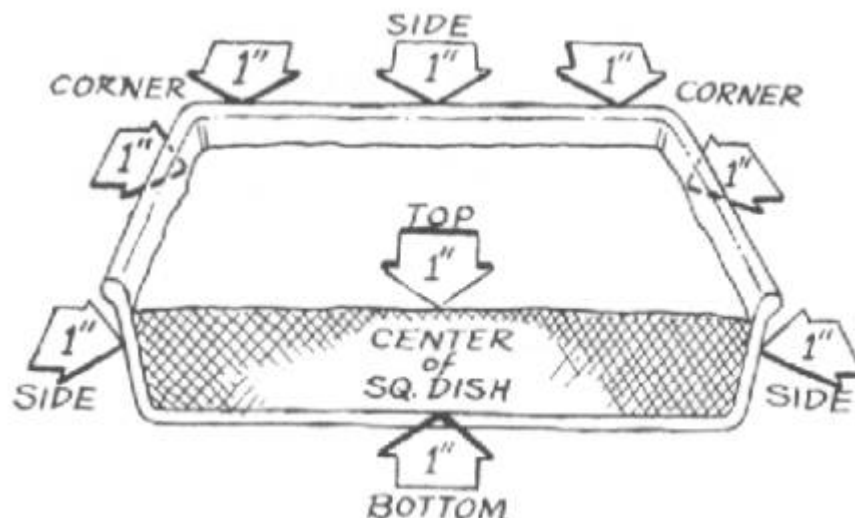


WHAT ARE SOME OF THE BASIC MICROWAVE TIPS?

1. For quicker, tastier outdoor barbecuing, start your food in the microwave and finish on the grill. Cook meats 3-4 minutes per pound at 100% power in your microwave. Immediately place on the grill to finish. Regular grill time will be reduced by at least half. Remember to place food onto the grill IMMEDIATELY. Do not let food cool off as this will not allow proper internal temperatures to be reached to deplete bacteria.
2. To peel onions more easily, place them in a covered container and microwave for 1-2 minutes at 100% power. This will also help remove the "hot" flavour from the onions you wish to serve uncooked. For example, slices you may wish to use on hamburgers.
3. Freshen chips and crackers by microwaving 2 cups for 1 minute at 100% power, uncovered
4. Dry or crisp older bread for croutons. Microwave 4 cups for 5-7 minutes at 100% power, stirring several times.
5. To make ice cream easier to scoop, soften by microwaving for 30 seconds at 100% power. For a special treat, place a scoop of ice cream on "yesterday's pie." Heat for 10-15 seconds. The pie will be "fresh and warm" and the ice cream will not be melted.
6. Fresh vegetables may be blanched in the microwave. Prepare the vegetables as desired (whole, chopped, etc.) and place in microwave casserole. Microwave on High power (100%) for 3-4 minutes per pound, covered, stirring or rearranging halfway through the time. Plunge immediately into ice cold water to cool. Drain, pack and freeze. Microwaved vegetables are HEALTHIER! More nutrients, especially Vitamin C, are retained when microwaved than when conventionally blanched or cooked.
7. Soften one stick of refrigerated butter or margarine by heating for 30 seconds at 100% power. To melt butter, heat for 1 minute at 100% power. Clarify butter by melting 6-8 ounces in a 2 cup microwave-safe container on Low power (30%) for 2-3 minutes or until completely melted. Let stand for 3-4 minutes, remove the foam and slowly pour off the yellow oil or clarified butter. Remember higher wattage ovens may need shorter cooking times than these.
8. Every other day, place your damp kitchen sponge in the microwave for 2 minutes and 'presto'...the germs are gone!"

WHAT ARE THE PROPER COOKING PATTERNS AND ARRANGEMENT OF FOOD IN THE MICROWAVE?

STANDARD ARRANGEMENTS:



Corners cook four ways - from two sides, top and bottom. Sides cook three ways - from one side, top and bottom. Center cooks two ways - from top and bottom only.

