the number of people being served then weigh food to ensure proper portion size	4
Interact with servers to clarify orders or to explain how to serve specialty dishes	5
Read rules for keeping cooking and stewarding areas clean	1
Discuss menus, schedules and customer complaints or requests with their supervisor	5
Determine how to satisfy a customer complaint	6
Count out floats at the beginning of shifts	4
Read customer orders and prepare accordingly	2
Estimate the time it will take for a meal to be prepared	4
Communicate with supervisors and co-workers to organize and coordinate their work and receive instructions	5

Graphing Essentials Match Maker

Technical Sector: Personal Care Services

Entry Level Jobs: Hairstylists and Barbers, Estheticians, Electrologists, Image, Social and Other Personal Consultants, Salon Assistant, Spa Attendant, Make-up Artist

WORKPLACE TASK	Essential Skill
Rearrange schedules to accommodate last minute appointments and maximize sales	
Read clients' files to determine which product or service is most appropriate for a particular client	
Write phone messages and pass them on to other staff	
Use appointment books to schedule clients and prepare for incoming clients	
Complete client record forms with information such as treatments, products used, particular problems and allergies	
Interact with co-workers to arrange work schedules, exchange information about clients and discuss procedures and new ideas	
Schedule appointments to the best advantages for client and salon/spa	
Resolve problems when service does not have the desired effect	
Read memos regarding new systems, employees policies and procedures	
Price new products when they arrive	
Make recommendations regarding hairstyles, skincare and make-up	
Keep notes on each client, updating client files after each appointment	
Take phone messages for co-workers	
Read magazines, books, newsletters, and internet sources to find new information they can use and to keep up-to-date with new products, suppliers and trade shows	
Greet clients, discuss their needs, recommend products or services	
Estimate the time needed for particular tasks and how long a client will have to wait for services	
Complete various forms, such as invoices, receipts, daily cash balance forms, customer order forms, order forms for supplies, inventory sheets	
Record appointment dates, names, phone numbers and required services	
Book appointments, give price quotes and persuade customers to purchase services	
Read colour wheels to help determine which shades to use for make-up and hair colour	
Accept payment by cash, cheque or credit card and make change	

Graphing Essentials

Match Maker

Technical Sector: Personal Care Services

- Job Descriptions

Entry Level Jobs: Hairstylists and Barbers, Aestheticians, Electrologists, Image, Social and Other Personal Consultants, Salon Assistant, Spa Attendant, Make-up Artist

Hairstylists and Barbers

Hairstylists and barbers cut and style hair and perform related services. They are employed in hairstyling or hairdressing salons, barber shops, vocational schools, health care establishments and theatre, film and television establishments.

Estheticians, Electrologists and Related Occupations

Workers in this unit group provide facial and body treatments designed to enhance an individual's physical appearance. They are employed in beauty salons, electrolysis studios, scalp treatment clinics and other similar establishments or they may be self-employed.

Image, Social and Other Personal Consultants

Image, social and other personal consultants advise clients on their personal appearance, speaking style, manners or other behaviours in order to improve personal or business images. They are employed by beauty salons, fashion boutiques, modelling schools, image consulting companies or may be self-employed.

Salon Assistant

Salon Assistants tend to the needs of the client, assist the stylist and attend to the functions and maintenance of the salon. The role of Salon Assistant may be filled by an apprentice hairstylist, or by an employee who has no wish to pursue a cosmetology trade.

Spa Attendant

Spa Attendants tend to the needs of the client.

Make-up Artist

Make-up artists specialize in the application of make-up to enhance or alter the client's appearance. They may use cosmetics, powders, paints, gels, plastic, rubber, and other synthetic products to create different faces depending on the desired effect. Make-up artists may mix cosmetics to obtain desired consistencies or shades. While aestheticians and cosmeticians may be make-up artists, it is not necessary to practice a wide range of cosmetology services in order to specialize in an area such as make-up artistry.

