

The image shows the cover of a spiral-bound notebook. The cover is a light beige or tan color with a fine, repeating grid pattern. On the left side, there is a silver metal spiral binding. The text is centered on the cover in a bold, black, sans-serif font. There is a small, rectangular, textured beige patch on the left side of the cover, partially overlapping the spiral binding.

CHAPTER 3 & 7

TOOLS & EQUIPMENT

POINTS TO PONDER REGARDING EQUIPMENT:

- **Food equipment can be dangerous.** Become familiar with equipment.
- **Not all models are alike.** Check operating manuals.
- **Cleaning is part of the operating procedure.** This is labor cost.
- **Conserve energy** – buy energy efficient equipment; don't turn on equipment 'til needed; know preheat times.
- **Your hands are your best tools.** Develop good manual skills.

YOUR JOB FOR EACH OF THE PIECES OF EQUIPMENT:

Look at the nice picture!

Review the **Do's & Don't's** section.

Review the **Cleaning** section.

These will not be covered in class due to extreme time constraints.

They are, however, testable!

Tools & Equipment

- Cooking Equipment
- Processing Equipment
- Holding and Storage Equipment
- Pots, Pans and Containers
- Measuring Devices
- Knives, Hand Tools and Small Equipment

Tools & Equipment

- PURCHASING LARGE EQUIPMENT:
 - Initial purchasing dollars \$\$\$\$
 - Operating cost dollars \$\$\$\$
 - Maintenance \$\$\$\$
 - Labor cost/skills to operate \$\$\$\$

Power Sources

– HEAT SOURCES:

- Gas
- Steam
- Electric

– HEAT TRANSFER:

- Convection – heat – liquid or gas
- Conduction – heat - touching
- Radiation – heat – infrared or light waves
- Infrared – see above
- Induction – heat - magnetic energy

Range - Stove tops – p 33

- **Open elements:** Spiders & Coils
- **Closed elements:**
 - Steel plate
 - Griddles/flat tops
- **Induction** – works by magnetically agitating the molecules in steel or iron cookware. Cookware becomes hot, the heating unit does not.



Range – Vulcan-Hart

Ovens – Page 34

- **CONVENTIONAL**– Heats air in an enclosed space
- **CONVECTION** – Fans circulate air & distribute heat more evenly. Cook more quickly
- **COMBI** – convection & convention steamer & conventional!
- **STACK/DECK OVEN** (Baking)
 - stationary
 - Rotary
 - P. 34



Convection Oven-Vulcan-Hart

Ovens, cont.

- **Microwave Oven** – microwave radiation creates heat inside
- **Revolving Oven** – reel oven. Ferris wheel type shelving. Used in bakeries. Set sheet pans on revolving shelves. High volume.
- **Slow Cook & Hold Ovens** – useful for low-temp roasting, banquet work. Can be convection or conventional.
- **Barbecue or Smoke Ovens** – Like a conventional oven but are able to produce wood smoke.

Is It A Broiler or A Grill? P. 35

Heat source:

- Overhead – Broiler
- Below – Grill P. 36
 - Charcoal
 - Infrared
- Salamander – small overhead broiler.
- Rotisseries



Broiler-Vulcan-Hart

Steam Jacketed Kettle – P. 38

- Kettles
- PSI – measure of steam pressure circulating through the jacket.
- Tilt models & stationary models.



Steam kettle-Vulcan-hart

Steam Cookers P. 38

- Cook foods very quickly. Ideal for vegetables.
- **Pressure steamers** – cook foods under pressure. Low & High pressure models.
- **Pressure-less or convection steamers.** Jets of steam are directed at the food to speed the heat transfer.
- Care and caution when using.



Steam jacket-Vulcan-hart

Tilt skillet – P. 37

- Tilting brazier or tilting fry pan.
- It is a large, shallow flat-bottomed pot.
- Used as a griddle, fry pan, brazier, stew pot, stock pot, steamer or steam table.
- Pressure fired or direct fire



Tilt skillet-Vulcan-Hart

Deep Fat Fryers

- Cooks foods in hot fat.
- Direct Fire – powered by gas or electricity. Thermostat controls temp.
- Pressure Fryer – covered fry kettles that fry food under pressure. Foods cook faster at a lower fry temperature.
- Never put liquids anywhere near a fryer.



Deep fat fryer-vulcan-hart

Large / Heavy Equipment Cold Generating

– Refrigeration Units

- Walk-ins
- Reach-in →
- Pass-throughs
- Under counters
- Doors - opening, see through
- Temperature indicators – built into the door.



