

**EVALUATING
ACADEMIC READINESS
FOR APPRENTICESHIP TRAINING**
Revised for
ACCESS TO APPRENTICESHIP

**COMMUNICATIONS SKILLS
CLASSIFICATION**

**AN ACADEMIC SKILLS MANUAL
for
The Food Preparation Trades**

This trade group includes the following trades:
Baker & Cook, and
Retail Meat Cutter

*Workplace Support Services Branch
Ontario Ministry of Education and Training*

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In preparing these Academic Skills Manuals, we have used passages, diagrams and questions similar to those an apprentice might find in a text, guide or trade manual.

This trade related material is not intended to instruct you in your trade. It is used only to demonstrate how understanding an academic skill will help you find and use the information you need.

COMMUNICATIONS SKILLS CLASSIFICATION

*An academic skill required for the study of the
Food Preparation Trades*

INTRODUCTION

Classification of information is a system that groups items together based on shared qualities, features, or uses. How does classification apply to your trade? Types of foods, cuts of meats and fish, and recipes are sorted by their special features. Each collection is classified into a group according to characteristics they have in common.

Classification indicates an underlying similarity in grouped items. If you recognize features in a new product or tool that are similar to features you are familiar with, you will find it easier to figure out how it works and where to use it. By classifying information you learn to see common patterns in the different techniques you are learning. Being able to classify new information assists you in organizing things, finding material, and making good choices.

In this skill sheet, we look at the following aspects of classification:

- ◆ Classifying into Categories
- ◆ Using Categories to Get Organized
- ◆ Using Classification

PART I CLASSIFYING INTO CATEGORIES

Belonging to a group

The word “tool” is a grouping or category. It is a broad, general category; if someone asked you to hand them a tool, you could give them a pickaxe or a band saw. You couldn’t make a wrong choice because *any* tool fits this category.

Example:

If someone asked for a knife (a type or class of tool), you’d choose a knife. You would exclude all other tools; *knives* is a smaller, more specific category. If someone asked for a knife and there were dozens to choose from, you would ask, “Which one do you want?”

Which one?

When you ask *which one*, you are asking for more information. Because you need to select the right tool, you need a list of features, *or criteria that* describes that tool. The answer to your question will provide a list. It will be something like this: “I need the serrated knife with the

rosewood handle. The one with the shorter blade”. With these words to guide you, you can match the knife to the description and hand it over.

You can make the right choice. There is probably only one knife that matches the list (the given criteria), chipped handle and all.

Note: We use the terms “given criteria” and “list of features” to mean the same thing.

From general to one

To make the right choice, we moved in three steps:

1. from a very broad category which included all types of tools;
2. to a narrower category which included screwdrivers only; and
3. to a list of features which described one item: Phillips, number 3, insulated, chipped handle.

Note: We use the terms “given criteria” and “list of features” to mean the same thing.

Classification involves a process, moving from a broad category of information that gradually narrows to descriptions that apply only to one type or one item only.

Example: Classification may apply a lesson about *care of tools* in this way:

- **First**, you learn about proper care and maintenance of a category of tools such as *knives*.
- **Next**, you learn how to care for knives according to their different *types of material* such as stainless steel and ceramic.
- **Finally**, you look for information about caring for one type of knife such as a santoku hocho.

There is a good reason for these steps. Whether you are learning about using butchering techniques, diagnosing problems or caring for tools, you need to understand what to expect from a group of items so you can predict results. You need to understand what type of product is best suited to the job and what type is not appropriate. You need to know what is considered odd or unusual behavior in any group of products. This knowledge prepares you to react when something unexpected happens so you can look for the causes. It lets you work from broad patterns in a logical way.

The right information

To make the right choice, we need to work from information. When you ask questions about a job or a tool, the answers will describe the conditions.

Example: You are cutting vegetables. Before you select a knife or cutting technique, you need information. What is to be cut? How is the vegetable to be prepared? Is it for show or for a stew?

The answers to these questions outline the conditions. The answers will guide you in your choices for each step of the project. You can select the right information, tables, diagrams, safety guides and tools. You can choose the right the right knife and the right cutting technique to suit this situation. You can make appropriate choices by matching information to the finished product. You can see that the finished product sets the conditions for all the choices.

