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Lesson 13: Techniques and Adaptations for Food Preparation

Introduction

Food preparation is not just about cooking. For some people, cooking connects them to family and friends. The foods people choose to eat and how much time and effort they spend in the kitchen varies drastically depending on preference, diet, and experience. Some people enjoy preparing meals for the family, both daily and on special occasions like Thanksgiving or birthdays. Others dislike cooking but still want to do basic tasks, such as making coffee or microwaving a meal.

Vision loss does not have to limit your independence in the kitchen. With the onset of vision impairment, some individuals feel hesitant to cook because they lack confidence or feel unsafe. This lesson is one of the longer lessons because there are so many different food-preparation tasks. You can skip to the next heading using the bookmarks if a section is not relevant to you.

Lesson Goals

- Learn to arrange the pantry and refrigerator for quick access
- Identify organizational strategies for ingredients, utensils, and cookware
- Perform everyday food-preparation tasks, including pouring, measuring, spreading, and slicing
- Learn how to use the stovetop and oven safely
- Adapt small appliances, such as a toaster, coffeemaker, mixer, blender, microwave, crockpot, indoor grill, and wok
- Learn to shop for groceries using assistance or low vision techniques and technology

Arranging the Pantry and Refrigerator

Several lessons in this series have provided tips on organization, and some of those strategies apply in the kitchen. See Lesson 9 for ideas on

organizing and labeling. Organizing food items is essential for easy and efficient food preparation.

Identify an organization strategy that makes sense for the available storage space in your home. For example, you might want to separate and group similar items, such as canned vegetables, soups, and fruits. Organizing your pantry in this way may make it easier to locate items and lessen frustration.

Once things are grouped, review each grouping and identify which items could be easily confused. For example, a can of peas may look the same as a can of corn if the label is hard to read. One way to address this is to arrange canned goods in alphabetical order. Even if the cans are labeled with large print, braille, or tactile markings like rubber bands, it's faster to look for corn at the beginning of the alphabet than looking back and forth from one end of a shelf to the other. Also, pay attention to differences in size and shape and to distinguishing marks like pop-tops. When possible, purchase some items in cans and others in jars. The more unique characteristics, the easier it is to locate and identify objects on pantry shelves.

Many of the methods in Lesson 9 on labeling and identifying items also apply to food. Sometimes a simple marking system prevents the need for labels. For example, if you buy several kinds of soups, you could tear the label on one variety, put a rubber band around another, and leave one as is. You could also add sizeable tactile letters to certain cans.

If you have functional vision, some canned goods can be identified by color, graphics, or writing on their labels. Campbell's soups, for example, have a red and white label with large letters. Even with minimal vision, visual closure can help you identify a specific item; you may be able to see that the name of a soup has several letters and begins with a large M or with a large T. If only mushroom and tomato soups are in the cupboard, these clues will help identify the correct one. Attaching large print or braille labels on index cards and systematic organization can also help save time.

If you use many spices and seasonings, it may help organize them on a

spice rack. Some people prefer to sort alphabetically, and others sort by what gets used most often. Either way, having a consistent system will make it easier to locate ingredients. Consider transferring spices into jars the size of baby food jars, and store baking items like flour, sugar, baking soda, baking powder, and vanilla in containers with large openings. This technique makes it easier to measure ingredients. For example, it is often easier to scoop a teaspoon of cinnamon from a jar rather than trying to get a measuring spoon into a standard spice container with a narrow opening. This technique applies to liquids as well. Imagine how much easier it would be to dip a teaspoon into a jar to measure out vanilla rather than pouring it into a small measuring spoon and possibly overflowing it.

Organizing the refrigerator can be done in similar ways as organizing your pantry. Everything needs a designated place where it can be easily accessed. This may mean using drawers or shelves differently or using smaller containers inside the fridge to keep items together. Many fridges have drawers for meat, vegetables, and fruit, or another similar arrangement. This can be an effective way of organizing unless it is difficult for you to tell apart types of meat or fruit. In that case, try grouping items by what gets used together.

For example, if you often make sandwiches, you could group the ingredients for each sandwich type. So, the ham, cheese, lettuce, tomato, and condiments could be in a drawer or container together. Another example would be to have a drawer for your preferred salad ingredients. There's no one right way; the system you choose just needs to make sense and be easy to maintain.

The best organizational methods make it so that most items don't need a label. Buying items in containers with different shapes can also reduce the need for labeling. For example, buy milk in a plastic jug and orange juice in a carton.

The freezer presents unique issues. Many items are hard to identify when frozen because they feel similar. For example, think about trying to tell peas from corn or broccoli from chicken nuggets. Storing similarly shaped

foods in different types of containers and on separate shelves can help limit mix-ups.

Meat is also difficult to identify unless it is labeled or organized. If you buy chops and steaks simultaneously, one tip is to bag two chops together and the steaks individually. Similarly, put all chicken thighs in one bag and chicken breasts in another. If you can recognize colors, try labeling items with differently colored stick-on circles: purple for chops, orange for chicken, green for fish, and so on. Labeling items in the freezer can be tough; the items gather moisture, making adhesive labels slip off. Rubber bands become brittle in the cold and can break. Some solutions might include using baskets, different shelves, different shaped bag clips, or tags for a digital labeling system.