Reach in Refrig-Norlake

Cold Generating

Freezer Units

- See previous slide. All types, sizes and styles

Walk-In Unit

Thermometer



Walk in refrig-Norlake

Processing Equipment

Mixers P. 39

- Floor models
- Bench models
- Mixing bowl & guard
- Slicer attachments
 - Slicer/shredder/dicer
 - Grinder
- Agitator attachment
 - Whips
 - Paddles
 - Dough Hook
 - Batter Beater



Mixer -Hobart

Processing Equipment

- There is an endless variety of processing equipment. What you have just seen are the primary types used in most commercial kitchens.
- You will see other types during your internship.

SMALL EQUIPMENT



Pots, Pans, Etc - Metals

Good cooking equipment should distribute heat evenly & uniformly. This is a function of the kind of metal it is made from and the thickness of the metal.

- **Aluminum** – good conductor; light weight; relatively soft.
- **Stainless Steel** – poor heat conductor; does not react with acids; burns easily.
- **Copper** – the best heat conductor; expensive; lots of care; reacts with many foods to form poisonous compounds!
- **Cast Iron** – distributes heat very evenly; maintains high temperatures; very very heavy! Rusts; cracks if dropped.
- **Nonstick Plastic Coatings** – Teflon/Silverstone; scratches easily
- **Glass** – very breakable; not used much in commercial operations

TYPES OF POTS

- Stock Pot
- Stock Pot with Spigot
- Sauce Pot
- Brazier
- Sauce Pan
- Straight sided saute pan
- Slope-sided saute pan
- Cast Iron Skillet
- Double Boiler
- Bain Marie & Inserts

TYPES OF PANS

- Sheet Pan – full & halves
- Bake Pan
- Roasting Pan
- Hotel Pan (Steam Table Pan)

Types of Hotel Pans:

- Full
- Half
- Quarters
- Eights
- Shallow
- Deep

Pots, Pans, Etc. – p. 43

- Stock Pots
 - Materials – Aluminum or Stainless Steel
 - Sizes – listed in quarts on the bottom of the pan.



■ International Equip.

Pots, Pans, etc

- Saute Pans
 - Materials
 - Sizes



- International equip

Pots, Pans, etc

– Steam Table Pans

- Names
- Sizes

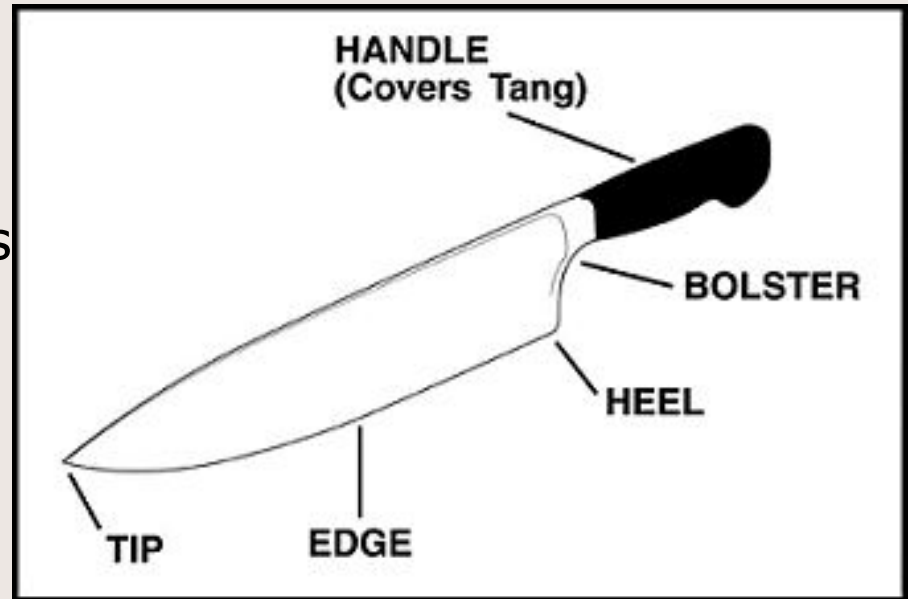
– Sheet pans

- Names
- sizes



THE KNIFE (CH. 7)

- Materials blade
 - Carbon Steel
 - Stainless Steel
 - High Carbon Stainless
- Edge
 - Serrated
 - Straight Edge
- Handle - Materials
 - Rosewood
 - Sani-handle
 - Composition



Typical kitchen knife

EdgeCraft
home of
Chef'sChoice[®]



