



KSHSAA RECOMMENDED PRACTICE AND COMPETITION MODIFICATION POLICY Based on Wet Bulb Globe Temperature (WBGT)

Each school shall have a policy in place for appropriate activity modification during periods of excessive heat and humidity which is based on the WBGT level. WBGT is a measure of air temperature, relative humidity, wind speed, sun angle, and cloud cover. WBGT is accepted as the most reliable indicator in determining the overall risk of heat illness during athletic participation in periods of elevated heat and humidity. Modifications shall be applied to any activity taking place outdoors OR in un-airconditioned facilities.

WBGT LEVEL/ZONES	ACTIVITY MODIFICATION
≤ 79.9	<ul style="list-style-type: none"> • Normal activities • Provide at least 3 separate rest breaks each hour with a minimum duration of 3 minutes each.
80 - 84.6	<ul style="list-style-type: none"> • MINIMUM 3 separate rest breaks each hour with a minimum duration of 4 minutes each. • Cold water immersion tub or other rapid cooling method should be prepared and ready.
84.7 - 87.7	<ul style="list-style-type: none"> • 2 HOUR MAXIMUM length of activity (not including rest breaks) • MINIMUM 4 separate rest breaks each hour with a minimum duration of 4 minutes each. • Cold water immersion tub or other rapid cooling method prepared and ready • Football specific: <ul style="list-style-type: none"> – Protective equipment should be limited to helmets and shoulder pads, and these should be removed for conditioning. – If practice begins in a cooler range (green or yellow), but increases to orange during practice, players may continue practice in full protective gear. • Consider competition alterations <ul style="list-style-type: none"> – Coordinate with contest officials to allow for additional breaks – Shorten length of sub-varsity competitions – Shorten length of course (Cross Country)
87.8 - 89.7	<ul style="list-style-type: none"> • Consider delaying practice/competitions until a cooler WBGT is reached • 1 HOUR MAXIMUM length of activity (not including rest breaks) • MINIMUM 20 minutes of rest breaks distributed throughout the 1 hour of practice • Cold water immersion tub or other rapid cooling method prepared and ready • Football specific: <ul style="list-style-type: none"> – No protective equipment should be worn – No conditioning activities • If unable to delay, consider competition alterations <ul style="list-style-type: none"> – Coordinate with contest officials to allow for additional breaks – Shorten length of sub-varsity competitions – Shorten length of course (Cross Country)
≥ 89.8	<ul style="list-style-type: none"> • No outdoor activity. Delay practice/competitions until a cooler WBGT is reached.

- ◆ WBGT levels shall be obtained anytime the ambient air temperature is 80 degrees or greater. Readings shall be taken at the site of activity, 30-60 minutes before the activity begins. **Schools are recommended to obtain the average WBGT over a 15-20 minute span and use this value for the day unless there is an obvious change in weather that warrants another measurement.**
- ◆ Regardless of WBGT zone, all participants shall have unrestricted access to water during activity participation.
- ◆ Football: Position-specific conditioning should be considered.
- ◆ At-risk athletes (e.g., those with prior heat illness, medical conditions, or low fitness levels) shall be monitored more closely when in any elevated zone.
- ◆ Each school should have a WBGT monitor. Click [HERE](#) for information on locating a device vendor. In the absence of a WBGT monitor, a chart is provided with estimated WBGT levels based on air temperature and humidity.

ESTIMATED WET BULB GLOBE TEMPERATURE CHART

- ◆ Use this chart in the absence of a WBGT monitor.
- ◆ Chart values are based on full sunlight and light wind.

Wet Bulb Globe Temperature (WBGT) from Temperature and Relative Humidity																															
Temperature in Degrees Fahrenheit																															
Relative Humidity (%)	68.0	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2	104.0	105.8	107.6	109.4	111.2	113.0	114.8	116.6	118.4	120.2	122.0
0	59.0	60.8	60.8	62.6	64.4	64.4	66.2	66.2	68.0	68.0	69.8	71.6	71.6	73.4	73.4	75.2	75.2	77.0	77.0	78.8	80.6	80.6	82.4	82.4	84.2	84.2	86.0	87.8	87.8	89.6	89.6
5	60.8	60.8	62.6	64.4	64.4	66.2	66.2	68.0	69.8	69.8	71.6	71.6	73.4	75.2	75.2	77.0	78.8	78.8	80.6	80.6	82.4	84.2	84.2	86.0	87.8	87.8	89.6	91.4	91.4	93.2	95.0
10	60.8	62.6	62.6	64.4	66.2	66.2	68.0	69.8	69.8	71.6	73.4	73.4	75.2	77.0	77.0	78.8	80.6	80.6	82.4	84.2	86.0	86.0	87.8	89.6	89.6	91.4	93.2	95.0	96.8	96.8	98.6
15	62.6	62.6	64.4	66.2	66.2	68.0	69.8	69.8	71.6	73.4	73.4	75.2	77.0	78.8	78.8	80.6	82.4	84.2	84.2	86.0	87.8	89.6	91.4	91.4	93.2	95.0	96.8	98.6	100.4	102.2	
20	62.6	64.4	64.4	66.2	68.0	69.8	69.8	71.6	73.4	75.2	75.2	77.0	78.8	80.6	80.6	82.4	84.2	86.0	87.8	89.6	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2			
25	64.4	64.4	66.2	68.0	68.0	69.8	71.6	73.4	75.2	75.2	77.0	78.8	80.6	82.4	82.4	84.2	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2					
30	64.4	66.2	68.0	68.0	69.8	71.6	73.4	73.4	75.2	77.0	78.8	80.6	82.4	84.2	84.2	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	102.2							
35	64.4	66.2	68.0	69.8	71.6	73.4	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2								
40	66.2	68.0	69.8	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2									
45	66.2	68.0	69.8	71.6	73.4	75.2	77.0	78.8	80.6	80.6	82.4	84.2	86.0	89.6	91.4	93.2	95.0	96.8	98.6	100.4											
50	68.0	69.8	71.6	73.4	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	91.4	93.2	95.0	96.8	98.6	102.2												
55	68.0	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	89.6	93.2	95.0	96.8	98.6	100.4													
60	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	89.6	91.4	95.0	96.8	98.6	100.4														
65	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	87.8	89.6	91.4	93.2	96.8	98.6	100.4															
70	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	91.4	93.2	95.0	96.8	100.4	102.2															
75	71.6	73.4	75.2	77.0	78.8	80.6	84.2	86.0	87.8	89.6	91.4	95.0	96.8	98.6	102.2																
80	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	89.6	91.4	93.2	96.8	98.6	100.4																	
85	73.4	75.2	77.0	78.8	82.4	84.2	86.0	87.8	89.6	93.2	95.0	98.6	100.4	102.2																	
90	75.2	77.0	78.8	80.6	82.4	84.2	87.8	89.6	91.4	95.0	96.8	98.6	102.2																		
95	75.2	77.0	78.8	80.6	84.2	86.0	87.8	91.4	93.2	95.0	98.6	100.4																			
100	75.2	78.8	80.6	82.4	84.2	87.8	89.6	91.4	95.0	96.8	100.4	102.2																			

NOTE: This table is compiled from an approximate formula which only depends on temperature and humidity. The formula is valid for full sunshine and a light wind. Table adapted from Bureau of Meteorology

REFERENCES

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