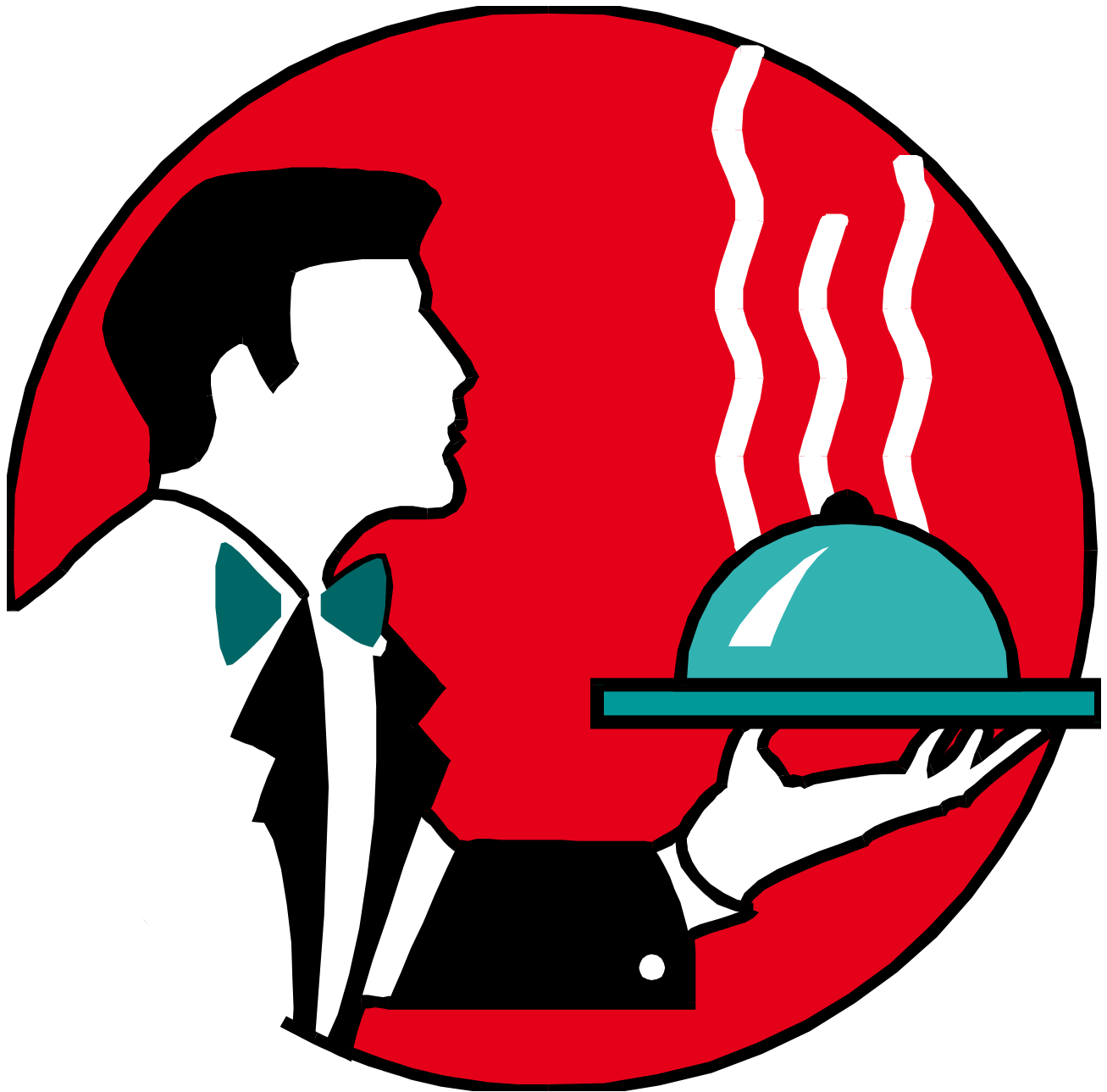


**KINGS COUNTY  
ENVIRONMENTAL HEALTH SERVICES**  
presents:



**FOOD HANDLER TRAINING COURSE**

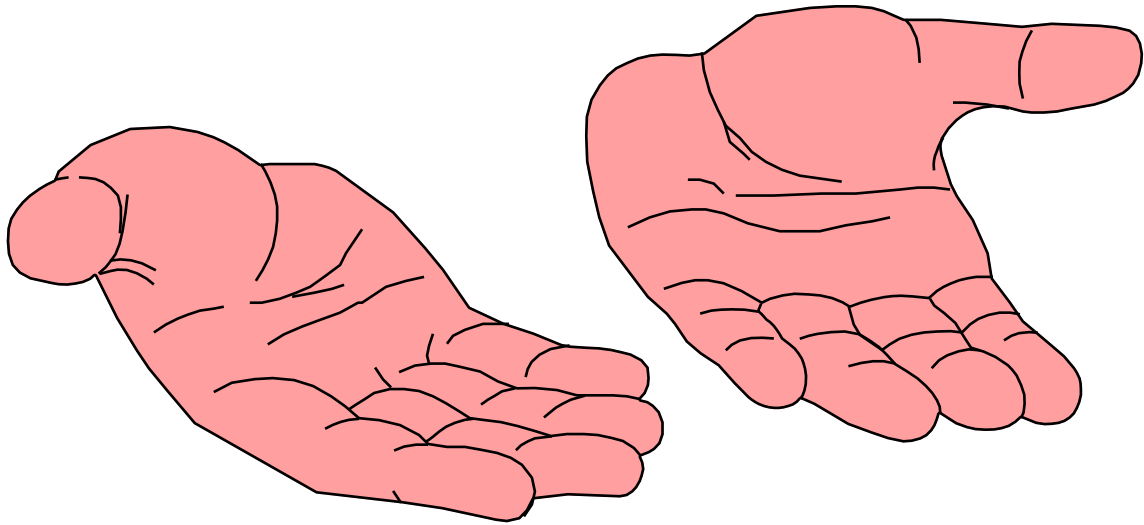
**KINGS COUNTY**  
**ENVIRONMENTAL HEALTH**  
**SERVICES**  
**FOOD HANDLERS TRAINING**  
**COURSE**

- I. Introduction
- II. Handwashing
- III. Employee Illness
- IV. Food-borne Illness - Causative Factors
  - A. Microorganisms
  - B. Growth Requirements
- BREAK (15 minutes)
- V. Food - borne Illness Prevention
  - A. Cooking Temperatures
  - B. Holding Temperatures
  - C. Cooling Hazardous Foods
  - D. Cross Contamination
- VI. Cooling Methods
- VII. HACCP
- VIII. Review / Quiz



*A cough or sneeze can transmit  
thousands of micriorganisms that  
may transmit disease*