PARTS OF A KNIFE DEFINED

HANDLE

- Where to hold with your hand

BOLSTER

- Area where the blade enters the handle
- Used as a thumb guard

EDGE/BLADE

- The cutting surface

HEEL

- End of the cutting surface

TIP

- Farthest point from the handle
- Used to pierce food

SPINE

- Unsharpened side of the blade
- Used to scrape the board

TANG

- Balances the tool
- Full, partial or rat-tailed

FULL – runs the entire length from tip to the end of the handle

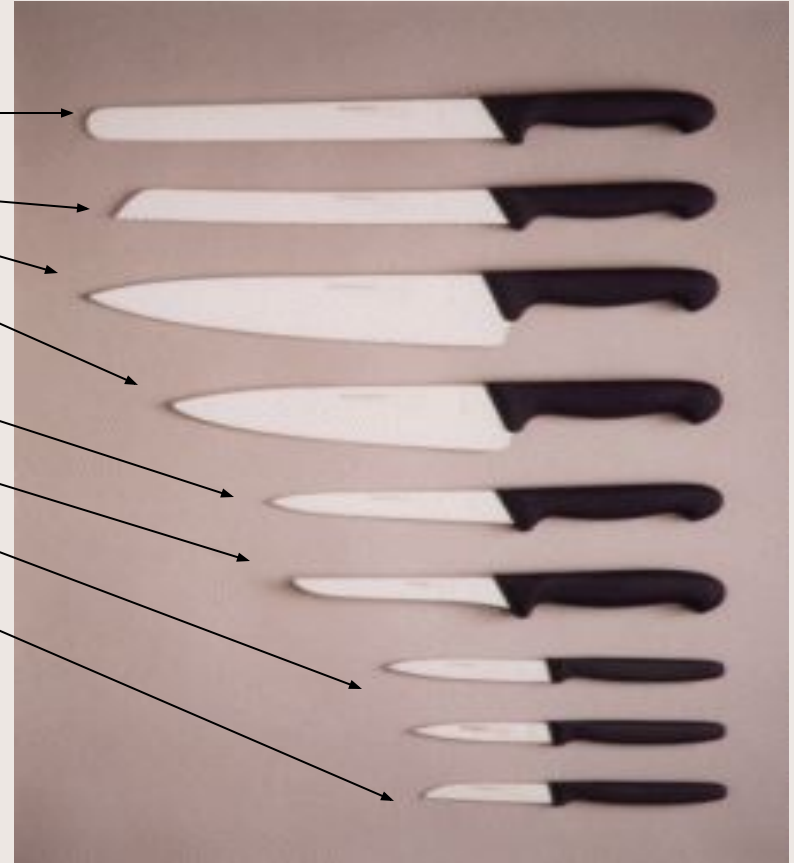
PARTIAL – ends inside the handle - visible from the handle

RAT-TAILED – the blade ends as a post of metal; the handle is molded around it.

THE KNIFE – CH. 7 (Page 110)

● TYPES OF KNIVES:

- Slicer
- Serrated Slicer
- French Knife or Chef's Knife
- Utility Knife
- Boning Knife
- Paring Knives
- Grapefruit Knife
- Butcher Knife
- Scimitar or Steak Knife
- Cleaver
- Oyster Knife
- Clam Knife
- Steel



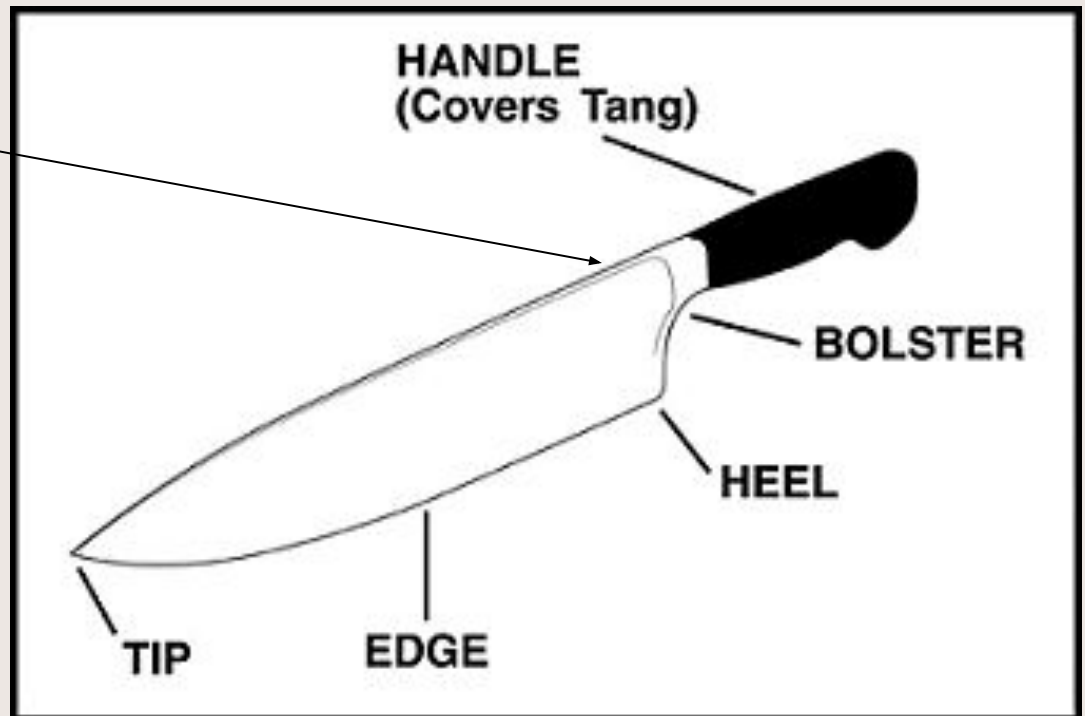
A SHARP KNIFE IS A THING OF BEAUTY!

