

# KYRENE SCHOOL DISTRICT HEAT INDEX GUIDELINES AND PROCEDURES

## Purpose

The Kyrene School District is committed to protecting the health and safety of our students and staff. Kyrene provides various opportunities for outdoor physical activities before, during, and after school. These guidelines are meant to provide a decision making structure to promote student and staff safety when local weather may be detrimental to their health.

Students need daily, vigorous exercise. These guidelines are intended to provide preventive strategies that may limit or revise certain activities for physical education and other outdoor programs before, during, or after school.

## Hot Weather

Heat induced illness is preventable. Children do not adapt to extremes of temperature as effectively as adults for the following physiological reasons (American Academy of Pediatrics, 2000):

- Higher surface area-to-body mass ratio than adults, allowing a greater amount of heat to transfer from the environment to the body.
- During physical activity, children produce more metabolic heat than adults.
- Sweating capacity is considerably lower in children than adults, reducing the ability to dissipate body heat by evaporation.

## Guidelines

When excessive heat occurs, the following precautions are to be taken for all outdoor physical activity, including but not limited to: recess, physical education classes, and field trips.

Students should be hydrated before going outside and have access to drinking water while outside. In activities lasting longer than 30 minutes, periodic water breaks should be incorporated (approximately every ten minutes).

The **HEAT INDEX** is the “feels like” or effective temperature. As relative humidity increases, the air seems warmer because the body is less able to cool itself via evaporation of perspiration. As the index rises, so do the health risks (Scottsdale Unified, 2005).

During the school year, on days that exceed 95 degrees or above, a district designee will inform the schools of the Heat Advisory. Once the Heat Advisory is communicated, a school designee will inform all staff of the Heat Advisory and the suggested guidelines will be put into place. Each school will determine the Heat Advisory communication channels for the specific school site.

**Guidelines for determining Heat Index**

Temperature and humidity data shall be obtained from weather.com. Details specific to the school should be accessed as follows:

- Enter school zip code (district office zip code will be used)
- Select : “hour-by-hour” tab
- Highest estimated temperature and humidity during school hours should be used to calculate **HEAT INDEX** from the chart below. Limit activities according to second chart.

		% RELATIVE HUMIDITY																			
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
T E M P E R A T U R E	85	79	80	81	82	83	84	85	86	87	88	89	90	91	93	95	97	99	102	105	108
	90	84	85	86	87	88	90	91	93	95	96	98	100	102	106	109	113	117	122		
	95	88	90	91	93	94	96	98	101	104	107	110	114	119	124	130	136				
	100	93	95	97	99	101	104	107	110	115	120	126	132	138	144						
	105	97	100	102	105	109	113	118	123	129	135	142	149								
	110	102	105	108	112	117	123	130	137	143	150										
	115	107	111	115	120	127	135	143	151												
	120	111	116	123	130	139	148														
	125	116	123	131	141																
	130	122	131																		

Heat Index	Category	Activity Limitations
<80		No limitations
80 to 89	<b>Caution</b>	75% vigorous activity/25% light activity or rest. Encourage hydration.
90 to 104	<b>Extreme Caution</b>	50% vigorous activity/50% light activity or rest. Enforce hydration. Sunstroke, heat cramps and heat exhaustion possible.
105 to 129	<b>Danger</b>	25% vigorous activity/75% light activity or rest. Enforce hydration. Sunstroke, heat cramps and heat exhaustion likely. Heat stroke possible
130+	<b>Extreme Danger</b>	<b>All nonessential outdoor activities will be cancelled.</b>

**Sample Plan for Extreme Caution or Danger Categories:**

- Lunch time:           10 minutes in classroom  
                               20 minutes in cafeteria  
                               10 minutes outside activity
- Recess:                 Alternate shaded activities with sun exposure limit of 10 minutes

**District/School Recommendations:**

- Schools create a communication channel to use when Heat Advisory is in effect.
- Communicate to all schools that students are allowed to bring water bottles to school and have access to them throughout the day.
- Provide Heat Related Illness training for playground aides, Physical Education teachers, and athletic coaches.
- Add a Heat Related Illness Information Test to the list of required online tests (OSHA, Blood Borne Pathogens, etc.) for all school based staff.
- The District lead nurse will provide Heat Index information and American Academy of Pediatrics information on Climatic Heat Stress in Children to each school's health office staff.

**Parent Communication Tools:**

- Place a link for Heat Index information on district and school websites.
- Have this plan accessible for parents.

## References:

Scottsdale Unified School District, Modification of School-Related Activities Due to Weather or Environmental Conditions Policy and Guidelines. August, 2005.

American Academy of Pediatrics, Committee on Environmental Health (2004). Ambient air pollution: Health hazards to children. *Pediatrics*, 114, 1699-1707. Retrieved July 19, 2005 from [www.pediatrics.org/cgi/content/full/114/6/1699](http://www.pediatrics.org/cgi/content/full/114/6/1699).

American Academy of Pediatrics, Committee on Sports Medicine and Fitness (2000). Climatic heat stress and the exercising child and adolescent. *Pediatrics*, 106, 158-160. Retrieved June 22, 2005 from [www.aap.org](http://www.aap.org).

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Arizona School Risk Retention Trust, Inc. (2004). Hot Weather Guidelines. *Technical Information Bulletin No. 18*. Retrieved June 1, 2005 from <http://the-trust.org>