**DIRTY  
HANDS  
SPREAD DISEASE**



**WASH  
THEM!!!**

# WASH YOUR HANDS...

## BEFORE:

Starting work

## DURING:

Food preparation as often as maybe necessary

## AFTER

Break Periods

Using the restroom facility

Coughing, sneezing, or blowing your nose

Smoking, eating, or drinking

Touching raw poultry, meat, or fish

Using cleaners or chemicals

Discarding trash

Touching hair, mouth, wounds, or sores

Working with dirty dishes, utensils, or other equipment



# THE METHOD OF :

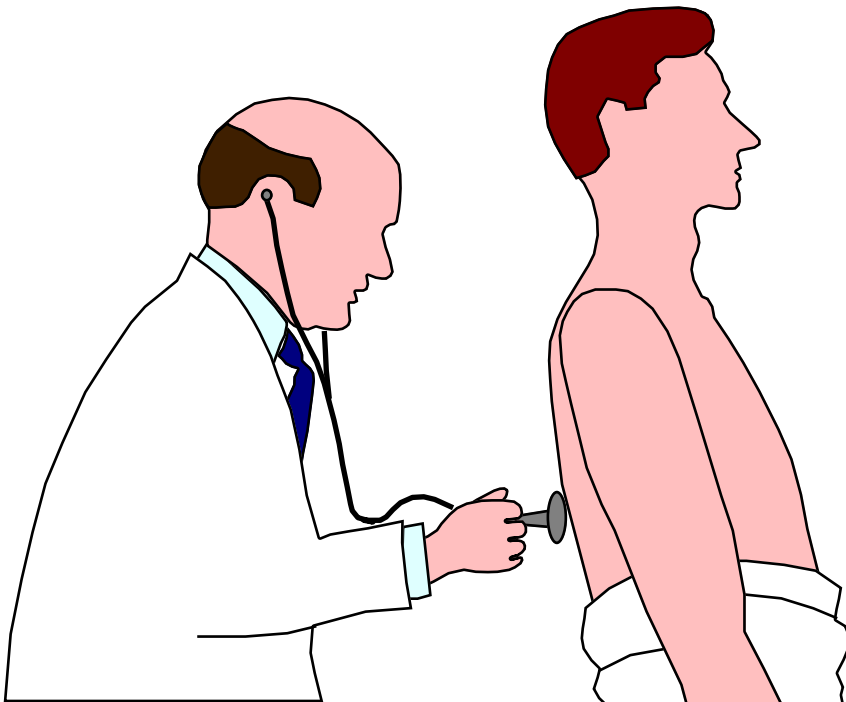
# HANDWASHING

1. Use soap and warm running water for at least 20 seconds
2. Rub your hands together vigorously
3. Wash all surfaces, including:
  - Backs of hands**
  - Wrists**
  - Between fingers**
  - Under fingernails**
4. Rinse well
5. Dry hands with single use paper towels or hot air blowers
6. Turn off the water using a paper towel



# FEELING ILL?

To prevent a possible food-borne illness from occurring, food service employees with illnesses and infections **are restricted from handling food and utensils** within a food facility. It is possible for a sick or infected food handler to spread food-borne illnesses or viruses through contact with a food product or utensil. If you feel ill, you must not work in as a food preparer in an establishment. Your customers and co-workers will thank you.