To identify consumable products, you might choose to use a digital labeling system that allows labels to be removed and reused. A simple way to do this is to attach labels with rubber bands. Digital labeling devices, like PenFriend or WayAround, can be used for all types of foods, including those stored in the refrigerator or freezer. Using one of these systems, you can record the product information onto labels and attach them to items. The PenFriend only has adhesive sticker labels. Some other labeling systems, like WayAround, provide a variety of labels, some of which may be better suited to the refrigerator or freezer. To identify items, place the device or a smartphone near the label, and the device will play your audio recording. Other digital systems read aloud bar codes on products to identify the package contents.

Organizing Ingredients and Tools

Previous lessons covered methods for organizing and using your other senses for efficient food preparation. Lesson 4 discussed how to use a tray to organize a workspace. This method keeps everything you need to be organized within reach, and it is very helpful when cooking. It works best to use a tray with a nonslip bottom or stabilized with a damp cloth or other nonslip material underneath. Place the mixing bowl, measuring spoons, and measuring cups on the tray. You can arrange ingredients around the outside of the tray in the order they appear in the recipe. This organization

allows you to move quickly from one item to the next and lowers the chance of knocking something over. As you finish using an ingredient, you can put it away.

Trays help cut or chop too. Position a cutting board in the center of a tray and keep the knife against the tray's outside edge. Never lay a knife on the board or within the tray, where you might mistakenly grab the blade.

Using trays to organize tools and ingredients is useful for preparing a snack, a single dish, or an entire meal. The tray prevents spills on the counter and floor, and the organization ensures that ingredients only have to be identified once, during the set-up process. Position items based on preference and comfort but be consistent with the set-up and positioning of items to form muscle memory for tasks. Even when doing the most basic task, like making a sandwich or cooking leftovers, a tray will prevent messes and simplify clean-up.

Food Preparation Tasks

Many cooking tasks are challenging while adjusting to vision loss. However, with simple modifications, any activity can be done without relying on vision. This section provides adaptations for basic kitchen tasks, like pouring, measuring, spreading, and slicing. Most of the techniques involve one or more of the skills learned in Lesson 3. It may be helpful to review those before continuing with this lesson.

Pouring

Pouring is part of almost every recipe and is also part of daily activities. For example, many people start the day by pouring a glass of orange juice or a cup of coffee. It's not a good start to the day if the juice spills or the coffee overflows the mug. Regardless of whether they plan to cook, most people want the ability to pour a drink without frustrating mishaps.

People naturally develop adaptive methods when problem-solving. As long as the methods you develop are effective and safe, they can be used. This lesson will describe several common methods for pouring, which you can use depending on the situation and personal preferences.

One method for pouring cold liquids for yourself is the **finger method**. You can use this for pouring drinks that are not hot. After washing your hands, grasp a glass near the top. Crook your index finger over the edge of the glass, resting the second knuckle on the rim. Rest the spout of the bottle or pitcher on the edge of the glass opposite your index finger and begin to pour. When the liquid touches the tip of your index finger, stop pouring. The top of the beverage should be about an inch from the top of the glass. You can use the same technique for filling a glass of water from a tap or water dispenser. Practice this technique over a tray or sink in the beginning in case of spills. If it is difficult to feel the liquid on your finger or the glass overflows even after practice, you might want to use another method. The finger technique is not practical for people with neuropathy in their hands or if the liquid is at a temperature that is hard to detect.

Keep in mind that there will be differences as you pour, depending on the liquid. For example, carbonated drinks can overflow more quickly. It is helpful to pour these drinks slowly and add ice when the glass is partially full. These modifications will help keep the glass from overflowing.

Another pouring technique used is listening to the change in pitch as a glass fills up. This method may not work for people with a hearing deficit, and it is less reliable than other methods. As you start to fill a glass with any beverage that isn't fizzy, the sound of the liquid entering the glass will change from a low to a higher pitch. When the liquid gets within an inch or so of the top, the sound will become almost imperceptible. This clue is your signal to stop pouring.

Try this by filling a cup from the tap at the kitchen sink. Hold the glass under the tap and turn the cold water on to a slow but steady flow. Listen to the difference in sound as the glass fills. Just before it overflows, the sound may be undetectable. Practice several times to get a sense of the changing sound. It may be helpful to practice with different cups and bottles to determine which are easiest to hear. Once you are comfortable identifying the sound, try pouring from a carton or bottle into a glass over the sink. This method can be more challenging but can be used along with the finger method or another technique. Some individuals can also accurately

estimate the fullness of a glass or mug by its weight.

Because it is not safe to use the finger method for hot liquids, you will need some other techniques. Like a Keurig or Hot Shot, some devices can be used to make a single cup of hot liquid, which removes the need to pour coffee or tea from a pot into a mug. If you use a traditional coffeemaker or tea kettle, three techniques may be helpful when pouring:

- Use the temperature on the outside of the cup as a clue.
- Develop a counting method.
- Use an electronic liquid-level indicator, available from organizations that sell products for blind or low vision individuals.

When you touch a cup full of a freshly poured hot beverage, you immediately notice that the outside of the cup is warm, or even hot. A transfer of heat occurs as the cup is filled. To use heat as an indicator, place your non-dominant hand around the upper part of the cup. When you sense the cup changing temperature, stop pouring. For safety, make sure the liquid is not hot enough to burn and possibly ask someone to watch you as you practice. It helps to start with hot water from a faucet and then graduate to a cup of your favorite beverage when you feel confident.

The **counting technique** is rarely discussed but can be helpful. There are two tricks when using this technique. One is to count and pour at a steady speed, about a second hand's speed on a clock. The other is always to use the same size cup. Begin by having someone else pour as you count. When they stop pouring once the cup is full, you stop counting. Do this several times until you are stopping on the same number each time the cup is full. This technique lets you keep your hand on the cup handle and away from the hot liquid.