WHAT IS THE SIX-MINUTE-PER-POUND RULE?

With but a few exceptions, foods (meats, poultry, vegetables and fruit) will cook to done in a full size oven (650-800 watts) at High power (100%) in 6 minutes per pound. An exception to this is fish and seafood, which take approximately 3-4 minutes per pound. In higher or lower wattage ovens, simply shorten or lengthen the cooking times slightly.

When cooking is complete, allow food to stand 20-25% longer. Eighty percent of the cooking occurs in the microwave while it is on. After the microwave shuts off and during "standing time", food will cook 20-25% more. This is caused by the heat created by vibrating water molecules as they are slowing down to a stop. Remember, while molecules are moving, they are producing heat and will continue to cook our food. Standing time allows this "ongoing" cooking to complete, which is critical to cooking good food in the microwave. Do not cook foods until "done," it will be "overcooked" and tough after the standing time and "ongoing" cooking takes place.

Cover food you remove from oven for "standing time" so heat will not escape.

WHAT IS THE TEMPERATURE CORRELATION BETWEEN CONVENTIONAL AND MICROWAVE OVENS?

Microwave oven power is measured in watts and indicates the intensity of which your oven will cook. Learn to relate your microwave "percentages of power" to your conventional "degrees of heat."

Based on a microwave with 650-800 watts of power, the scale below shows how you can learn to relate your microwave "percentages of power" to your conventional oven's "degrees of heat."

All heat measurements are in Fahrenheit.

| | |
|-----------------|--|
| 100 - 90% power | 425 - 500 degrees, deep fat fry, broil or stove-top burner on "high" |
| 80% | 375 - 425 degrees |
| 70% | 350 - 375 degrees or medium-high on stove-top |
| 60 - 50% | 300 - 350 degrees or medium on stove-top |
| 40 - 30% | 225 - 300 degrees or medium-low on stove-top |
| 20% | 200 - 225 degrees |
| 10% | 150 - 200 degrees or lowest setting on stove-top |

BUYING, STORING AND KEEPING FOODS SAFE

Did you know you should use cracked eggs only if thoroughly cooked to kill bacteria? Or, did you know roasts may be stored in the refrigerator for 5-6 days, but ground meats and stew meat only for 2 days? Or did you know hamburger should be frozen for only 4 months, but roasts freeze successfully for a year?

Information such as this, as well as how to pick and store perfect melons or mushrooms and all the other fruits and vegetables, are only a few of the facts covered in my books.

Response to concerns regarding microwave cooking in plastic containers.

Q. I've heard it is unsafe to microwave food in plastic products. Is this true?

Tupperware™ products are safe. Health and safety are top priorities at Tupperware™ and all Tupperware™ products meet or surpass Federal government safety standards for food contact applications. All Tupperware™ products designed for use in the microwave are labeled on the bottom of the container and on the seals if they are to be used in the microwave. If the words, "microwave re-heatable" or "microwave cooking" or an icon showing short wavy lines appears on a Tupperware™ product, it has been designed to function safely in the microwave.

Q. Are all Tupperware™ products safe to use in the microwave?

Only Tupperware™ products specifically designed and recommended for use in the microwave should be used in the microwave. Tupperware™ is careful to specify which products are appropriate for microwave use and further specifies which of those microwave products are appropriate for cooking and which are appropriate for re-heating.

Using the appropriate product not only results in optimal performance, but also prevents damage to our products. The high heats generated by foods prepared in a microwave can warp and melt non-microwave safe materials and microwave use would void the warranty. More importantly, this damage poses a safety hazard that could cause accidents and injuries to the user.

Q. There have been stories in the media about the potential health risk associated with using plastic in the microwave. How can consumers be assured that Tupperware™ products are safe?

