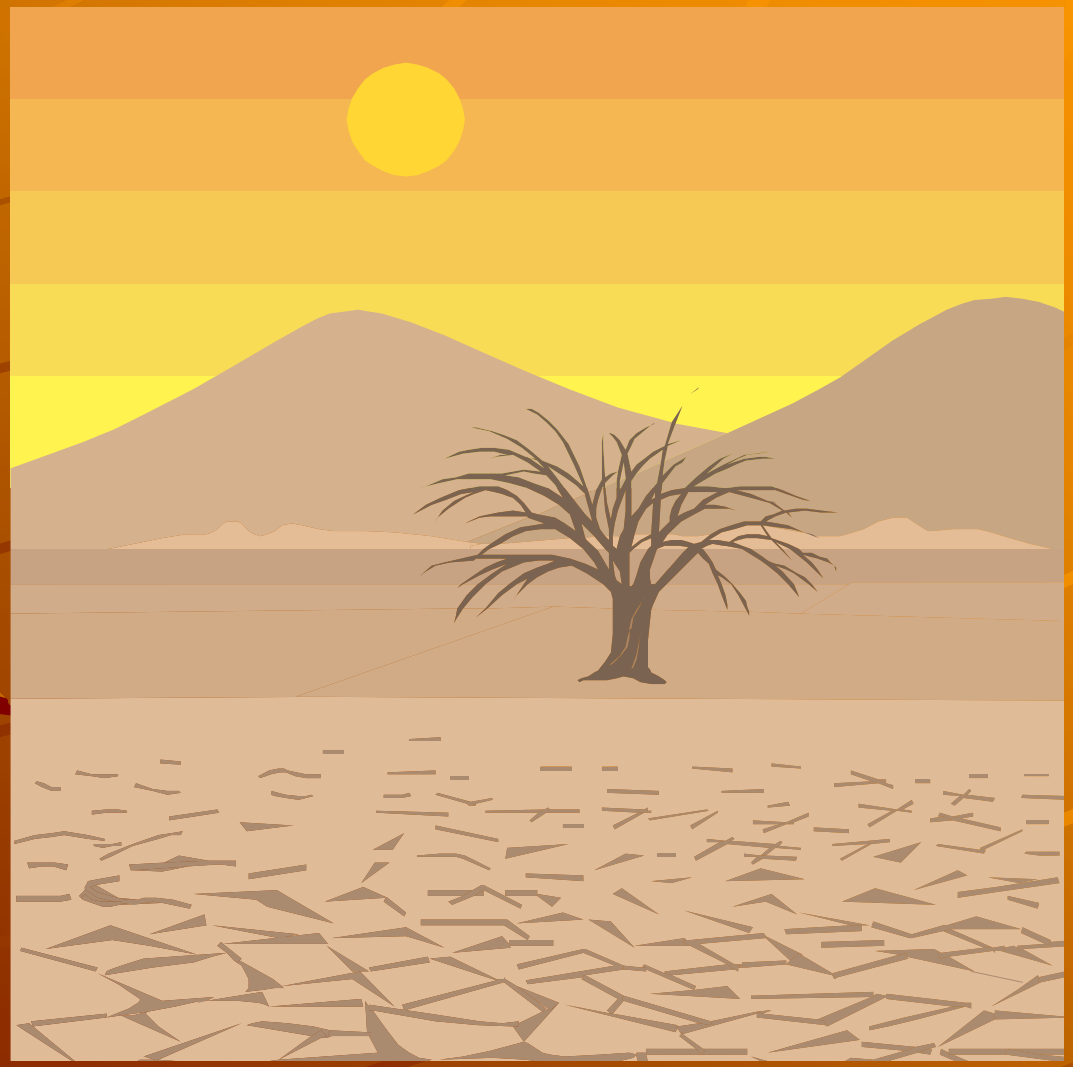
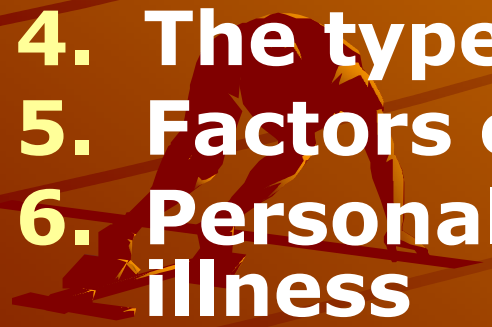
How ***HEAT*** puts Stress on your body



PRESENTATION GOAL: TO HELP YOU UNDERSTAND THESE ITEMS:

1. **Your body's handling of heat**
2. **Hot environments increase likelihood of accidents**
3. **Why your body's cooling system may fail**
4. **The types of heat-related illnesses**
5. **Factors causing heat illness**
6. **Personal factors that may cause heat illness**
7. **Basic preventive measures for heat stress**