The last technique uses a small device called an **electronic liquid-level indicator (ELLI)**. The ELLI has two metal prongs that hang over the edge on the inside of a cup about an inch from the top. When the liquid reaches the prongs, the ELLI makes a buzzing sound, letting you know to stop pouring. The part of the device that hangs outside the cup holds a battery that powers the buzzer. This device also enables you to keep your hands

away from the hot liquid.

Try using a combination of these techniques. For example, counting while listening to sound changes in a large coffee mug may work well. If you have functional vision, use high contrast by using a light-colored cup for dark-colored beverages or a light-colored glass when pouring soda or juice. Use vision when it's helpful, but also master some other techniques so you can pour safely when lighting is poor, or a contrasting cup is not available.

Note: None of the pouring techniques will work if you move your hand while pouring. Even a slight movement of your pouring hand can cause the beverage to pour onto the tray instead of into the cup. Make sure the spout or top of a bottle is over the cup as you pour. Hold the pitcher or jug and make contact with the cup's rim to ensure you are over the cup when pouring.

Measuring Liquid Ingredients

Many people use graduated measuring cups for dry ingredients and glass or plastic measuring cups with marks for liquids when cooking. These two tools are often called dry measuring cups and liquid measuring cups. However, this is not the best approach for people who are blind or have low vision. One cup is the same amount, no matter which tool is used. When following a recipe, graduated measuring cups are easier to use for both liquid and dry ingredients. They are also easier for people with low vision to see. Graduated measuring cups can be purchased in light and dark sets. They most often contain one cup, a half cup, a third cup, and a fourth cup; some sets include additional measurements. They can be differentiated by a tactile memory of the size, or you can buy a set with large print or tactile marks.

These cups help scoop ingredients in the correct amounts or to pour using the finger method. When using the finger method, remember that it's easier to feel cold liquid than room temperature liquids, especially oils, so refrigerate liquids when possible. Also, there will be less to clean up if you set your measuring cups on a tray or small plate when filling them. If a hot liquid measurement is required, it is safest to measure the liquid when it is

cold and then heat it in the microwave.

When measuring small amounts of liquid, it can be easier to scoop liquid into a measuring spoon rather than pour the correct amount. Some people who are blind or have low vision use measuring spoons shaped like ladles for dipping liquid ingredients. If you cannot find this type of measuring spoon, the handles of regular metal spoons can be bent to create ladles. To use a ladle-shaped measuring spoon or cup, pour or store the liquid in a wide-mouth container. Dip the ladle into the liquid and lift it out. A large eyedropper or child's medication syringe can also be used to suck up a teaspoon of vanilla or other liquid ingredients.

You may not need to mark sizes on graduated measuring cups and spoons; storing them nested together will help you determine their measurements. If you want to label them, metal handles can be notched with a file or ice pick, and plastic handles can be marked with glue, puff paint, or a tactile substance purchased from a specialty company. Specialty companies also sell premarked, tactile, or large print measuring cups and spoons. To make the best use of contrast, consider purchasing measuring cup/spoon sets in both white and black.

Measuring Dry Ingredients

People who are blind or have low vision usually need only a few adaptations to measure dry ingredients. Some accomplish this task by dipping a measuring cup into flour or sugar or filling the cup a little at a time with a spoon and then leveling off the top with a knife. To avoid spilling a measured ingredient onto the tray, put the ingredient canisters, jars, or other containers close to the mixing bowl. Rest the wrist of your dominant hand with the measuring cup lightly on the edge of a bowl. Before emptying the measuring cup contents, use your non-dominant hand to verify that the cup is over the bowl. Sometimes people accidentally pour flour or sugar onto the tray because they missed the mixing bowl's edge. Use a bowl that contrasts against the tray to avoid missing it. Do not measure over the mixing bowl, as you may end up with excess ingredients. Using contrasting measuring cups may also help.

Spreading

Spreading butter, cream cheese, and condiments on bread, crackers, or bagels is a daily task for some people. This is typically done visually, so you will need to make modifications to this task. When doing this activity nonvisually, spreading involves muscle memory and tactile awareness.

It's easiest to practice this skill on a piece of toast because it is a larger surface than a cracker and firmer than untoasted bread. Notice that the blade of a table knife is about the same length as the width of a standard piece of toast. Start without anything on the bread to get comfortable with the pattern. Put the point of the knife at the top corner of the toast. Drag the knife across the toast in a spreading motion, left to right or right to left. Do this until you can move the knife across the toast with ease. Now try the same spreading movement starting at the top of the toast and moving down toward the bottom. Once comfortable with the pattern, try spreading something easy, like peanut butter or jelly, on toast using the motions you've practiced. Check to see if any peanut butter or jelly got on the edges of the toast tactily or using vision.

Some people who are blind or have low vision use a technique that involves putting the ingredient in the center of the bread using a spoon. Then, either using the back of the spoon or the butter knife's blade, spread outward in all directions. You may want to try this technique as well. Once you feel confident using one of these techniques, make a sandwich using toast or bread and your favorite condiments.

When spreading something on a cracker or bagel, it may be easier to use a spoon than a knife. Put a dab of the ingredient in the center of a cracker and press lightly with the back of the spoon to spread it. The same technique works on a bagel or muffin. Expand this technique when spreading chicken salad or other chunky sandwich food. Put several dollops in various places on the bread, and then flatten them with the back of the spoon.