- Sharpen
 - Use a 3-way stone
 - Course
 - Medium
 - Fine
 - Honing oil
- Steel
 - True the edge
 - Remove metal slivers
- Safety



SAFELY USING THE KNIFE!

- Holding – thumb and forefinger on the blade at all times
- Guiding Hand
- The Guiding Hand is always always presented with curved fingers.



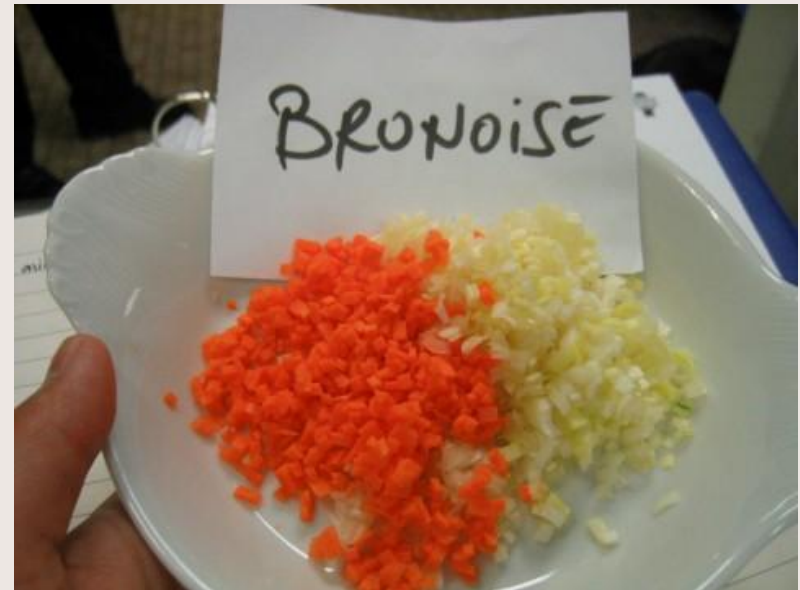
Typical kitchen knife



Basic Cuts and Shapes – P. 115

“Even cooking and appearance.”

- Brunoise
 - $1/8'' \times 1/8'' \times 1/8''$
- Small dice
 - $1/4'' \times 1/4'' \times 1/4''$
- Medium dice
 - $1/2'' \times 1/2'' \times 1/2''$
- Large dice
 - $3/4'' \times 3/4'' \times 3/4''$



CONT'D

- Julienne
 - $1/8'' \times 1/8'' \times 2\ 1/2''$
- Batonnet
 - $1/4'' \times 1/4'' \times 2\ 1/2'' - 3''$





EVEN COOKING & APPEARANCE



Basic Cuts And Shapes

“Even cooking and appearance.”

- **Concasse** – Rough chop for tomatoes
- **Mince** – Very finely chop
- **Emincer** – Very thin slices like potato chips; so thin you can see through it.
- **Shred** – Cut into large strips
- **Rough Chop** – Used when no specific size is needed or will not matter.
- **Chiffonade** – Cutting leaves into fine shreds
- **Zest** – Cutting strips from the citrus peel – only cut the peel off, no white part.





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Sometimes cutting an onion can be so emotional!

Hand tools

- Kitchen spoons

- Solid
- Slotted
- Perforated



- Scoops – Check your textbook
- Ladles – Check your textbook
- Wire Whips – Heavy & Balloon Whips
- Tongs – Spring or Scissor

WHAT'S MISE EN PLACE?

- "EVERYTHING IN ITS PLACE"
- PRE-PREPARATION

TO "MISE EN PLACE" A RECIPE:

1. Assemble your tools.
2. Assemble your ingredients.
3. Wash, trim, cut, prepare & measure raw materials.
4. Prepare your equipment.
5. Begin actual production.