All Tupperware™ products meet all applicable laws and regulations for product safety in each country where they are sold. The plastic materials, additives and colorants used in the manufacture of Tupperware™ food storage, preparation and serving products sold in the United States meet the requirements in the Regulations of the Food and Drug Administration of the United States of America. All colorants used in those products are registered on the French Positive List (Circular Letter No. 176), which is the most stringent in the world, and comply with the requirements of the Council of Europe Committee of Ministers Resolution AP (89) 1.

Q. Are Tupperware™ products, not designated for use in the microwave, safe to use in the microwave?

Though there are no known health risks, we recommend that you use only Tupperware™ products specifically designed for use in the microwave. Tupperware™ is careful to

specify which products are appropriate for microwave use and further specifies which of those microwave products are appropriate for cooking and which are appropriate for re-heating.

Q. Do materials in Tupperware™ products migrate into food when re-heating or cooking in a microwave oven?

The safety of plastic for food storage, preparation and serving containers has been confirmed many times by the U.S. Food and Drug Administration (FDA) - the government agency that regulates all products intended for direct and indirect contact with foods and beverages.

Yes. All containers and cookware exhibit migration of materials into foods to some extent. This is seen in porcelain, crystal, aluminum, stainless steel, iron, tin, non-stick coatings and glass, as well as plastic. You may have seen the warnings to avoid using ceramics with glazes containing lead in food contact applications. As you can see, it is not the migration that is the concern, but the material and amount migrating. FDA sets the standard for what's considered an acceptable level of migration – at parts per billion. None of our materials, additives or colorants are carcinogenic and therefore has no health effects in humans. Nor do migration levels of materials in our products exceed the levels permitted by law.

Points related specifically to microwave cooking

In a 1994 article entitled, *The Hidden Hazards of Microwave Cooking*, the author suggests that the process of microwaving food poses a serious health risk to humans. It claims microwave cooking causes “severe molecular damage” in food and when consumed causes “abnormal” changes in human blood and immune systems. The Q & A above is intended to help provide information only about the safety of Tupperware™ microwave products, not microwave cooking.

The following points are intended to inform those who have concerns about the effects of microwave cooking on food and human health with information based on 30 years of study and research.

- ✓ Microwave ovens heat food by oscillating waves of energy through food at a rate of 2450 million times per second. As these waves pass through food, water and fat molecules generate heat caused by the friction produced by the waves. It is this friction that heats the food.
- ✓ Heating baby formula in a microwave oven poses a risk due to the potential for the temperature to exceed an acceptable level for consumption by an infant. Microwaves tend to heat the upper parts of the liquid more than the lower parts. As a result, sections of the formula will be hotter than other sections. It is recommended that you shake the bottle thoroughly and check the temperature before giving it to a child.

- ✓ Glass, paper and plastic are considered to be “transparent” to the microwave energy and cannot generate heat. Thus, the only way plastic containers can become heated is through food-contact. Conventional cooking in an oven happens just the opposite way. The hot air heats everything in the oven, including the container that holds the food.
- ✓ A microwave oven heats food in a more energy efficient manner than conventional cooking. In fact, some methods of conventional cooking can increase the presence of theoretically harmful substances, some of which are known to be mutagenic or even carcinogenic. There is no credible scientific evidence to support the conclusion that cooking in a microwave alters the molecular structure of food cells, thus reducing the nutritional value of food any more than conventional cooking.
- ✓ The Food and Drug Administration, one of the world’s most respected regulatory bodies, has conducted research on microwaves to assure that consumers would be safe. For 30 years, microwave ovens have been in use. More than 90% of American households now use microwave cooking to prepare food for their families – keep in mind heating food is widely considered an effective way of eliminating harmful organisms.

Question & Answer

Q. Do chemical or structural changes of any kind occur in food due to microwave cooking?

No. Energy needed to change structure is much higher than can be supplied by a microwave. There are thermal (heat) effects on molecules and ions as a result of the wave action generated by microwaving. Friction of water and fat molecules contained in the food is what produces the heat.