Slicing and Dicing

Many people can't imagine cutting fruits, vegetables, or meats with limited

or no vision. Safety precautions must be taken seriously while using a knife, but people who are blind or have low vision are no less safe than people with sight. Many people who are blind are safe and proficient when using a knife.

This section discusses modified cutting techniques that are effective for people who are blind or have low vision. If you have additional conditions, like neuropathy, tremors, severe arthritis, or other physical limitations, other cutting methods may be more appropriate for you.

Let's start by reviewing some of the safety tips covered in earlier lessons:

- Find consistent locations and orientations for organizing knives in the workspace. For example, don't lay a knife on a cutting board. Always place the knife along the tray's outside edge with the blade facing the tray so your dominant hand can grasp the handle safely. Arrange the food to be cut around the other two sides of the tray or in a basket or large bowl.
- If you have low vision, use a cutting board that provides color contrast to most foods. You can also use a clear cutting board and put a color-contrasting cloth between the cutting board and tray.
- Never lay knives in a sink with other dirty dishes. Place them behind the faucet with the blades pointing toward the wall or stand them blade down in a tall glass or another receptacle. Wash, dry, and put them away immediately. Store knives used for cooking in a knife rack or make protective sheaths from old paper towel rolls.
- Never touch the blade of a knife to determine which way to hold it. The shape of the handle on many knives provides the clues you need. Some handles have notches on the underside for fingers, and others have a safety guard next to the blade. Very few knives have handles with no difference between the top and bottom sides. If you have a knife with a handle that isn't easy to orient correctly, place a small piece of tape, puff-paint indicator, or notch on the top of the handle.

If you are concerned about cutting yourself, try a knife called a lettuce knife. It's a serrated plastic knife that effectively cuts lettuce, some vegetables,

and baked goods and is duller than a metal knife. If you use knives you've been using for years, don't use a dull one because it can slip when you press down hard. At times you may need to use a combination of knives. For example, you may find it easier to cut an apple in half with a chef's knife and then use a serrated paring knife to make slices.

Begin slicing practice with a paring or steak knife and food that can be easily chopped, like a banana or celery. Hold the food with your non-dominant hand, slightly further from the knife blade than you might have in the past. Put the knife blade against the end of the food and begin to slice just as you always have. Your muscle memory will take over. Move your non-dominant hand away from the knife as you slice. When there is a small amount left, you might need to switch to another technique, like the tunnel method described below. Evaluate the slices. How many are similar in size? You will get more consistent as you practice. Maintaining constant contact between the knife blade and the cutting board will ensure you don't accidentally cut your fingers.

With larger foods, try a different technique. Curl the fingers of your non-dominant hand and rest them on the top of the food. Press down and stabilize the food by placing your thumb along its side but behind your other fingers. The knife rests against your knuckles at a slight angle to prevent cutting your knuckles as you slice. Move your hand out of the way as you continue to slice the item.

The **tunnel method** can also be used to slice food safely. Hold the item with your non-dominant hand, with the thumb on one side and the fingers on the other. The space between your thumb and fingers makes a tunnel in which to cut. Depending on the food's size, all your fingers may be holding on or just the first finger or two. Either way, make sure your fingers stay out of the way by keeping them right next to one another or curled into your palm. Put the knife on top of the food inside the tunnel created by your hand. This method can be used with many items and works well when slicing boiled eggs or other round foods.

For large vegetables, like cabbage or lettuce, or meats, like ham or roast,

you might like a knife called the Magna Wonder Knife. It has a long blade similar to a serrated bread knife. The knife is attached to an adjustable guide that can create very thin slices or slices about half an inch thick. You can set the knife blade on top of a ham and align the guide with the side of the ham. You slice downward as you apply pressure on the guide. The result is a perfect slice. These knives can be purchased through specialty companies.

If you have low vision, you can cut and slice more efficiently by adjusting the contrast or lighting used for the task. To slice a vegetable, cut into it, take three or four slices, and then cut them in one direction in half or thirds. Rotate the smaller slices and cut them in a perpendicular direction to create cubes. Repeat until the entire vegetable is diced.

You can use your tactile sense to determine if a potato, carrot, apple, or other item is completely peeled. Try peeling the item under running water, or frequently rinse it and use your fingers to detect any remaining peel. Use overlapping strokes when peeling to make sure you cover the entire area.

If you have medical issues that make it unsafe to slice food items or prefer not to use knives, consider food choppers and food processors. These devices can slice, dice, mince, and more. Another alternative is to purchase items already prepared. Produce departments of most large grocery stores carry prepackaged sliced, diced, and shredded fresh fruits and vegetables. Some frozen and canned foods have options of whole, sliced, or diced.

Using the Stove and Oven

This section will address stovetop and oven safety, centering pans on the stovetop, turning foods in a skillet, testing food for doneness, identifying boiling water, and timing cooking using adapted timers and other devices. You should not try these techniques on your own while you are learning. If possible, contact an agency that serves people who are blind or have low vision to work with you on the following stove techniques. If a professional is not available, ask a friend or family member to observe your practice until you are confident and feel safe with your skills.

Stovetop Safety

Lesson 5 recommended using a lower protective technique when approaching a stove to avoid bumping into it. This habit will always keep your hands below your waist and the stovetop, protecting your hands from a hot burner or from knocking a pan off the stovetop.

