

Maricopa Unified School District  
Health Services  
Heat Index Guidelines

**Heat Index Guidelines**

The following guidelines are intended to assist the principal and staff with decision making during extreme weather conditions that have the potential to place student and staff health and safety at risk during outdoor physical activities before, during, and after school.

Children do not adjust to extreme temperature changes as effectively as adults. According to the American Academy of Pediatrics, children have:

- A higher surface area to body mass ratio than adults. This allows for increase heat transfer from the environment to the child's body.
- With increase in physical activity, a child produces more metabolic heat than an adult, increasing body temperature.
- A child does not sweat in the same efficient capacity as an adult. This reduces the ability to lower body heat levels by evaporation.

Children need daily, vigorous exercise. This can occur during recess, physical education, or field trip activities. When excessive heat occurs (temperature exceeds **95 degrees**), the following guidelines are **recommended** to protect students from heat induced illness:

- Hydration should occur 30 minutes **prior** to outdoor activity. Students should drink a minimum of 6 ounces of water.
- Activity lasting longer than 30 minutes should have frequent rest/ hydration breaks every 10 minutes with water intake occurring in a shaded location.
- Sunscreen, provided by the parent, may be applied by the student before going outside.
- A hat, clearly labeled and not shared by other students, may be worn by the student.
- Sunglasses, clearly labeled and not shared by other students, may be worn by the student.
- A light- weight long sleeved cotton shirt may be worn by the student to reduce sun exposure.

The Heat Index Advisory will be monitored by the Director of Health Services. Dissemination of the information will be by e-mail to District employees.

**Heat Disorders and Health Effects:**

All heat disorders share one common feature; the individual has **overexposed** or **over exercised** for the person's age or physical condition in the **existing** thermal environment.

### Sunburn

A sunburn is redness and pain from unprotected skin exposure to the sun. In severe cases swelling of the skin, blisters, fever, and a headache can occur. Treatment consists of water for hydration, cool sunburn cream to sooth pain. If blisters are present, do not break the skin. Apply dry dressing to broken blisters. Seek medical attention for severe burn.

### Heat Cramps

Cramping occurs with vigorous activity in a hot environment. Painful spasms usually in leg muscles and abdomen may be present. Cramping is from loss of electrolytes during sweating. Cramps can occur from too little or too much salt in the body. The primary cause is lack of water intake during times of heat. Current recommendations are for water replacement throughout the day every 15 to 20 minutes.

### Heat Collapse (Fainting)

Fainting occurs because the brain does not receive enough oxygen due to blood pooling in the extremities. Onset is rapid and unpredictable. It is important for students and staff to gradually acclimate to a hot environment to avoid collapse. Treatment: lay flat on the ground in a cool, shaded area, legs elevated to slightly above heart, fan, offer slow sips of water as needed. Call 911 if no improvement. Contact parent anytime a child faints.

### Heat Rash

This is a common ailment in hot environments. "Prickly heat" manifests as red papules and usually appears in areas where clothing is restrictive. As sweating increases, the papules rise resulting in a "prickling" sensation. The rash occurs in areas that are persistently wet by sweat. Usually the rash will resolve itself when the individual returns to a cooler environment.

### Heat Fatigue

Fatigue usually occurs when a person does not acclimate to an environment; such as moving to Arizona in late May when temperatures are above the 95 degree level. Signs and symptoms include mental fog or confusion and unable to maintain balance. There is no treatment for heat fatigue except to remove the heat stress and rest before a more serious heat-related illness develops. Call 911 if there is no improvement.

### Heat Exhaustion

The signs and symptoms of heat exhaustion include:

|                                    |                        |                      |                 |               |                 |
|------------------------------------|------------------------|----------------------|-----------------|---------------|-----------------|
| <b>Headache</b>                    | <b>Nausea/Vomiting</b> | <b>Vertigo</b>       | <b>Weakness</b> | <b>Thirst</b> | <b>Fainting</b> |
| <b>Skin cold, Clammy, and Pale</b> |                        | <b>Thready Pulse</b> |                 |               |                 |

Heat Exhaustion responds quickly to treatment. Recommended treatment is:

- Fluid replacement (slowly)
- Rest in a shaded, cooler location

Fainting should not be taken lightly. Medical care should be provided for any student that faints during the school day.