Q. Can any specific change in proteins and enzymes take place in microwave heated foods?

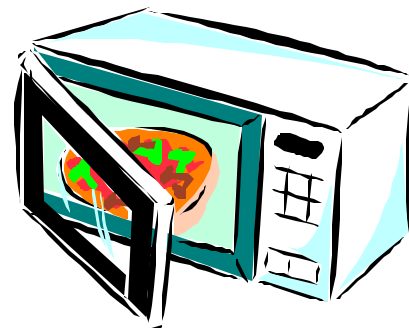
Changes in protein and enzymes depend on temperature, not the source of heating. The energy required to damage these molecules is much higher than can be supplied by a microwave oven.

Q. Can molecular changes occur in food?

No. Energy needed to change molecular structure is much higher than can be supplied by a microwave.

What you need to know about your microwave's WATTAGE...

The wattage of your microwave is the most important thing you need to know when you are doing any microwave cooking. It is just as important as knowing the oven temperature when you are baking.



The AVERAGE WATTAGE of a microwave is 700-1200 watts. This is the power that is the basis for cooking times in most microwave recipes, unless specified differently. This would be like an “average” oven temperature of 350 degrees.

For comparison...

| | | |
|------------------------|----|-----------------------------|
| 700 Watts in microwave | >> | like cooking at 350 degrees |
| 800 Watts | >> | 450 degrees |
| 900 Watts | >> | 525 degrees (Self clean) |
| 1000 Watts | >> | 575 degrees |
| 1100 Watts | >> | 625 degrees (Blow torch!!) |

The big problem is that very few people know what the wattage of their microwave is, much less what to do to compensate for today's high powered ovens. The “Tim Taylor Philosophy!” More power is not necessarily better.

To find your oven's wattage look on the inside of the door, on the back, or in “an under the hood fan” model, underneath

For each 100 watts your microwave is over the average of 700, you should decrease EITHER the cooking TIME or POWER LEVEL by 10% (i.e. If you have a 100 watt microwave, that is ~300 watts over the average. Therefore, when following a recipe, cook on POWER 7 or 8, depending on the time of day.) Reverse for lower wattage (500 – 600) ovens.



Remember – It takes two minutes to boil a mug of water in a 700-watt oven. In a 1200-watt oven, it will take 45-50 seconds!! Two minutes on HIGH power is an eternity in a 1200-watt microwave!!

A Microwave Oven: is a six-sided metal box, with metal screen in door
Microwaves are generated by the magnetron from behind control panel.

From top down and outside into center

Wattage: 700-725 watts is full-power microwave. Look for wattage on back of oven - -
key word – WATTAGE (OR POWER) OUTPUT. Less than 625 watts just means longer
cooking times. More wattage = less cooking time.

-Turntable or no? . . If none, a rotating metal fan at top of oven to disperse
microwaves evenly. Essentially no difference in cooking. Slight disadvantage with
turntable -- limits size and shape of cookware.

-Ovens built since early 1980's have stringent manufacturing standards. SAFE! (as
much chance of radiation as tanning by moonlight

-Glass tray in the bottom of oven makes clean up easier, plus elevates food for more
efficient cooking.



Microwave Trivia: - A Microwave is 4 ½ inches long, ½ inch wide.
Produced by magnetron, emitted at rate of 1 ½ billion per second. Travel
at speed of light, only go 5 feet before dissipating. Too wide to go through
holes in screen on door.

-Microwaves are reflected off metal, pass through glass, Styrofoam, plastic, etc.

-ONLY WATER, FAT, and SUGAR molecules absorb microwaves. Microwaves
penetrate foods 1-1/2 inches and the energy absorbed cause molecules to rub
together... creating FRICTION & HEAT... which cooks food.

-STAND TIME – 20% of cooking time after timer done, during which food continues to
cook.