The first safety tip is never to leave anything on the stovetop. It's not uncommon for people to leave small utensils or other items on the stove between the burners. However, this is not a safe habit, even for people without vision loss. Also, never leave anything flammable on the countertop near the stove, like oven mitts, dish towels, or paper products. Anything left on the stovetop or near the stove is an invitation for an accident. After cooking, remove pots and pans as soon as they are cool enough to wash. This helps keep the stove clear.

The following steps can be used when approaching a stove to determine if it is on or if items were left behind:

- Always approach the stove with the backs of your hands below your waist.
- Begin with your dominant hand and raise it even with the front edge of the vent-hood or bottom of the cabinet above the stove. This places your hand over the front burner, and it will be high enough that you won't knock something off a burner or come in contact with a hot burner.
- With your palm down, slowly lower your hand until you contact something on the burner, feel heat, or discover the burner is safe.
- Repeat this procedure for the back burner by raising your hand again, toward the back of the stove.
- Repeat the entire process over the other burners.
- Always clear the stove before you begin cooking. Along with pots and pans left on the stove, check for items like paper towels or plastic lids. It is especially important for individuals who live with other people because sighted family members might leave stray items behind.

Centering Pots and Pans

Cookware can be centered in different ways depending on the type of stovetop. Before you start cooking, it's important to center your pot or pan on the burner before turning it on because it is easier to make adjustments when cookware is cold. When possible, use your functional vision to verify that the pan and burner edges are aligned. It may help to use brightly colored electrical tape to mark the cooking surface's outer edges on a glass-top stove (be sure to put the tape far enough away from the burner). Once the stove is on, hold the cookware's handle before doing anything with the food to avoid knocking it off-center.

Despite holding cookware in place, sometimes a pan gets moved off-center. When this occurs on an electric stove with coils, you can use a heat-resistant spatula or wooden spoon to circle a pan to feel the burner and realign it. On a gas stove, use a metal spatula with a plastic handle to push the pan back to the center of the grate.

Glass-top stoves can be more difficult to center things on once the stove is hot. High-contrast electrical tape outside the edges of burners can be a visual clue, but people with limited or no vision need tactile methods. One method uses a heat-resistant utensil with the same width as the space between the edge of the burner and the stove's edge to measure where the cookware should go. For example, when cooking on the front right burner, the distance between the right side of the stove and the burner could be adjusted first, and then the utensil is used to measure from the front edge of the stove. Practice this method first when the stove is cold, and always use the same utensil to determine distance. Whichever method you use, it is recommended to lower the temperature when recentering a pan on a hot stove.

Be extremely cautious about the handles of pots and frying pans. If possible, angle the handles, so they do not stick out beyond the edge of the stove, where they are easily bumped. To avoid bumping a handle and knocking a pot off-center, hold the handle of a long wooden spoon, and slowly trail the edge of the stove to locate any handles sticking out. You could also trail the edge of the stove with the back of your hand until your

arm touches a handle. Although this modification is safe, it puts your hand near the heat source.

Turning Foods in a Skillet

Slight modifications in cookware, utensils, and methods can make a big difference when learning to cook with a visual impairment. It is a good idea to use the right size pan for what is being cooked and limit the number of items in a skillet. For example, when making grilled cheese sandwiches, it would be easiest to cook one at a time in a smaller skillet than to manage a large skillet with multiple items. If you are frying burgers and have a large skillet, you may be used to managing four at a time, but two will give you more space for turning. When cooking smaller items, limit the number and arrange their positions to make it easier to manage. For example, for foods like sausage patties or potato slices, it may help to arrange pieces at the twelve, three, six, and nine o'clock positions and then another piece between each. Leave the center of the skillet for turning space and rotate the food toward the skillet center when flipping.

When learning adaptive techniques, begin by cooking just one item. Put the food in the center of a small skillet. It may help to use the handle as a landmark when you are locating an item in the center of a pan. This is done by lining up the spatula with the pan's handle to identify the center by following the line of the handle. Slide a spatula under the food and rotate your wrist to turn it over and recenter it. Using a large spatula or a double spatula may make flipping food easier. A double spatula can be purchased from a specialty company and is composed of two spatulas attached at the base of the handles. A double spatula is great for turning sandwiches, meats, and sliced vegetables because you can slide the bottom spatula under the item and clamp down with the top spatula before rotating your wrist. Unfortunately, these don't work with pancakes, eggs, or other delicate foods.

Recall the tips in previous lessons for maximizing functional vision. Make sure lighting near the stove is sufficient without causing glare. Use color-contrasting utensils and cookware, and be aware that some cookware will create glare. For safety, always use nonvisual adaptations instead of

getting closer to the stove to see better.

Identifying Boiling Water

When a visual impairment makes it difficult or impossible to see the bubbles when water comes to a boil, this task requires the senses of hearing and touch. Start by boiling water for practice. Pay attention to how the sound changes as the water simmers, comes to a boil, and then reaches a rolling boil. The sound of boiling water will become distinctive after practice. Depending on the cookware, you may hear the sound of a rattling lid, another auditory cue. Some vibrations can be felt through the handle of a pan when water is boiling. The vibrations start with a mild vibration and then increase. Feeling the vibrations is an additional cue; it may be the only cue for people with a hearing impairment.

Water is usually boiled for adding ingredients like pasta or rice. This can be done using a combination of functional vision and other senses. However, if you can't rely on vision, use hand-to-hand coordination to pour the ingredients into the boiling water. This can be done by holding a spoon with your non-dominant hand in the center of the pot and bringing the ingredients in contact with the spoon handle to pour them into the pot. Stir if necessary before removing the spoon.