Sometimes you work from the other direction. This happens when we hear about a new type of equipment or a new product.

Example: You will learn about new equipment and machines designed for your trade and the techniques for operating them – like induction stove tops. You find the category (or group) of conditions or materials where this equipment will be most suitable and see if your conditions will be met by this new product. You look for information about how the product works, if it is suitable in a commercial kitchen, what it costs, and whether it requires any special or difficult adaptations to be made to the kitchen.

Example: We may start with a product that is unfamiliar, such as a type of cheese. To use the cheese we look for information about it by asking questions: Is it a hard cheese or a soft one? Is it cows' milk cheese, goat, or sheep? How does it react to high temperatures? Is it available here? The task is to match the characteristics of the product to the appropriate category (or group). Through this process, we make an appropriate choice.

Organizing information and equipment in this way is also a form of classification or categorizing.

When you read Passage 1 about the characteristics and uses of leaveners, you can understand why a baker would choose a leaven. You see that the characteristics of a leaven are what makes it useful for some purposes but not others. Note how classification using the category of characteristics is used to an understanding of this product. Look for information that moves from a general, broad category to smaller categories (or groups).

Passage 1 uses classification to lead you. It answers the kind of questions you need to ask: What are leaveners? What types are there? How is each type used?

Read the passage and answer the questions which follow. Answers are at the end of this skill sheet.

Passage 1

Leaveners

Leaveners introduce gas (carbon dioxide, CO₂) into a dough or batter that results in the desired texture. Leaveners fall into three types: chemical, organic and physical.

Chemical leaveners: The reaction of the gas (carbon dioxide) expansion is very rapid. Baking powder and baking soda are the primary chemical leaveners. There are three major kinds of baking powders: tartrate, phosphate and double acting.

Tartrate baking powders react most quickly giving off carbon dioxide as soon as combined with a liquid. Therefore, mix the batter quickly and place in a preheated oven. Preheating the oven ensures the air pockets become hardened by the heat quickly to reduce the amount of gas that escapes. Not suitable for doughs. To be refrigerated or frozen before baking.

Phosphate baking powders are slightly slower in reaction time than tartrate baking powder. The majority of the carbon dioxide is released in the cold dough. The remainder is released in the baking process.

Double-acting baking powders start releasing gas in the cold dough in the presence of moisture, but the greatest release and effect occurs when the dough contacts heat from the oven.

(We have not included information about organic or physical leaveners.)

Questions

1. Which of the chemical leaveners is the fastest acting?
2. Which baking powder releases most carbon dioxide in the presence of moisture?
3. Which leavener(s) would you choose if storing the dough in refrigerator or freezer before baking?
4. Preheating the oven is recommended for each type of leavener.

T F

The questions above ask you to look at a product based on its properties and classifications.

Your ability to choose the appropriate material depends on your being able to match the product to the need. It depends on your familiarity with different materials and their ability to do something.

Ask questions:

- Where is it to be used?
- Why would one characteristic be an advantage (or disadvantage)?
- What result should I expect?

The answers to this type of question will direct you towards the right information and the right materials. You will know if you have to choose a leaven for its quick reaction time or its ability to be frozen. You will know whether the right leaven for your job is going to be chemical or physical.

The specific requirements and instructions will direct you to the right techniques, materials, tools and welds to get the right result.

Sometimes you go through the process of finding information, only to discover you must compromise.

Sometimes we use this process and discover we must compromise: nothing is exactly right, or it is too costly, or unavailable; we choose the next best thing, but we need to understand our reasons for this choice.

Example:

A regular customer wants to reserve your restaurant for an anniversary party. When you meet to set the menu, you learn that you will need to make a gluten free cake. You know that you have several great recipes for flourless cakes, but the customer points out that gluten can often be found in baking powders and chocolate.

You need to make another choice, but you need to understand, before you choose, how the alternative baking powders and chocolate will react in your recipes. You need to be sure the product meets all the conditions, and the purpose.

Once you know the set of conditions, you can consult the right information or table for that category and for that specific project.

Classifying will give you a base of information to help you understand more about your topic – the purpose of the reading. Classification groups similar things together so, you understand something in general terms first. Then you are ready to learn about the qualities and functions of individual items.