Graphing Essentials Match Maker

Technical Sector: Personal Care Services (Answer Key)

Entry Level Jobs: Hairstylists and Barbers, Estheticians, Electrologists, Image, Social and Other Personal Consultants, Salon Assistant, Spa Attendant, Make-up Artist

WORKPLACE TASK	Essential Skill
Rearrange schedules to accommodate last minute appointments and maximize sales	6
Read clients' files to determine which product or service is most appropriate for a particular client	1
Write phone messages and pass them on to other staff	3
Use appointment books to schedule clients and prepare for incoming clients	2
Complete client record forms with information such as treatments, products used, particular problems and allergies	2
Interact with co-workers to arrange work schedules, exchange information about clients and discuss procedures and new ideas	5 or 7
Schedule appointments to the best advantages for client and salon/spa	4
Resolve problems when service does not have the desired effect	6
Read memos regarding new systems, employees policies and procedures	1
Price new products when they arrive	4
Make recommendations regarding hairstyles, skincare and make-up	6
Keep notes on each client, updating client files after each appointment	3
Take phone messages for co-workers	5 and 3
Read magazines, books, newsletters, and internet sources to find new information they can use and to keep up-to-date with new products, suppliers and trade shows	1 and 9
Greet clients, discuss their needs, recommend products or services	5
Estimate the time needed for particular tasks and how long a client will have to wait for services	4
Complete various forms, such as invoices, receipts, daily cash balance forms, customer order forms, order forms for supplies, inventory sheets	2
Record appointment dates, names, phone numbers and required services	3
Book appointments, give price quotes and persuade customers to purchase services	5
Read colour wheels to help determine which shades to use for make-up and hair colour	2
Accept payment by cash, cheque or credit card and make change	4

Graphing Essentials Match Maker

Technical Sector: Retail

Entry Level Jobs: Cashier, Customer Service Clerk, Retail Sales Associate, Sales and Other Related Occupations

WORKPLACE TASK	<i>Essential Skill</i>
Read labels, forms and manuals	
Take phone messages and page co-workers on an intercom system	
Calculate discount prices and taxes	
Read company catalogues to find descriptions of items and ordering information	
Complete various forms for refunds, repairs, orders and “rain-checks”	
Decide whether to give priority attention to the customer or the phone	
Greet customers in person, respond to questions	
Read price tags, bills, cash register displays or account statements to determine the amount due	
Estimate how many boxes of a product are needed to fill available shelf space	
Fill in cash balance sheets	
Read notes or memos with information about price changes, new products or procedures, administrative matters and upcoming sales promotions	
Receive cash, make change and credit payments	
Discuss products with visiting suppliers, passing along info to supervisors	
Write phone messages and record price quote information taken by phone	
Use a database for customer information	
Listen to customers describe their needs and respond to customer inquiries	
Measure various quantities for customers (e.g. meat, engine oil, propane tanks, fabric, etc.)	
Provide customers with information, explanation, or directions about services, products and warranties	
Read brand labels and compare them to promotional flyers or coupons to determine if the product is on sale	
Interact with supervisor, receiving instructions, or information	
Read product information pamphlets and promotional material to describe the company’s products to customers	
Request and provide information on prices, codes or procedures	
Use computerized cash registers and scanners	
Write notes to supervisors, indicating special requests form customers which involve special orders	

Graphing Essentials Match Maker

Technical Sector: Retail: Job Descriptions

Entry Level Jobs: Cashier, Customer Service Clerk, Retail Sales Associate, Sales and Other Related Occupations

Cashier

Cashiers record and receive payment from customers in stores, restaurants, theatres, business offices and other retail and wholesale establishments for the purchase of goods, services and admission.

Customer Service, Information and Related Clerks

This unit group includes clerks who answer enquiries and provide information regarding an establishment's goods, services and policies and who provide customer services such as receiving payments and processing requests for services. They are employed by retail establishments, insurance, telephone and utility companies and by other establishments throughout the private and public sectors.

Retail Sales Associate

Retail salespersons and sales clerks sell or rent a range of goods and services in stores and other retail businesses and in wholesale businesses that sell on a retail basis to the general public.