Oven Safety and Cooking

Here are some tips for oven safety:

- Always approach the oven door with the backs of your hands down below the level of the stovetop.
- Hold one hand near the surface of the door to check for heat. If you feel heat, put on oven mitts or an Ove Glove and wear them to complete the remaining safety steps. Always protect your hands and arms when the oven is warm or hot.
- Step to one side and open the door entirely, so it doesn't spring back up.
- Systematically scan the surface of each oven rack tactilely and remove anything left inside. It's safest never to store pans in the oven, so check to make sure it's clear before proceeding.

- Check the position of the oven racks and adjust accordingly. It can be helpful to keep only one rack in the oven. One rack in the oven will prevent you from accidentally pulling out the wrong rack and burning yourself or knocking something into the bottom of the oven. The rack's default position can be in the middle of the oven, where most food is baked.
- Stand to the side of the door opposite your dominant hand, if possible. This position helps you avoid steam burns when you open and close the door. It also leaves your dominant hand free to pull out the rack and put food inside the oven. Once the door is open, use either the back of your gloved hand or a tool called a Rack Jack to locate the rack safely. A Rack Jack has a long wooden handle with a hook and notch on one end. It lets you remove and return a rack to the oven without your hands touching the rack. To locate a rack, put the end of the Rack, Jack just inside the oven, and trail down the inside wall until it touches the rack. Hook the Rack Jack over the front of the rack and pull it out. Push the rack back inside the oven with the notch. As you bend over to close the door, use the upper protective technique to protect your head.

Centering Baking Dishes in the Oven

It can be challenging to center pans in the oven without relying on vision. One helpful tip is to mark the oven's center with a tactile label just above the oven door. You can use the mark to locate the midpoint and center baking dishes on the rack. Practice centering bakeware of different sizes and weights while the oven is cold. Once you feel comfortable with the skill, set the oven at a low temperature for more practice. Finally, try baking a pizza or something else that isn't heavy or awkward to move in and out of the oven.

Setting Stove and Oven Temperatures

It can be challenging to set the stove's temperature or oven if you cannot read the numbers. Depending on the type of controls and the colors, this task is more difficult on some appliances than others. Adaptive methods and markings can help simplify this task.

If the stovetop controls are dials, as on most gas or electric ranges, picture a clock face. Most stovetop burners, gas, and electric are turned off when the dial is pointed at 12:00. The other settings will vary depending on the appliance, so ask someone to help you identify each setting for you. A common layout on an electric stove turns the dials to the right to set to a high temperature at the two o'clock position. Medium-high is positioned at four o'clock, medium at six o'clock, medium-low at eight o'clock, and low at ten o'clock. This may be different on your stove, or the dials might turn both to the right and left, depending on the burner size desired. Familiarize yourself with all the settings and remember or mark the ones you use most often.

The dials on a gas stove may operate differently and often turn counterclockwise. The first setting is to light the burner, and then the high setting may be located at the ten o'clock position, with the lower temperature settings descending around the clock face. Some newer gas stove dials do not turn beyond the 3:00 position. When lighting a burner, remember to listen for clicking and then a swish, indicating the flame is lit.

Think about whether it would be helpful for you to mark the dials on your stove. Some people who cook often can easily recall the temperature settings. But, most people find it helpful to mark at least one or two temperatures. A tactile bump dot or a color-contrasting dot can be placed at the position or setting you use often. A thin line of electrical tape can also be used as a marking.

Most ovens have digital touchpads for setting temperature. If your oven uses a touchpad, mark it with bump dots or label the basic settings with large print or tactile letters and symbols. For example, you can use a B for bake, S for start, O for off, C for cancel, an up arrow to increase temperature, and a down arrow to decrease temperature. Unless you live alone, use clear or transparent tactile labels so sighted people who also use the oven can see the touchpad. If your oven has dials, mark the temperatures you use often.

Some updated kitchen appliances connect wirelessly to a smartphone app

and are controlled remotely. This can be a great option for someone who is blind or has low vision to access the app. Ovens with screenreader-accessible apps can be set and monitored without needing to mark the settings on the appliance itself.

Note: Touchpads now come in 2 types, resistive and capacitive. The resistive touchpads require pressure to activate the controls while capacitive touchpads do not. On a capacitive touch appliance, simply feeling around for a bump dot will likely activate one or more settings. The capacitive touch controls are more difficult to mark. Consider placing raised bumps around the outside of the touchpad, just to the left, right, above, or below where the control is that you want to mark. Move your finger around the edge to find the mark and then toward the center of the touchpad to activate the control.

Testing Food for Doneness

Recipes often instruct cooks to use visual cues to determine doneness, like watching for bubbles to burst or baking until a cake browns. These cues may not work for a person who is blind or has low vision. However, other methods can work. The following three techniques are particularly helpful:

- Peak smell
- Tactile or auditory monitoring
- Using a timer

Peak smell refers to the smell of food when it's done. As food cooks, it releases aromas. The smell changes as food cooks and many foods have a distinctive peak smell. If food cooks too long, it will smell burned.

Many tactile clues can be used to help recognize when a food item is done. Think about the methods you used before and how they can be modified. For example, a cake is finished when a toothpick inserted into the middle comes out clean, not sticky. Stickiness is usually identified visually but can also be done tactilely: Pull out the toothpick and feel for sticky crumbs. A cooked piece of fish will separate into flakes when tested with a fork. A burger that is done will feel firm when tapped with a spatula and will have a different consistency when cut into, based on how well done it is.

The auditory sense helps recognize doneness with foods that sizzle as they cook. That sound usually diminishes when the food is close to being done.