We have looked at the right choice from two directions.

1. When you understand what something is designed to do, you know where it can be correctly used.
2. When you know the specific requirements of a job, you can find the class of material that is best.

Whichever way you look at it, making the right choice is essential to the quality of the completed project.

PART II

USING CATEGORIES TO GET ORGANIZED

We all use classification to separate people, things and information into groups and categories. Sorting by categories tells us:

1. where to find things – things that are alike are found together: socks are in the socks drawer, knives are in the knife block, and instructions are in your blue manual;
2. how to use things;
3. how to make good choices; and
4. how to set priorities.

When you classify things, you organize them in your mind and you get a sense of the big picture. You can start with a general idea – class or type – before dealing with each individual detail.

Example:

Your assignment is to prepare a fish. *Preparing a fish* is the new category or grouping; it's the given situation. You need to know a lot more about fish before you start selecting tools or cooking methods. The logical start is through *classification*. You find this article about fish.

Categories of Fish

There are a great number of species of fish. The basic grouping of types of fish can be done through three skeleton types:

Within these skeletal categories, there is a very wide variety of flavours and textures. Some fish preparations pair a specific fish to a special technique. However, a general guide for matching a fish to a cooking technique is to know its flesh type.

Fish may range from oily to fat to lean. Choosing to grill, broil, poach or sauté can best be decided by the type of flesh. Your own preferences will develop with skill and experience.

In order to follow the general instruction of *preparing a fish*, you will need to select a fish and a cooking technique. Start by asking questions and examining the answers:

Questions	Answers
What is available / in season?	perch,
What is the cost?	within price range,
What is the flesh type?	lean (delicate) flesh,
How much time is involved in preparation?	within time range.

If the questions you ask cover the given criteria, the answers will give you with a complete list of conditions and factors that will work for the task.

Now all you need to find is a suitable cooking technique for the perch. Once again, you go through the options to make a suitable choice.

Which one to choose?

If you have asked and answered all the questions related to the assignment, you will have you a complete list of conditions and factors. Your question and answer list will guide your task and the task of your supplier.

A decision may involve comparing two (or more) lists.

- One list may describe the situation you are facing.
- The other list may describe the features of a material.

The choice you make depends on your understanding of both the situation and that material. Each result you get depends on the kind of information you select to answer the “which one” question you encountered earlier in this unit.

If the process of gathering and organizing information seems like a long process, remember its purpose: to make the right choices and meet the standards of your trade.

Classification in Tables and Charts

Tables and charts also classify information. You might see tables used to classify information in the following areas:

- nutrition guidelines,
- common problems in equipment troubleshooting guides,
- health and safety procedures, and
- equivalents and substitutions for products and their measurements.

Note: Read all the information related to a table or chart. Important or essential explanations and details are often placed above or below the listed details.

The Language of Classification

The language of classification gives you valuable information. It indicates which category a material, design, or technique fits into. This will make some job decisions easier.

Classification is used to limit your choice to one type or category only. You may not know why you should only choose from a certain category or follow a particular procedure, but the directions tell you how to act.

Example: Never use this knife as a scraper or to pry anything.

Classification can point you to what you should avoid. Restrictions like these direct you to only choose materials or techniques that are allowed and to comply with all relevant codes. You classify materials and operations so you can match codes and standards to appropriate actions.

Example:

Caution!

Do not clean, oil, adjust or repair any machine while it is running. Stop the machine and lock the power switch in the “off” position.

Example:

When working with other workers, *only one* should operate the switches.

Classification can instruct you in how to proceed. To follow directions, you need to know which things are included in the general classification term (solvents, industry standards, safety codes) and which the details you need to classify. Then you can apply the instructions properly.

Examples:

Health regulations prohibit the use of some cleaners in the kitchen. Check provincial standards.

All work must comply with up to date industry standards and safety codes,

Classification can define a category of items, and what you must know about its use, safety, and handling etc.

Example:

Controlled products fall into six classes of hazards. Each class is identified by a symbol. For each

Classification identifies problems and causes. Once you have know where to look for the causes of a problem you can begin to classify specific details of the cause of a particular problem.

Examples:

Using incorrect lubricant fluids could result in machine failure.

PART III

USING CLASSIFICATION

Use classification to get the right result. What are the results of a wrong or poor choice?