### Heat Stroke

Heat stroke occurs when the body's temperature regulation fails and the body temperature rises to critical levels. Heat Stroke is a **medical emergency**. Signs and symptoms include:

**Confusion    Irrational Behavior    Loss of Consciousness    Convulsions**  
**Lack of Sweating    Hot, Dry, Red Skin    High Body Temperature (105.8 or higher)**  
**Rapid, Strong Pulse**

Immediate treatment is critical.

- 911 activated and all procedures followed
- The student should be placed in a shaded, cooler environment
- Outer clothing must be removed
- Cool (not cold) water should be poured over the body
- Fanning to begin evaporation to lower body temperature
- Fluids provided, starting with small sips if awake and able to swallow. Stop if nausea occurs.

**Heat Wave Safety Tips:**

- Slow Down- Reduce strenuous activities
- Dress Lightly- Light colored cotton clothing reflects sunlight and helps maintain body temperature.
- Eat light meals- Limit foods such as proteins that increase the body's metabolic rate.
- Drink Water- Water helps keep the body cool. Drink plenty, even if you are not thirsty.
- Avoid Alcohol- Increases the loss of water by the body and can lead to dehydration
- Do not take salt tablets- Increase salt intake only if advised by your health care Provider
- Spend time in Air-Conditioning- This may mean leaving home and being at a mall or other air-conditioned buildings during times of extreme heat.
- Avoid sun exposure

**Heat Index/ Heat Disorders**

| Heat Index | Category                   | Activity Limitations  |
|------------|----------------------------|---|
| < 80       | -----                      | No Activity Limitations   |
| 80-89      | Caution                    | 75% vigorous activity with 25% light activity or rest. Encourage hydration  |
| 90-104     | Extreme Caution            | 50% vigorous activity with 50% light activity or rest. Enforce hydration. Heat cramps and Heat exhaustion possible with prolonged exposure. Heat Stroke Risk    |
| 105-129    | Health Risk Danger         | 25% vigorous activity with 75% light activity or rest. Enforce hydration. Heat cramps and heat exhaustion likely with prolonged activity. Heat Stroke High Risk |
| 130- above | Extreme Health Risk Danger | All nonessential outdoor activities for students and staff should be cancelled. Enforce hydration.  |

**Heat Index/Heat Disorders Continued:**

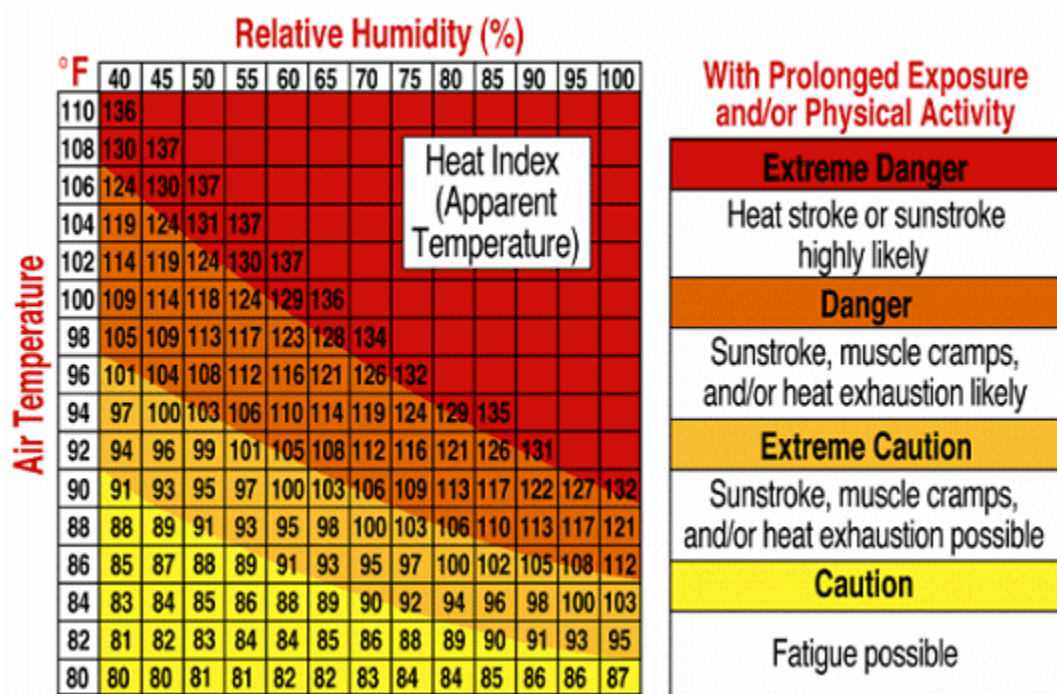
Below is a sample of an alternative schedule during times of extreme caution or Health Risk Danger.