# **FOOD-BORNE ILLNESS IS CAUSED BY EITHER**

## **1. Microorganism Contamination**

### **A. Bacteria**

- Infection

- Toxins

### **B. Viruses**

## **2. Physical Contamination**

## **3. Chemical Contamination**



# FACTORS THAT CONTRIBUTE TO FOODBORNE OUTBREAKS

IMPROPER HAND WASHING

CHEMICAL OR BACTERIAL TOXINS

IMPROPER COOLING

INADEQUATE HOT HOLDING AND IMPROPER  
REHEATING OF LEFTOVERS

INADEQUATE COOKING TIMES OR  
TEMPERATURES

INGESTION OF RAW CONTAMINATED FOODS  
EMPLOYEES WHO ARE ILL WORKING IN FOOD  
PREP

IMPROPER CLEANING AND SANITIZATION OF  
EQUIPMENT

IMPROPER THAWING OF FROZEN FOODS

MULTISTAGE FOOD PREPARATION WITH  
LONG TIME LAPSES BETWEEN STAGES

EMPLOYEES WHO PRACTICE POOR PERSONAL  
HYGIENE

CROSS CONTAMINATION

FOOD PRODUCTS FROM UNSAFE SOURCES

# Food-borne Illness symptoms

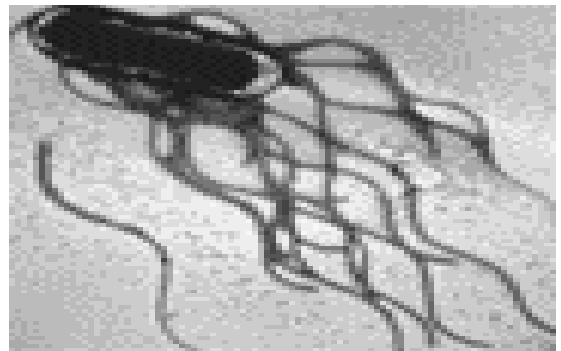
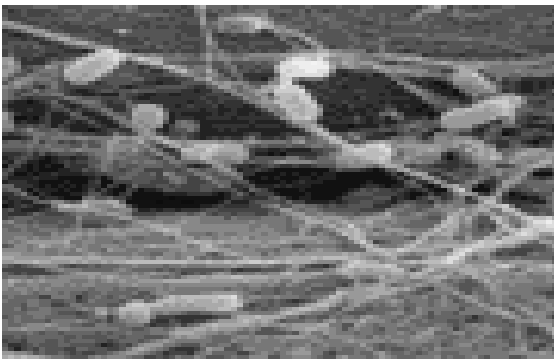
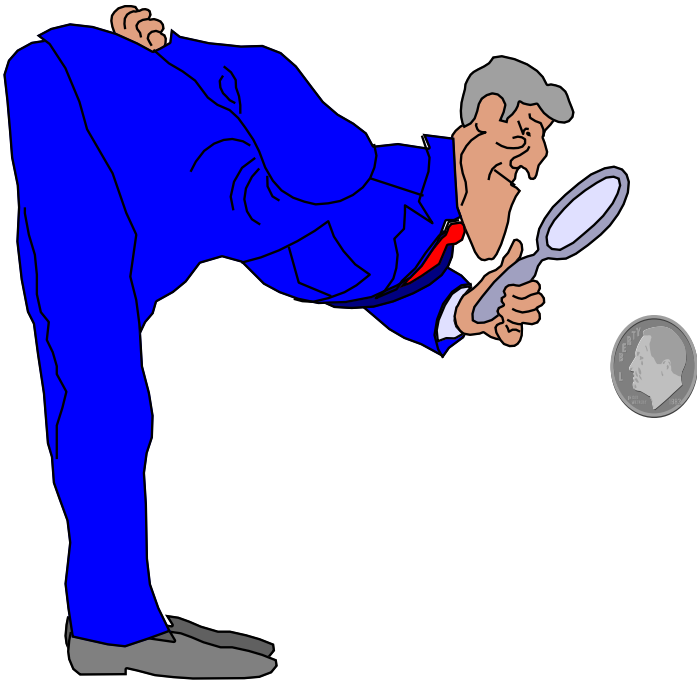
## **May Include:**