The Bodyôs Response to Heat

- The body tries to maintain a constant internal temperature
- When the internal temperature rises, the body attempts to get rid of excess heat by:
  - Increasing blood flow to skin surface
  - Releasing sweat onto skin surface

Effects of Bodyôs Response

- Reduced blood flow to brain
  - Reduced mental alertness and comprehension
- Reduced blood flow to active muscles
  - Fatigue, loss of strength
- Increased sweating
  - Slipperiness

Potential result of = a Higher rate of mistakes/injuries too much heat

When Cooling Mechanisms Fail

- High air temperature reduces effectiveness of the cooling system
- High humidity reduces evaporation rate of sweat
- Excess loss of sodium
- Dehydration

Heat Stroke

- Cause:
  - Total breakdown of body's cooling system
- Signs & Symptoms:
  - High body temperature (>103)
  - Sweating stops and skin is hot, red, and dry
  - Headache, dizziness, weakness, rapid pulse, chills, difficulty breathing
  - If untreated, delirium and unconsciousness

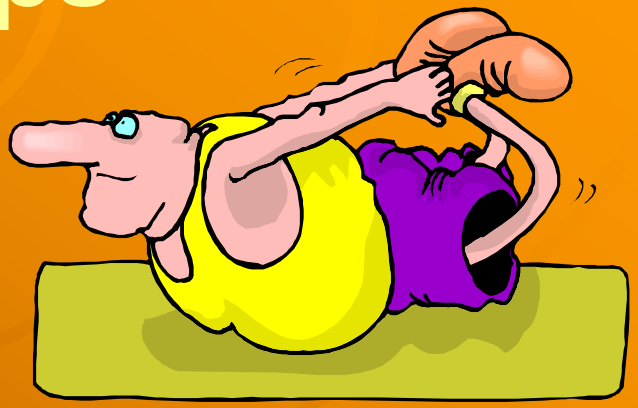
Heat Stroke - Treatment

- Treat as a medical emergency
  - May result in death, if not treated
  - 4,000 Americans die each year
- Move victim to cool area
- Give small cup of water (if not nauseous)
- Loosen and/or remove clothing
- Cool with water or massage with ice
- Fan vigorously to improve evaporation

Heat Exhaustion

- Cause:
  - Too much loss of water & salt: sweating
- Signs & Symptoms:
  - Heavy sweating, intense thirst, skin is pale and cool, rapid pulse, fatigue or weakness, nausea & vomiting, headache, blurred vision, fainting
- Treatment:
  - Move to cool area, rest with legs elevated, loosen clothing, give fluids, cool with water & fan

Heat Cramps



- Cause:
  - Loss of salt
- Signs & Symptoms:
  - Painful spasms in arms, legs and abdomen
  - Hot, moist skin

- Treatment:
  - Drink water, rest, massage cramped areas

Dehydration

- Cause:
  - Excessive fluid loss
- Signs & symptoms:
  - Fatigue, weakness, dry mouth
- Treatment:
  - Fluids and salt replacement

Heat Rash

- Cause:
  - Inflamed skin
- Signs & Symptoms:
  - Rash w/ pink pimples, itching, tingling
- Treatment:
  - Cleanse area & dry, apply calamine or other lotions

Preventing Heat Illnesses

- Know the factors that increase risk
  - The environment you're working in
  - The work you're doing
  - Your own conditioning
- Think about what you can do to prevent heat stress

Environmental Factors

- Air temperature
- Humidity
- Radiant heat source
- Air circulation

Work-related Factors

- Workload
  - Type of work
  - Level of physical activity
  - Time spent working
- Clothing
  - Weight (heavy v. breathable)
  - Color (dark v. light)
  - Personal protective equipment and clothing

Personal Factors

- Age
- Weight/fitness
- Use of drugs, alcohol, caffeine, medication
- Prior heat-related illness

Prevention

- Drink plenty of fluids
  - Don’t rely on your thirst
  - 5-7 oz. every 20 minutes

- Acclimatization: adjust to the heat
  - The body takes 3-5 days to get used to the heat
  - Be careful when returning from a change in routine: (i.e. vacation)

Prevention (continued)

- Choose proper clothing
  - Choose light colors and lightest weight possible
  - Select proper personal protective equipment
- Schedule tasks with some consideration of the heat
  - Work/rest cycles
  - Heaviest tasks early morning or dusk
- Eat properly, get enough sleep & rest

Review

- How the body responds to heat
- Why cooling mechanisms fail
- What factors contribute to heat-related illness
- How to recognize and treat the most common heat disorders
- How to prevent heat-related illness