Sales and Other Related Occupations

This unit group includes workers who sell goods or services during home demonstrations or by telephone soliciting, retail exhibitions or street vending. They are employed by a wide range of retail and wholesale establishments.

Graphing Essentials Match Maker

Technical Sector: Retail (Answer Key)

Entry Level Jobs: Cashier, Customer Service Clerk, Retail Sales Associate, Sales and Other Related Occupations

WORKPLACE TASK	Essential Skill
Read labels, forms and manuals	2
Take phone messages and page co-workers on an intercom system	5
Calculate discount prices and taxes	4
Read company catalogues to find descriptions of items and ordering information	1
Complete various forms for refunds, repairs, orders and “rain-checks”	2
Decide whether to give priority attention to the customer or the phone	6
Greet customers in person, respond to questions	5
Read price tags, bills, cash register displays or account statements to determine the amount due	2
Estimate how many boxes of a product are needed to fill available shelf space	4
Fill in cash balance sheets	2
Read notes or memos with information about price changes, new products or procedures, administrative matters and upcoming sales promotions	1
Receive cash, make change and credit payments	4
Discuss products with visiting suppliers, passing along info to supervisors	5
Write phone messages and record price quote information taken by phone	3
Use a database for customer information	8
Listen to customers describe their needs and respond to customer inquiries	5
Measure various quantities for customers (e.g. meat, engine oil, propane tanks, fabric, etc.)	4
Provide customers with information, explanation, or directions about services, products and warranties	5
Read brand labels and compare them to promotional flyers or coupons to determine if the product is on sale	2
Interact with supervisor, receiving instructions, or information	5
Read product information pamphlets and promotional material to describe the company’s products to customers	1
Request and provide information on prices, codes or procedures	5
Use computerized cash registers and scanners	8
Write notes to supervisors, indicating special requests from customers which involve special orders	3

Graphing Essentials Match Maker

Technical Sector: Tourism

Entry Level Jobs: Amusement Attraction Operators, Casino Operations, Hotel Front Desk Clerk, Air Transport Ramp Attendant, Guest Services Attendant, Cashiers (box office, theatre, etc.)

WORKPLACE TASK	<i>Essential Skill</i>
Answer phones	
Complete inspection sheets	
Calculate currency exchange rates	
Read memos, bulletins and faxes	
Receive payment and provide change	
Use maps	
Interact with co-workers and supervisors	
Estimate travel time	
Read account statements	
Use databases	
Convert between imperial and metric measurements	
Troubleshoot mechanical problems	
Refer to phone books	
Estimate weights	
Read schedules	
Use communication software	
Read manuals and brochures	
Balance change float	
Calculate winnings and count money	
Maintain log books	
Greet guests and customers	
Compare rider heights to minimum height requirements	
Prepare deposit sheets	
Read and match luggage tags	
Calculate riders and balance with tickets sold	

Graphing Essentials Match Maker

Technical Sector: Tourism - Job Descriptions

Entry Level Jobs: Amusement Attraction Operators, Hotel Front Desk Clerk, Air Transport Ramp Attendant, Guest Services Attendant, Cashiers (box office, theatre, etc.),

Amusement Attraction Operators and other Amusement Occupations

This unit group includes amusement occupations such as operators of amusement rides, games and other attractions, and workers in gambling casinos. They are employed by amusement parks, fairs, exhibitions, carnivals and gambling casinos, or they may be self-employed. Supervisors of gambling casino workers are included in this unit group.

Hotel Front Desk Clerk

Hotel front desk clerks make room reservations, provide information and services to guests and receive payment for services. They are employed by hotels, motels and resorts.

Air Transport Ramp Attendant

Air transport ramp attendants operate ramp-servicing vehicles and equipment, handle cargo and passenger baggage and perform other ground support duties at airports. They are employed by airline and air services companies and the federal government.



Guest Services Attendant

This unit group includes workers who carry hotel guests' luggage and escort guests to their rooms, carry travellers' luggage at railway stations and aboard ships, and clean and maintain public areas and passengers' rooms aboard ships and trains. They are employed by hotels, railway companies and water transport companies.