Example: What results can you expect from your knives if you sharpen them only when you happen to think about it? What if you’ve stored the knives in a general tool drawer? To maintain the life and performance of any tool, you need information about the right type of maintenance, how often to maintain it, and how to store it.

Getting the wrong information

If you are not using the right information the result of your choice could be very different from the desired one. Knives may be well designed and manufactured, but choosing the wrong sharpening techniques could result in expensive and potentially dangerous problems.

Getting the right information

Understanding information often involves sorting out one set of details from another. When you read, pay attention to special instructions, manufacturer's directions or textbook directions that use classification to point out or tell you how to proceed.

Examine it all to ensure you meet the criteria.

Example:

Canada's Food Guide shows foods divided (classified) into four food groups: dairy, meat, vegetable/fruit and grains. The guide recommends the number of servings per day from each of these four food groups. Your task is to plan a menu to follow the recommendations.

1. Understand the conditions.
 - The menu must meet nutritional goals.
 - You want food that is nutritionally balanced.
 - You also need the food to be tasty, fresh, and attractive.
2. Understand the factors or group of factors to get you these results. So, you list the factors that relate to the list above. It will include, but not be limited to the following:
 - choice of foods,
 - storage practices,
 - cooking methods,
 - portions of servings, and
 - purchase times and *quantities*.
3. The list of factors above gives you more questions to answer:
 - Which foods?
 - Which storage method for foods?
 - What is the best method for retaining nutrition? The answers to these questions give you a detailed, specific list.
 -
4. Assemble information for a detailed, complete list of conditions and product factors. You can then relate this list to the next task: to find a nutritionally balanced diet.
 - What foods are recommended?
 - What are the consumers' preferences?
 - How do I balance these two?

As you begin the process of making choices – selecting foods, preparing and caring for them – you read the following:

Diets

Most diets contain approximately 42% of their calories in the form of fat. A preferred percentage is in the 25-30% range. Further, the fat intake should consist of a higher percentage of unsaturated rather than saturated fats. Dairy products that are a valuable source of calcium and protein are high in saturated fats and cholesterol (that also should be reduced). Selection of dairy products should be made with regard to reductions in saturated fats and cholesterol.

This seems to introduce a problem in your goal of finding nutritional balance. When you have read this and assessed the information, you continue your search for dairy products that provide calcium and protein (a dietary need), and yet are lower in saturated fats and cholesterol (to meet new diet standards).

You look for more information to help you decide and find this.

Dairy Products

To balance calcium and protein dietary needs with reduced calories and fat, select dairy products from low-fat, skim and partly skimmed milk. Some low-fat products are suitable as ingredients in cooking, baking, for desserts (see Table 1.1 for equivalents) and sauces. Others can be served on their own.

As you read to understand characteristics of products and equipment, you will learn how to avoid problems. When you have collected and assessed information, you can find the right fit. You can investigate the range of choices and select the best one.

At some point, you will put two (or several) lists of information together to make a choice. In some cases, you may also have to decide which feature on your list is the most or least important. Often, you will need one, two or more sources to complete your task.

What is the situation?

To make the right choices, assess the situation:

- ◆ look at a requirement or group of requirements;
- ◆ understand them;
- ◆ choose a product or process to suit the requirements.

Try it out

Use the previous example about diets and dairy products to:

- a) look at factors or a group of factors,
- b) understand them,
- c) choose a product to suit the conditions.

Reread Diets and Dairy Products. Answer the following questions. Answers are at the end of this unit.

1. You would choose a dairy product to meet the following requirements:
 - a) high calories, high calcium, high protein
 - b) higher unsaturated fat to saturated fat, high calcium
 - c) higher calcium to protein, high unsaturated fat

2. Which of the following is not recommended:
 - a) a balance of calcium, calories and protein
 - b) selection based on reducing fat and cholesterol intake
 - c) skim milk products, 42% of calories in the form of fat

3. Which answer belongs in a recommended group?
 - a) low-fat dairy products for baking and cooking
 - b) 25-30% of fat from low-fat dairy products
 - c) calcium, protein, cholesterol

In this example, you had information in front of you from which to work. As you looked for answers, you may have underlined words or made notes in the margins that help you eliminate details that don't apply or to highlight something important. Regardless of how you approached this passage, your object is to match the given products and materials to the situation.