The most reliable method of detecting doneness is using a timer. Many cooks use the timers on their stove, microwave, or smartphone. Most recipes give an approximate time for cooking a dish. Every appliance is slightly different, so you may need to rely on the methods described above until a recipe is familiar. For example, a cookie recipe may give a cooking time of 10 minutes, but the peak smell time may turn out to be 8 minutes in your oven.

Foods you have prepared often over the years without following a recipe may cause you the most concern. These are the foods you knew were done by how they looked. A grilled ham and cheese sandwich, pancakes, fried eggs, and steamed vegetables fall into this category. It may take time to establish cooking times for commonly prepared items, but don't be afraid to experiment. For example, if you like a fried egg in the morning, fry an egg and test it when you think it's done, noting how long you cooked it. If it's overdone, reduce the time the next day. Continue until you've established a cooking time that results in an egg you like. Experiment with several untimed favorite foods. You can also have someone visually monitor the food while a timer is running and note the time it took to cook. It may help make a list (large print, braille, or audio) of cooking temperatures and times for foods you like to make often. A talking food thermometer is another adaptation, especially for meats, but you need to know the ideal safe cooking temperature for each type of meat.

In addition to microwave and oven timers, there are many other timer options. Smartphones and smart home devices, such as an Echo Dot, use a voice command timer. You can also check specialty companies for talking, large print, and tactile timers.

Adapting Recipes

There are many ways to make recipes accessible. Some methods were mentioned in previous lessons, like using a digital recorder, computer, or large print to record recipes. It can also help make sure each recipe is

organized and includes your tips and notes.

When recording a recipe, list all ingredients first, in the order they are added. This will help you organize your workspace when it's time to cook. Add the needed amount of each ingredient to the recipe's directions. This eliminates the need to refer back to the list of ingredients repeatedly.

If you have low vision and use a computer or tablet, you could create a folder for recipes with a file for each recipe or category. Organize each file in a way that makes sense, possibly in alphabetical order or most frequently used. Choose a font that's easy for you to read and try using a bold type style; play with the font size until you find the right one.

You could also use a marker or felt tip pen to copy recipes. Print is usually easier to read than cursive. Try writing one step per line instead of using a paragraph format, and skip lines if it helps with reading. The recipes can be placed in a three-ring binder, organized by categories. Many visually impaired cooks also find it helpful to use plastic sheeting over the pages to protect them when you turn pages with messy hands.

Suppose you cannot read print or braille. In that case, you will need to record your recipes using auditory methods, like a screen reader on a smartphone or computer, a smart audio device, a digital recorder, or an auditory labeling system. Digital recorders are available from specialty companies. Choose one with voice guidance that speaks to you as you navigate its functions. Some recorders offer folders for organization so that you could use one folder for recipes. A PenFriend label might be attached to your recipe card and the recipe recorded on that label.

You can search the internet using assistive technology to find new recipes. Also, try asking friends and family to share their favorite recipes. If you have a system in place for organizing your recipes, you can ask people to provide them using your format of choice. Cookbooks in audio format can also be acquired from the Talking Book Library.

Adapting Small Appliances

Small kitchen appliances, like a toaster, coffeemaker, mixer, blender,

microwave, crockpot, countertop grill, or toaster oven, are used often and are sometimes more accessible than a stove or oven. Some small appliances may need to be marked or labeled to be usable, while others are workable as they are.

Examine your small appliances to identify which are difficult to use or need adapting. Some models of the Keurig beverage maker, for example, have two sets of buttons that are easy to locate and identify without labels. The larger button of one set turns the machine on and off. The other set gives you three choices, from left to right: 6, 8, or 10 ounces of your favorite beverage.

Based on the information in Lesson 9, decide what types of labels, if any, your appliances need. For example, most blenders and mixers have several settings. A small bump dot or drop of glue or puff paint on the settings you use most often might work well. A crockpot may need the off and high settings labeled to make it accessible.

If marking an appliance does not make it accessible, consider other options. For example, many people who are blind or have low vision switch from a traditional coffee maker with many settings to a simple one-cup device with fewer buttons and is easier to pour. Another method to try is creating a notecard with written information about each setting for devices you use.

Some people who are blind or have low vision buy talking microwaves or smart microwaves connected to an app on a smartphone or tablet. These can be good options and simplify tasks but may be more expensive than a standard microwave. You could also look for a microwave with a dial to set the cooking time, making it easier to set.

If you use a microwave with a touch panel, you will probably need to do some marking or labeling. Try to only mark buttons you often use and use distinctive markings for each button. For example, if you only use the microwave to reheat food, you may only need to mark the quick-start or one-minute button and the cancel button.

If you use your microwave often, you'll need many more markings. One way to mark the number panel is to put a line of color-contrasting electrical tape between each line of numbers. Since there is not a lot of space, cut the strip of tape in half. Put a line between 1-2-3 and 4-5-6 and another line between 7-8-9 and 0. Don't make the lines any longer than the space of the numbers. You'll press just above the beginning of the top line for one and just below it for 4. Press the center for 2 and 5 and the end of the line for 3 and 6.

This arrangement lets you use color-contrast and tactile markings while keeping the numbers visible for users with sight. Use a different material to label the Start and Cancel buttons. If you put labels directly on the numbers, use locator dots or translucent stick-on labels, but try to limit them to the odd numbers plus zero. Some people mark the 5 as a center point and use that as a landmark to locate the other numbers. And, the next time you buy a microwave, find the simplest one that will be easy to adapt.