Cashiers (box office, theatre, etc.)

Cashiers record and receive payment from customers in stores, restaurants, theatres, business offices and other retail and wholesale establishments for the purchase of goods, services and admission.

Graphing Essentials

Match Maker

Technical Sector: Tourism (Answer Key)

Entry Level Jobs: Amusement Attraction Operators, Casino Operations, Hotel Front Desk Clerk, Air Transport Ramp Attendant, Guest Services Attendant, Cashiers (box office, theatre, etc.)

WORKPLACE TASK	Essential Skill
Answer phones	5
Complete inspection sheets	2 and 3
Calculate currency exchange rates	4
Read memos, bulletins and faxes	1
Receive payment and provide change	4
Use maps	2
Interact with co-workers and supervisors	5
Estimate travel time	4
Read account statements	2
Use databases	8
Convert between imperial and metric measurements	4
Troubleshoot mechanical problems	6
Refer to phone books	2
Estimate weights	4
Read schedules	2
Use communication software	8
Read manuals and brochures	1
Balance change float	4
Calculate winnings and count money	4
Maintain log books	3
Greet guests and customers	5
Compare rider heights to minimum height requirements	4
Prepare deposit sheets	4
Read and match luggage tags	2
Calculate riders and balance with tickets sold	4

Graphing Essentials Match Maker

Technical Sector: Transportation

Entry Level Jobs: Automotive Mechanical Installers and Services, Delivery and Courier Service Drivers, Parts Clerk, Automotive Service Technician, Truck Mechanics and Mechanical Repairers

WORKPLACE TASK	Essential Skill
Calculate mark-ups on stock	
Look at a work schedule or wall chart to see what work orders are assigned	
Use word processing to type work orders and memos	
Compare costs to determine the best supplier	
Read service bulletins and technical update sheets from manufacturers	
Complete a variety of forms	
Obtain help from co-workers or supervisor when required	
Read a variety of trade magazines	
Estimate percentage of wear of certain auto parts	
Calculate the charge for delivery	
Make notes on inspection forms to note problems, such as missing hub caps, scratches, etc.	
Use bookkeeping, billing and accounting software to produce invoices in the computer	
Enter information on work orders to record what tasks are completed	
Track and adjust the amount of time that has been scheduled to complete various tasks	
Read instructions on work order and fill in info such as part number or short notes about completed work	
Refer to parts catalogues to find number of the replacement part	
Schedule deliveries, planning the sequence and timing of stops to complete the route by a certain time	
Read memos from service managers concerning vehicles that require work or supplies which are on order	
Select proper tool for the appropriate assignment	
Total work orders, parts and labour including taxes	
Fill in parts log and mileage log	
Email messages to suppliers	
Write notes to record details of telephone conversations	
Write up or complete purchase order forms	
Measure various items (wiring, metal, auto brake rotors, voltage, lumber, etc.)	

Graphing Essentials Match Maker

Technical Sector: Transportation - Job Descriptions

Entry Level Jobs: Automotive Mechanical Installers and Services, Delivery and Courier Service Drivers, Parts Clerk, Automotive Service Technician, Truck Mechanics and Mechanical Repairers, Recreational Vehicle Service Technicians

Automotive Mechanical Installers and Services

Workers in this group install replacement automotive parts such as mufflers, exhaust pipes, shock absorbers, springs and radiators and perform routine maintenance service such as oil changes, lubrication and tire repairs on automobiles, trucks and heavy equipment. They are employed by automobile and truck service and repair shops, service departments of industrial establishments and construction, mining and logging companies.



Delivery and Courier Service Drivers

Delivery drivers drive automobiles, vans and light trucks to pick up and deliver various products. They are employed by dairies, drug stores, newspapers, take-out food stores, dry cleaners, mobile caterers and many other establishments.

Parts Clerk

Storekeepers and parts clerks sort, store and issue parts and supplies for use by the establishment in which they work and for sale to the public. They are employed by manufacturing companies, retail and wholesale establishments, mining, forestry and construction companies, repair shops, hospitals and other establishments and the armed forces.