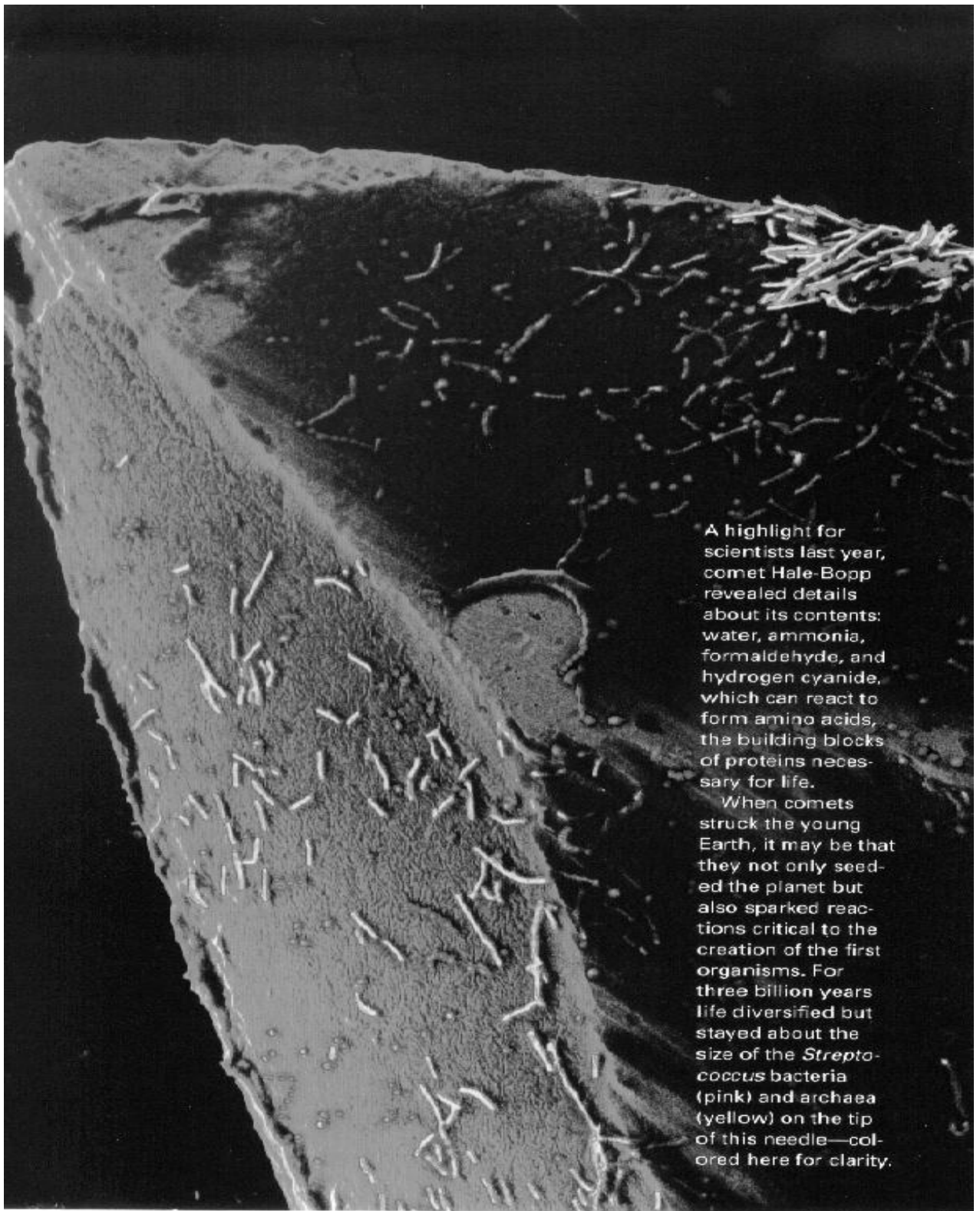
1. Abdominal pain
2. Vomiting
  - A. mild
  - B. profuse
3. Diarrhea
  - A. watery
  - B. bloody
  - C. acute or chronic
4. Fever
5. Chills
6. Headaches
7. Fatigue/weakness
8. Neurological problems
  - A. dizziness
  - B. temporary loss of neurological control
9. Death

# SIZE AND NUMBER OF BACTERIA

**OVER 20 COLONIES OF BACTERIA CAN FIT ON THE SURFACE OF A DIME.**

**EACH COLONY CONTAINS APPROXIMATELY 37.5 MILLION SEPARATE BACTERIUM FOR A GRAND TOTAL OF 750 MILLION BACTERIUM.**





A highlight for scientists last year, comet Hale-Bopp revealed details about its contents: water, ammonia, formaldehyde, and hydrogen cyanide, which can react to form amino acids, the building blocks of proteins necessary for life.

When comets struck the young Earth, it may be that they not only seeded the planet but also sparked reactions critical to the creation of the first organisms. For three billion years life diversified but stayed about the size of the *Streptococcus* bacteria (pink) and archaea (yellow) on the tip of this needle—colored here for clarity.