To make the right choice, you need to do the following:

- ◆ look at a requirement or group of requirements;
- ◆ understand them; and
- ◆ choose a product or process to suit the requirements.

To make the good decisions, you need to know about each situation in detail. It is just as important to understand why you would **not** choose a product or procedure as it is to understand why you would choose it.

Organize the information

The process of pulling together information will help you to make choices. Take the time to consider each factor and to understand it. Keep asking questions. Consider the details you would pull together to answer your supervisor's questions. Make sure you cover all of the possibilities to fit the requirements of the job.

Headings

Apply classification of information to your own notes to organize information. Underline or highlight what is relevant to your project or studies. Eliminate or set aside details that are not. Enter details under headings in a notebook. This is classification of information applied to your own notes.

Example: You can group information cutting methods together. As you proceed through a course, or a job, you can add to this information in a logical, ordered way. It will help you keep the big picture clearly in sight. As you develop the big picture, it is easier to sort out and understand the details about individual items.

Organize your thoughts

You need to organize information methodically. By classifying information, you can learn why a principle or technique applies to a group of situations or why it applies to one situation only. You

can identify types of problems, determine their causes and find solutions. You understand and why a recommended cooking technique failed to make a good product. You can record what changed and whether or not you need to change a product or procedure.

CONCLUSION

Your job is to assemble information as thoroughly as possible to help answer the question: “Which is the best choice for this situation?” By starting from broad categories and working toward the specifics of single products, you can investigate the range of choices and select the best one.

Which information choice?

Work from reliable sources found in text and trade books, tables, manufacturers, suppliers and the experts in your field. If the desired result is to reorganize a food preparation area so tools are stored methodically in groups, and you cannot reach the whisks from the baking table when you are done, you haven’t achieved your goal. In addition, doing it poorly probably cost you just as much money, time and energy as the right result would have.

Summary

1. **Classification is a process.** A general, broad group or category contains a large number of items. A narrower category will hold fewer items.
2. **Match a list of features against a list of requirements.** Match products, information, and methods to a list of features. The question, “*which one*”, narrowly defines the items that will fit.
3. **Use questions in your research to find relevant factors and conditions.** Look for the items that fit the grouping or classification.
4. **Know your purpose for classifying information.** Some of the details fit what you want; others can be eliminated because they do not fit the criteria.
5. **Classify features and conditions to determine errors, inappropriate or unsuitable choices.** Your own experience, knowledge and access to experts will help direct your search.
6. **You may have to decide which feature is the most important.** A choice may mean a compromise or a balance of factors.
7. **Understand characteristics of products;** understand the advantages and disadvantages of features. This will help you understand why something is a good choice, the best choice or *the only choice* for a particular situation.

Answers to questions

Leaveners

1. Which of the chemical leaveners is the fastest acting?

Answer: **Tartrate baking powders** are the fastest acting.

2. Which baking powder releases most carbon dioxide in the presence of moisture?

Answer: Phosphate baking powders “*give up the majority of their carbon dioxide in the cold dough (presence of moisture)*”. Tartrate baking powder may also give up the majority of its carbon dioxide in the presence of moisture as it states, it “*gives off carbon dioxide the moment it is combined with liquid*”. You would need more information to answer this.

3. Which leavener(s) would you choose if storing the dough in refrigerator or freezer before baking?

Answer: As you are told not to use tartrate baking powder if refrigerating or freezing, it appears from the information that you could choose either **phosphate** or **double-acting** baking powders.

4. Preheating the oven is recommended for each type of leavener.

5.

Answer: ? Preheating the oven is recommended for **tartrate** baking powder to reduce the amount of gas escaping. It is not mentioned for the other two. Check a recipe for more information as preheating is a usual requirement for baking.

Diets and Dairy Products

1. b) higher unsaturated fat to saturated fat, high calcium

2. c) skim milk products, 42% of calories in the form of fat

This is not recommended. A preferred or recommended percentage of fat is 25-30% of the diet.

3. a) low-fat dairy products for baking and cooking/

Answer b) is incorrect because 25-30% of fat is recommended from all sources, not just dairy.