Automotive Service Technician, Truck Mechanics and Mechanical Repairers

Automotive Service Technicians, Truck and transport mechanics inspect, diagnose, repair and service mechanical, structural, electrical and electronic systems and components of commercial transport trucks. They are employed by repair shops, large fleet maintenance companies, transportation and other companies which own and operate trucks.

Recreational Vehicle Service Technicians

Recreational vehicle service technicians repair or replace electrical wiring, plumbing, propane gas lines, appliances, windows, doors, cabinets and structural frames in recreational vehicles. They are employed by dealers and independent service shops.

Graphing Essentials Match Maker

Technical Sector: Transportation (Answer Key)

Entry Level Jobs: Automotive Mechanical Installers and Services, Delivery and Courier Service Drivers, Parts Clerk, Automotive Service Technician, Truck Mechanics and Mechanical Repairers

WORKPLACE TASK	Essential Skill
Calculate mark-ups on stock	4
Look at a work schedule or wall chart to see what work orders are assigned	2
Use word processing to type work orders and memos	8
Compare costs to determine the best supplier	4
Read service bulletins and technical update sheets from manufacturers	1
Complete a variety of forms	3
Obtain help from co-workers or supervisor when required	7
Read a variety of trade magazines	1
Estimate percentage of wear of certain auto parts	4
Calculate the charge for delivery	4
Make notes on inspection forms to note problems, such as missing hub caps, scratches, etc.	3
Use bookkeeping, billing and accounting software to produce invoices in the computer	8
Enter information on work orders to record what tasks are completed	3
Track and adjust the amount of time that has been scheduled to complete various tasks	4
Read instructions on work order and fill in info such as part number or short notes about completed work	2
Refer to parts catalogues to find number of the replacement part	2
Schedule deliveries, planning the sequence and timing of stops to complete the route by a certain time	4
Read memos from service managers concerning vehicles that require work or supplies which are on order	1
Select proper tool for the appropriate assignment	6
Total work orders, parts and labour including taxes	4
Fill in parts log and mileage log	2 and 3
Email messages to suppliers	8
Write notes to record details of telephone conversations	3
Write up or complete purchase order forms	2
Measure various items (wiring, metal, auto brake rotors, voltage, lumber, etc.)	4

Graphing Essentials

Graph It All!

Complete the following sheet then create a graph for each of your Match Maker packages.

Technical Sector 1: _____

<i>Essential Skill</i>	TALLY	FREQUENCY	PERCENT
1 - Reading Text			
2 - Document Use			
3 - Writing			
4 - Numeracy			
5 - Oral Communication			
6 - Thinking Skills			
7 - Working with Others			
8 - Computer Use			
9 - Continuous Learning			

Answer the following questions:

Which **Essential Skill** appears most frequently? _____

Why? _____

Select one of the Entry Level Occupation descriptions in your package.

You selected: _____

Is the **Essential Skill** that you identified above the most important for this occupation?

Agree or Disagree (circle one)

Explain: _____

Select a graph to display your data above: (circle your choice)

Circle Graph

Bar Graph

Pictograph

On a separate sheet, use the data from the tally chart above to create the graph you have chosen. Remember, each graph you create must be a different type. Display all three of your graphs on a poster or chart paper.

Graphing Essentials

Technical Sector 2: _____

<i>Essential Skill</i>	TALLY	FREQUENCY	PERCENT
1 - Reading Text			
2 - Document Use			
3 - Writing			
4 - Numeracy			
5 - Oral Communication			
6 - Thinking Skills			
7 - Working with Others			
8 - Computer Use			
9 - Continuous Learning			

Answer the following questions:

Which **Essential Skill** appears most frequently? _____

Why? _____

Select one of the Entry Level Occupation descriptions in your package.

You selected: _____

Is the **Essential Skill** that you identified above the most important for this occupation?