bacteria on the tip of a needle

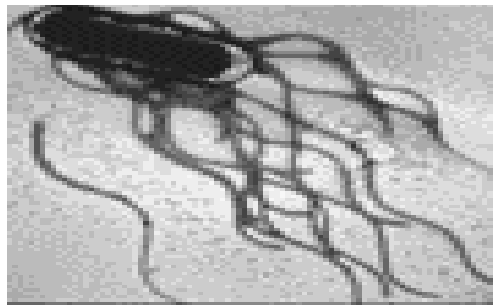
$$10 \times 10 = 100$$

$$3 \times 3 = 9$$

## Time, Temperature, and Moisture

allow organisms to  
multiply

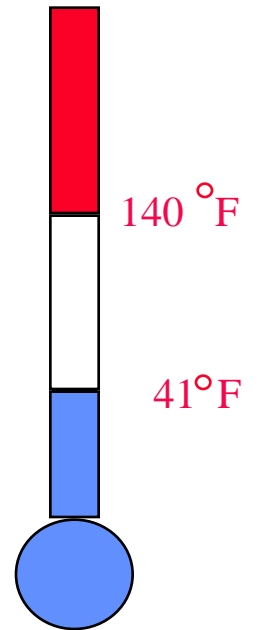
$$2 \times 2 = 4$$



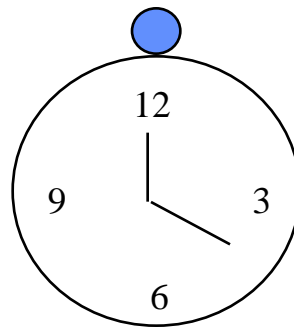
$$7 \times 7 = 49$$

# Factors Influencing **Rapid** Growth of Organisms:

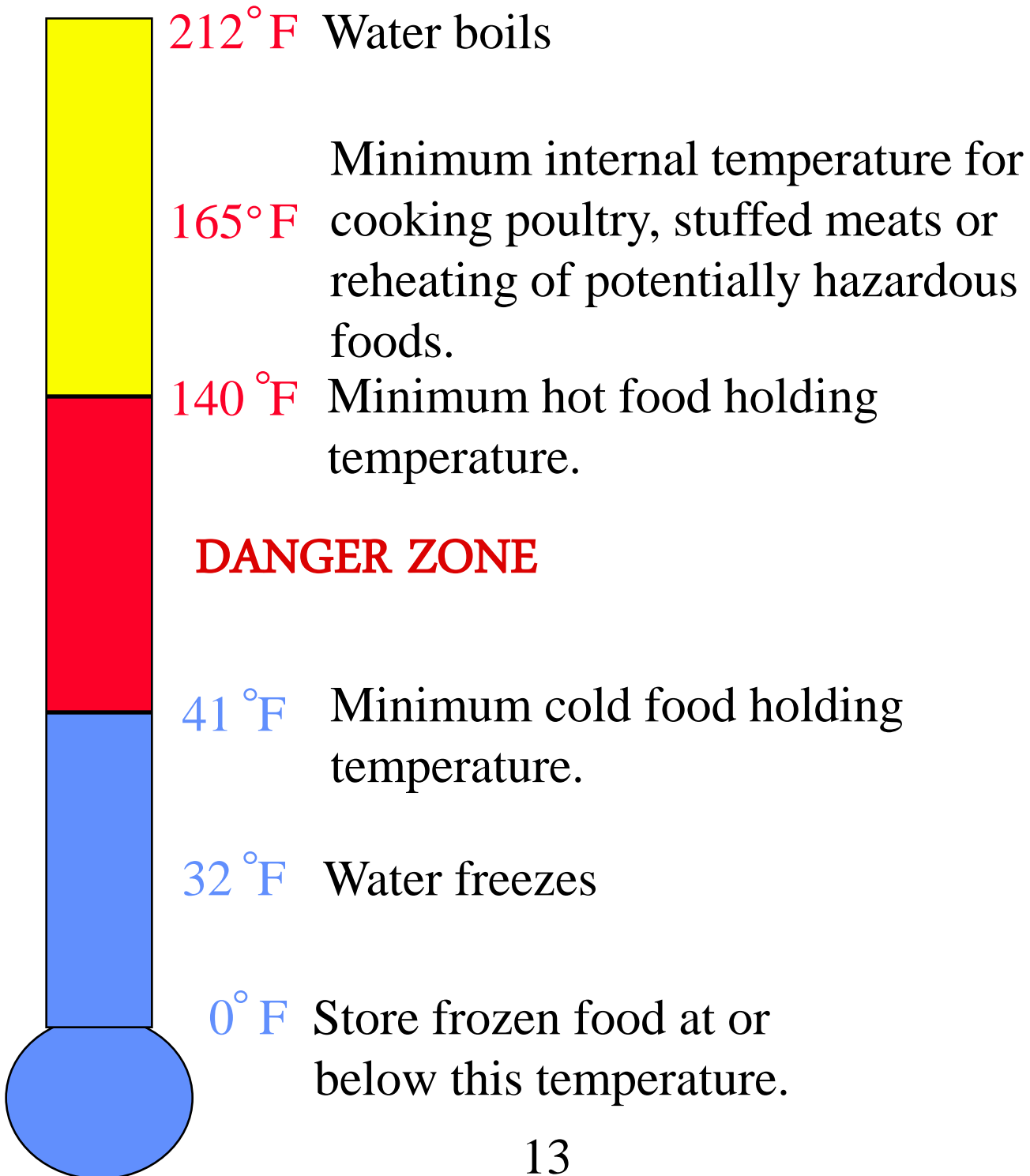
1. Temperature



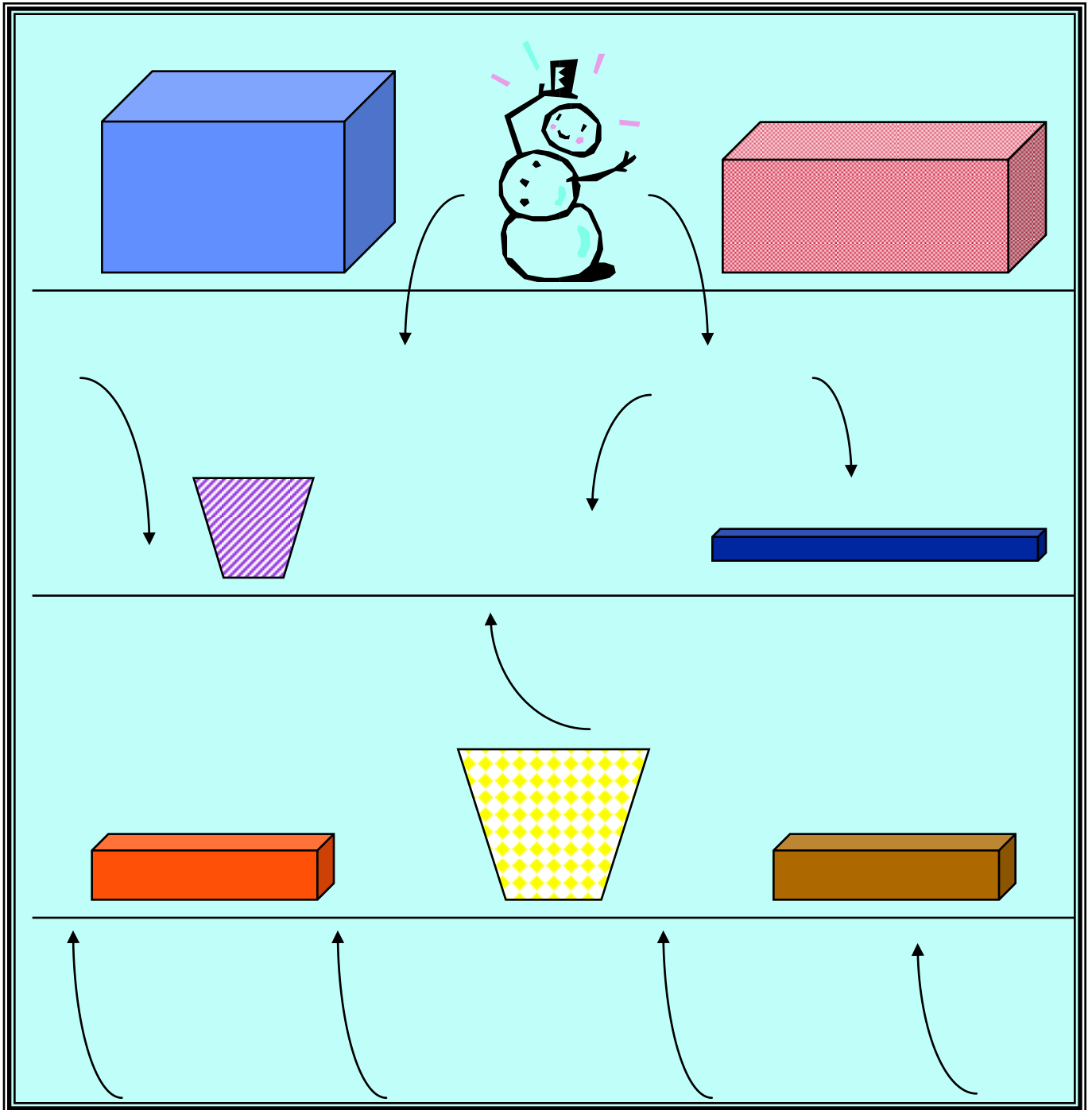
2. Time



# Critical Temperatures for Food Handling and Storage



# AIR FLOW OF A REFRIGERATOR





# COOLING TIMES AND TEMPERATURES

COOL COOKED POTENTIALLY HAZARDOUS  
FOOD PRODUCTS:

1. FROM 140 °F TO 70 °F WITHIN 2 HOURS
2. FROM 70 °F TO 41 °F WITHIN 4 HOURS