-If microwaves have nothing to work on, they will go back home to magnetron.

Therefore, never run microwave empty, including popping plain popcorn.

-PEAK POWER CONSUMPTION PERIODS: Breakfast time, lunch, and supertime.
Not as much power available and you will find that during off times, foods will cook
faster.

Rules Of Thumb:

1. The more dense the food, the longer to cook (e.g. Potatoes longer than broccoli). Liquids heat fastest, especially sugary and fatty ones.
2. The smaller the pieces, the faster it will cook (e.g. Diced potatoes faster than baked)
3. Liquids attract microwaves first, therefore always DRAIN BETWEEN BATCHES.
4. Arrange thickest parts of food to outside of casserole. Cone in center if necessary.

Microwave MAGIC TRICK:

Demonstrates use of foil in microwave, plus illustrates microwave EFFICIENCY vs. SAFETY

You need – 2 Styrofoam cups, ½ cup chocolate chips, water, Tupperware Cone, a piece of Pyrex or Corning ware

Fill one cup with cold water, other with chocolate chips. Wrap chips cup completely in foil (Shiny side or dull side irrelevant.)

Temperature test water, chips, Cone, Pyrex. Place all in microwave, cook on High power 2.25 minutes. Temperature test again.

CAUTION: If any arcing occurs, stop microwave IMMEDIATELY, and smooth out foil.

FOIL USE Rules of thumb:

1. Must have 4 times more EXPOSED food mass as foil mass.
2. Keep foil 1 inch from sides of oven

APPLICATIONS: - Large quantities of hamburger, defrost just what you need. Shield thin parts of chickens or hams. Use on corners of rectangular pans to deflect microwaves to center. Foil pie plates, T.V. dinners.

SAFETY vs. EFFICIENCY: Many materials are microwave safe, very few are microwave efficient.

-Being efficient means that energy and time are not wasted heating the container itself.

-Pyrex, Corning Ware, Visions etc. all like to be hot first and longest. They contain metal (nickel) which creates 'invisible light shows.'

-20% cooking time is spent heating container, out of oven container draws heat from food.

-To test at home: Place your container in microwave, (along with a cup of water to absorb microwaves), cook on High for 2-2.5 minutes. If container is not virtually the same temperature as when you put it in, it is not microwave efficient.

ADVANTAGES OF TUPPERWAVE COOKWARE: Cuts cooking time by 15-20% over Corning etc.

-Handles stay cool, no potholders needed. Food stays hot longer. Keep covered after cooking, TupperWave becomes a THERMO-INSULATOR. Stack-cook by weight to increase or decrease portions (6 min./lb. Of food)

-Round casseroles with round corners for most even cooking. Bumps on bottom elevate, as well as interlock. Durable. Easy-clean, stain-resistant finish. Lightweight. Versatile. Non-Toxic. Lifetime Guarantee. Excellent customer service.

MICROWAVED CINNAMON PULL-APARTS

¼ cup butter or margarine, melted in the bottom of a Large ROCK 'N' SERVE.
1/3-cup brown sugar (or Brown sugar twin)
1 pkg. Pillsbury Crescent Dough
Nuts or raisins if desired

Mix sugar & cinnamon into melted butter. Cut dough into ten rounds. Distribute over melted butter mixture, turning to coat. Sprinkle with raisins or nuts, if desired. Cover with Seal and vent. Microwave on High for 4-4 ½ minutes. Do not overcook! Enjoy!!

MICROWAVED RICE KRISPIE SQUARES

¼ cup butter or margarine 5 cups marshmallows 6 cups Krispies

Melt butter in Large Deep Rock & Serve Container for 1 minute on High. Add in marshmallows, stirring to coat. Microwave on High for 1-½ minutes. Stir in Rice Krispies and 1 tsp. Vanilla until well blended. Wet hands and press into bottom of container. Cut with plastic knife (Sandwich Spreader) when cool.