Agree or Disagree (circle one)

Explain: _____

Select a graph to display your data above: (circle your choice)

Circle Graph

Bar Graph

Pictograph

On a separate sheet, use the data from the tally chart above to create the graph you have chosen. Remember, each graph you create must be a different type. Display all three of your graphs on a poster or chart paper.

Graphing Essentials

Technical Sector 3: _____

<i>Essential Skill</i>	TALLY	FREQUENCY	PERCENT
1 - Reading Text			
2 - Document Use			
3 - Writing			
4 - Numeracy			
5 - Oral Communication			
6 - Thinking Skills			
7 - Working with Others			
8 - Computer Use			
9 - Continuous Learning			

Answer the following questions:

Which **Essential Skill** appears most frequently? _____

Why? _____

Select one of the Entry Level Occupation descriptions in your package.

You selected: _____

Is the **Essential Skill** that you identified above the most important for this occupation?

Agree or Disagree (circle one)

Explain: _____

Select a graph to display your data above: (circle your choice)

Circle Graph

Bar Graph

Pictograph

On a separate sheet, use the data from the tally chart above to create the graph you have chosen. Remember, each graph you create must be a different type. Display all three of your graphs on a poster or chart paper.

Graphing Essentials

Working Out

The chart below shows information about the make-up of Canada's Labour force.

Labour Force Characteristics

	2000	2001	2002	2003	2004
	THOUSANDS (i.e. x 1,000)				
Population 15 years and over	24,094.0	24,444.3	24,797.2	25,103.3	25,432.7
Labour force	15,842.1	16,110.8	16,580.1	16,954.0	17,183.4
Employed	14,758.6	14,946.7	15,307.9	15,665.1	15,949.7
Full time	12,088.0	12,241.2	12,437.0	12,701.1	13,000.2
Part time	2,670.6	2,705.5	2,870.9	2,963.9	2,949.5
Unemployed	1,083.5	1,164.1	1,272.2	1,288.9	1,233.7
Not in the labour force	8,251.9	8,333.5	8,217.1	8,149.3	8,249.3
Actual hours worked	508,604.1	504,840.6	512,836.4	515,783.0	530,382.6

Source: Statistics Canada

How many full time employees were there in 2002? _____
(remember, when writing the number to consider the data is in *thousands*)

Change the above number so that it is written in hundred thousands,

(i.e. x 100,000) : _____

In the chart below, select one aspect of the data and rewrite each number so that it is in hundred thousands (i.e. x 100,000).

Labour Force Characteristics

	2000	2001	2002	2003	2004
	HUNDRED THOUSANDS (i.e. x 100,000)				

Using graph paper, create a line graph of your data.

Graphing Essentials Checklist and Assessment Tool

Student Name _____

Read All About It

INTERPRETED INFORMATION FROM A:	COMPLETED <input checked="" type="checkbox"/>	ACCURACY LEVEL (ACHIEVEMENT LEVEL 1 = LOWEST, 5 = HIGHEST)				
		1	2	3	4	5
Bar graph	<input type="checkbox"/>	1	2	3	4	5
Pictograph	<input type="checkbox"/>	1	2	3	4	5
Circle graph	<input type="checkbox"/>	1	2	3	4	5
Line graph	<input type="checkbox"/>	1	2	3	4	5

Match Maker

Matched Workplace Skills to *Essential Skills* for 3 technical sectors

Graph It All

TASK	COMPLETED <input checked="" type="checkbox"/>	ACCURACY LEVEL (ACHIEVEMENT LEVEL 1 = LOWEST, 5 = HIGHEST)				
		1	2	3	4	5
Completed tally chart for each technical sector selected	<input type="checkbox"/>	1	2	3	4	5
Answered questions for each technical sector selected	<input type="checkbox"/>	1	2	3	4	5
Created circle graph	<input type="checkbox"/>	1	2	3	4	5
Created bar graph	<input type="checkbox"/>	1	2	3	4	5
Created pictograph	<input type="checkbox"/>	1	2	3	4	5
Created a line graph (optional)	<input type="checkbox"/>	1	2	3	4	5