Cooking Without the Stove

Although people who are blind or have low vision can use a stove or oven as safely as anyone else, some prefer to use other appliances for cooking, like a crockpot, electric wok, countertop grill, toaster oven, or microwave. Some benefits to using these small appliances are:

- Fewer settings
- Easier to clean
- Less bending over or lifting heavy pans from the oven
- Less heat, which keeps the kitchen cooler
- Use of less electricity
- Easily positioned in an accessible area

Each small appliance offers advantages. A crockpot can be turned on in the morning for a busy person, and the food will be ready for dinner. Because you preset the timer on a crockpot or slow cooker, it is difficult to overcook a meal accidentally. Crockpots are large enough to cook a batch that serves six or more people or provides six meals for one. Its versatility lets you cook almost anything, from vegetable soup to a roast with

vegetables. Some slow cookers offer multiple methods of cooking for more variety.

A toaster oven gives you the same baking and broiling options as an oven but can be spatially easier and safer to manage. You should follow oven-safety guidelines while operating a toaster oven.

An electric wok's shape and even temperature make it great for quickly cooking various meals, including meats, healthy, crisp vegetables for an Asian dish, or just about anything else. A wok's curved sides make it virtually impossible to accidentally push food out of the wok, no matter how vigorously you stir.

Another popular appliance used as an alternative to a stove is a countertop, indoor grill that simultaneously cooks on both sides. The George Foreman is probably the best-known model, but there are others available. It's a safe approach to grilling because you never have to turn the food over. It is quite simple to center food on its small area, and food only needs to be centered once. It also cuts down on cooking time by cooking both sides at once.

If you only use your microwave for heating leftovers or water, consider that most things cooked on a stove can be cooked in a microwave. Find some recipes and get started. A microwave's benefits are that it emits very little residual heat, it uses modest amounts of electricity, and you run less of a risk of burning yourself than you do cooking over a stove.

Shopping for Groceries

Vision loss can make it challenging to shop for groceries independently. Fortunately, there are many adaptations and alternate methods that can help the process run more smoothly.

If you have good functional vision, you may be able to get around a store with little or no help. You can use tools like a handheld magnifier or portable digital magnifier to read labels and a monocular for reading signs over the aisles.

Other individuals who are blind or have low vision may need to ask

customer service to help find items or get around the store. Although they are required by law to help at any time, you will receive better service when the store isn't busy or crowded. Even if you can shop alone, it might be faster to shop with someone from customer service who knows the store's layout.

If you were used to shopping at a wide variety of stores, you might find it confining to limit yourself to one or two stores. However, transportation to some stores may be unavailable, costly, or time-consuming, especially if you use public transit or paratransit. An advantage of shopping at the same store is familiarity with personnel and store layout. The quality of service is often equal to how well the staff knows you. Some customer service staff are better at helping someone who is visually impaired than others. If you know who is better, you can ask for those individuals. Remember, the friendlier you are, the better the service.

Preparing a grocery list should be an ongoing task. Find a way to keep track of the items you need. As you use an item, set the label aside, or write the item on a list on the refrigerator. If you are familiar with the store's layout, you can make your list to match the layout. People are more willing to help if they aren't running back and forth across the store. If you know where many of the items are located (for example, your coffee brand is in the center of aisle six on the right), you can help your assistant find some items.

Along with your grocery list, take along labels of items you buy often and put them on the products as you place them in your shopping cart. This saves time when you get home and prevents mix-ups. Another advantage of knowing store personnel is they can help in tearing labels or marking two similar package items.

If you plan to use public transportation or paratransit services to reach a store, find out ahead of time the policy for the number of bags you can take on the bus. You probably won't be allowed to have eight or ten bags. Consider buying a small cart on wheels that can hold many groceries and functions like one parcel. A small cart can make it easier to take groceries

home. If public transportation is not available, ask about volunteer services at senior centers, churches, or other nonprofit organizations. If you are shopping with a friend, family member, or neighbor, ask for help from customer service so both you and your companion can shop at the same time.

Some people prefer to use services that make grocery shopping independently unnecessary, like grocery delivery services, meal delivery services, and stores with grocery pickup options. These can be good options for people who have transportation barriers, don't like to shop, or don't have the time. Services like Amazon (available only in certain markets) will even deliver the groceries and put them in the refrigerator for you.

Summary

This lesson covered many skills and adaptations for the kitchen, from basic tasks like pouring a drink to more complex tasks like cooking on a stovetop. Whatever your level of vision loss and interest in food preparation, there are adaptive techniques to make your daily cooking tasks easier. Hopefully, these suggestions and techniques will give you the desire and courage to get back into the kitchen. Bon appetit!

Suggested Activities

Try these activities to start using the skills taught in this lesson:

- Start decluttering and organizing the kitchen, one area at a time.
- Practice using different pouring methods using water. Do it over the sink to prevent spills.
- Identify which kitchen appliances will be useful to you, and get help marking any that have unreadable buttons or settings.

Resources

Visit the following websites to find adaptive cooking aids such as talking timers, liquid level indicators, the lettuce knife, high contrast cutting boards, and more:



Older Individuals who are Blind
Technical Assistance Center

WWW.OIB-TAC.ORG



ON BLINDNESS & LOW VISION



BLIND.MSSTATE.EDU

-
- [Blind Mice Mart](#)
 - [Independent Living Aids](#)
 - [LS&S Products](#)
 - [MaxiAids](#)

Additional Resource

- [Access World](#) – this website contains multiple articles on appliances and devices for the kitchen