Lunch Schedule:        10 minutes Classroom (hydration should be occurring)

20 minutes in cafeteria  
 10 minutes out side activity  
 Recess Schedule: 10 minutes in shaded area hydrating  
 10 minutes activity alternating with 10 minutes light activity or rest that includes hydration.

Students need activity during the day. Caution should be used when the Arizona Sunshine and air temperature reaches levels that can create an environment where the **heat gained** from the environment **exceeds** the level the body can remove or compensate for fluid and salt loss through sweating.

Heat combined with humidity increases the actual temperature the body feels the heat as. This should also be considered during times of outside activity with temperatures in the caution to danger levels.



For local weather watch go to [accuweather.com](http://accuweather.com) for daily, hourly, or alerts for your classroom.

The Heat Stress Poster should be placed in each classroom, workroom, and health office.

### UV Index

The UV Index was developed by the National Weather Service and the EPA to indicate the strength of solar UV radiation on a scale from 1 (low) to 11+ (extremely high).

The ozone layer shields the earth from harmful ultraviolet (UV) radiation. Ozone depletion and seasonal weather variations cause different amounts of UV radiation to reach earth. The UV Index is recommended as a tool to educate appropriate sun protection behaviors and avoid overexposure to UV radiation. For classroom activities go to: [www.epa.gov/sunwise/uvindex.html](http://www.epa.gov/sunwise/uvindex.html)

#### The UV Index Scale

1. 2 or Less: low

Recommendations: Wear sunglasses on bright days (protects lids and lens of eyes.)  
Sunscreen SPF 15 or greater at start of day  
Hydration recommended

**2. 3-5: Moderate**

Recommendations: Take precautions by covering up exposed skin  
Sunscreen SPF 15 or greater, reapply every few hours  
Sunglasses (protects lid and lens of eyes)  
Seek shade near midday  
Enforce Hydration

**3. 6-7: High**

Recommendations: Apply sunscreen with SPF of 15 or greater frequently  
Wear a wide-brim hat  
Sunglasses (protects lids and lens of eyes)  
Reduce sun exposure from 10:00am to 4:00pm  
Seek shade during the day  
Enforce Hydration

**4. 8-10: Very High**

Recommendations: Minimize sun exposure 10:00 am till 4:00 pm  
Stay in shaded areas as much as possible  
Sunscreen, SPF 15 or greater every 2 hours outdoors  
Sunglasses (protects lids and lens of eyes)  
Wear protective clothing  
Wear wide-brim hat  
Enforce Hydration

**5. 11+: Extreme**

Recommendations: Avoid sun exposure 10:00 am till 4:00 pm  
Sunscreen, SPF 15 or greater every hour outdoors  
Stay in shaded areas as much as possible  
Wear protective clothing with UV protection  
Wear wide-brim hat  
Sunglasses (protects lid and lens of eyes) with 99% UV blocking rating  
Enforce Hydration