$$2 + 4 = 6$$

HOURS      HOURS      CUMULATIVE TIME

## **REMEMBER:**

THAW FROZEN FOOD PRODUCTS UNDER  
COLD RUNNING WATER OR VIA REFRIGERATION  
AT OR BELOW 41 °F.

**ALSO:**

WHEN COOLING A FOOD PRODUCT,  
USE SHALLOW PANS 2 - 4 INCHES IN DEPTH.

# CROSS

# CONTAMINATION

## *UTENSILS:*

**Wash and sanitize after every use.**

## *CUTTING BOARDS:*

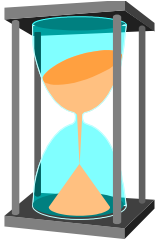
**Wash and sanitize after every task.**

## *HANDS:*

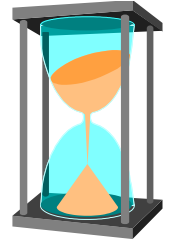
**Wash frequently and thoroughly.**

## *EQUIPMENT:*

**Clean and sanitize after every use.**



# Attention



**RESEARCH HAS SHOWN THAT IMPROPER (SLOW) COOLING OF POTENTIALLY HAZARDOUS FOODS IS THE #1 FACTOR CONTRIBUTING TO FOOD-BORNE DISEASE OUTBREAKS. THE METHODS LISTED BELOW ARE WAYS TO RAPIDLY COOL FOODS AND REDUCE BACTERIAL GROWTH AND/OR TOXIN PRODUCTION:**

- ⇒ **Anticipate the volume of food needed and only prepare that amount. - AVOID LEFTOVERS.**
- ⇒ **Divide large quantities of heated foods into smaller portions.**
- ⇒ **Place food in uncovered shallow metal pans (2-4 inches in depth).**
- ⇒ **Use ice baths with agitation to rapidly cool foods.**

# HACCP

## Hazard Analysis Critical Control Point

- I. Risk Assessment
- II. Determine Critical Control Points
- III. Determine Critical Limits For CCP's
- IV. Monitor The CCP's
- V. Corrective Actions - Limits Exceeded
- VI. *Record Keeping*
- VII. *Verify System*