MICROWAVED ANGELFOOD CAKE

½ box (1 ¼ cups) one step Angel food Cake Mix
2/3-cup cold water

Mix together in Large Mix and store Pitcher, for no more than 30-40 seconds, or just until well mixed. Do not over beat. Pour into ungreased Tupperware 3L casserole that has the Cone in it. Let stand 3 minutes. Cook on High power for 4-5 minutes. Do not overcook. Cake will still be sticky on top. Invert onto a tumbler or Snack Cup until cool.



Microwave with care

Avoid reheating foods in tubs and yogurt containers, experts advise

TORONTO (Dec 30, 2005)

Mary Anne McNally has been using a microwave for about a dozen years, mostly for reheating food, but she's picky about the kind of containers she'll put in the oven.

Plastic containers, unless they're deemed microwave-safe, are a definite no-no.

"My concern about that goes back a long way," said the Montreal homemaker. "When my step-daughter had her first child, who's now 15, her mother was a chemist at the University of Toronto, and she insisted . . . that her daughter get glass bottles for her grandson.

"She did not want him fed out of plastic bottles," said McNally, adding that they were difficult to find because "plastic was everywhere. But we succeeded."

Over the years, persistent reports that some plastics could leach potentially toxic chemicals into food during microwaving lent support to McNally's concern about the ubiquitous containers.

"For instance, a yogurt container or a margarine container" are verboten when it comes to the microwave, she said. "I'll store food in that and then I'll transfer it before I microwave it."

It turns out McNally has good reason to be cautious when it comes to certain plastic containers and food wraps, scientists confirm.

Many plastic products contain "plasticizers," which allow the material to be flexible and less brittle, said biologist Rolf Halden, a public health scientist at the Johns Hopkins School of Public Health.

"There is no doubt that plastics over time will give off some of these plasticizers," Halden said from Baltimore, Md. "What people need to be aware of is that plastics are manufactured for a particular purpose. And oftentimes consumers, just out of convenience, use things for not intended uses."

In other words, those handy little tubs that once held such victuals as yogurt, margarine or pudding should never get zapped behind the microwave door -- and the same is true of take-out food containers made of Styrofoam, a substance that isn't heat-stable.

Unless a product has been tested and certified microwave-safe, it should not be used to cook or reheat food in the microwave, Halden said.

SOURCE: HEALTH CANADA



CANADIAN PRESS

While reheating food in the microwave is a quick, convenient way to use up leftovers, consumers should make sure the containers they use are safe.

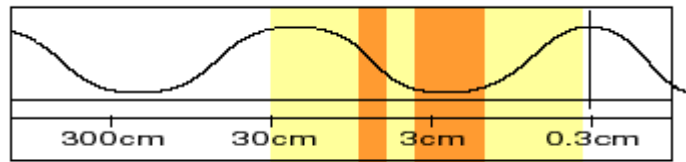


The Electromagnetic Spectrum

RADIO WAVES | MICROWAVES | INFRARED | VISIBLE LIGHT | ULTRAVIOLET | X-RAYS | GAMMA RAYS

Microwaves

Microwave region of the Electromagnetic Spectrum



Radar Bands: L S C X K

Microwaves have wavelengths that can be measured in centimeters! The longer microwaves, those closer to a foot in length, are the waves which heat our food in a microwave oven.



Microwaves are good for transmitting information from one place to another because microwave energy can penetrate haze, light rain and snow, clouds, and smoke.

Shorter microwaves are used in remote sensing. These microwaves are used for radar like the doppler radar used in weather forecasts. Microwaves, used for radar, are just a few inches long.



This microwave tower can transmit information like telephone calls and computer data from one city to another.

How do we "see" using Microwaves?

Radar is an acronym for "radio detection and ranging". Radar was developed to detect objects and determine their range (or position) by transmitting short bursts of microwaves. The strength and origin of "echoes" received from objects that were hit by the microwaves is then recorded.