

# District 211 Weather Policy

With student safety and well-being the highest priority, High School District 211 and the Illinois High School Association (IHSA) have developed guidelines for hazardous weather conditions. The IHSA adopted new Play It Safe in the Heat guidelines for determining if conditions are safe for student-athletes to compete and outlined what modifications should be made during athletic activities. In response the Play It Safe in the Heat guidelines, the Mid-Suburban League (MSL) and District 211 have changed weather guidelines to mirror those of the IHSA.

The MSL will use a WetBulb Globe Temperature (WBGT) at the actual playing surface to obtain the most accurate data to determine if it is safe for student athletes to compete. The WBGT is different from a “heat index” or a “feels like temperature.” Some common questions regarding WBGT are answered below.

## What is Wet Bulb Globe Temperature?

The WetBulb Globe Temperature (WBGT) is a measure of the heat stress in direct sunlight, which takes into account: temperature, humidity, wind speed, sun angle and cloud cover (solar radiation). This differs from the heat index, which takes into consideration only temperature and humidity and is calculated for shady areas. Military agencies, OSHA and many nations use the WBGT as a guide to managing workload in direct sunlight. (National Weather Service Website)

	WBGT	Heat Index
Measured in the sun	X	
Measured in the shade		X
Uses temperature	X	X
Used relative humidity	X	X
Uses wind	X	
Uses cloud cover	X	
Uses sun angle	X	

## Why the MSL change from the “heat index” to the “WBGT”?

The Illinois High School Association (IHSA), the governing body of high school athletics in Illinois, recently enacted a new heat guidelines that use the WBGT. In an effort to more closely align with the IHSA, the Mid Suburban League has adopted new heat guidelines. There are several advantages to using a WBGT. First, the WBGT can be taken at a specific location. Using heat index temperatures calculated from positions close to the school, but not at the school or on the actual playing surfaces, does not give as accurate a reading. Playing conditions can vary significantly depending upon the playing surface and its location. Second, the WBGT can be taken inside a venue to gather a heat action temperature reading. Currently we do not have a way to gather a heat index for an indoor location. Additionally, the WBGT uses other weather factors, such as wind and cloud cover, to calculate a more accurate “feels like” temperature. The WBGT is used by OSHA and the United States Military when determining temperature and determining if it is safe to work.

## Why are the WBGT action temperatures lower than the heat index numbers?

Because WBGT will account for factors such as wind and cloud cover, the calculated action temperatures are actually lower than the previous heat index temperatures. Therefore, the corresponding action levels have been lowered to account for the change.

## Why would a practice or contest be allowed to continue when a “heat index” indicates a potential danger?

Because the WBGT uses additional factors such as cloud cover, wind, and sun angle to calculate their reading, the OSHA has determined the WBGT is a more accurate representation of actual temperature and the effects on an individual. When using the WBGT, it is possible to continue an outdoor activity even when the “heat index” reading is elevated because wind speed and cloud cover will affect the WBGT reading but will have no effect on the “heat index”.

### **What if a WBGT reading is not available?**

District administration will determine an alternate way to obtain a WBGT reading when an athletic trainer is unavailable to determine a WBGT temperature

### **What if there is a conflict between WBGT and “heat index” readings? For example, the “heat index” says it is ok to play but the WBGT says practice should be canceled.**

When a WBGT temperature is available, the decision to restrict or cancel practices and games will be based upon the WBGT readings and the restrictions table.

### **Protocol for Determining the WBGT Temperature**

For the purposes of establishing temperature activity restrictions, WBGT readings will be taken on three different surfaces at the school site—grass, turf, and tennis courts. Decisions about play will be made separately for each surface based on that surface’s WBGT reading. If a team is practicing or competing at the school’s off-site facility (ex. golf or cross-country), the WBGT temperature taken on the grass surface at the school will be used to determine temperature activity restrictions at the off-site location.

The athletic trainer will take WBGT readings thirty minutes prior to the start of a game or thirty minutes prior to the start of the day’s activities. Once the initial reading is taken, WBGT readings will be taken every 60 minutes until it has been determined the WBGT readings are below the yellow zone.

When monitoring the weather with a handheld heat stress monitor the licensed athletic trainer will note the WBGT every 30 seconds for five minutes. The certified athletic trainer will average the ten readings and use that final number to identify which activity restriction zone the current conditions fall under.

District administration will determine an alternate way to obtain a WBGT reading when an athletic trainer is unavailable to determine a WBGT temperature (ex. summer baseball game) or if the school’s WBGT is broken or malfunctioning. The alternate reading will be used only when a WBGT reading obtained by the school’s athletic trainer is **not** available. *It will not be used as a basis for making activity restrictions that are in contradiction to the WBGT temperature obtained by the athletic trainer.*

## **Excessive Heat**

These guidelines represent minimum standards that Mid-Suburban League member schools should follow for athletic competitions and practices when the Wet Bulb Globe Temperature (WBGT) is above 80 degrees Fahrenheit. The IHSA officials and administration, in conjunction with the head athletic trainer, will make the decision to suspend and resume activity for practices and non-state series contests. State series tournament managers will make the decisions to suspend and resume activity in accordance with the IHSA guidelines using those devices or systems usually used at the state series venue/site.

When the weather forecast indicates elevated temperatures, the athletic trainer will take WBGT readings thirty minutes prior to the start of a game or thirty minutes prior to the start of the day’s activities. Once the initial reading is taken, WBGT readings will be taken every 60 minutes until it has been determined the WBGT readings are below the yellow zone.

Minimum restrictions for athletic activity will be established thirty minutes prior to the start of activity. Readings will be recorded in writing and the records will be maintained within the athletics department. Use Table 1 (see below) with an on-site WBGT reading for appropriate exercise modifications during all indoor and outdoor athletic activities.

**Table 1**

#### **A. ≤79.9 degrees F (GREEN ZONE)**

- i. All sports
  1. Water should always be available and athletes should be able to take in as much water as they desire.
  2. Optional water breaks every 30 minutes for 10 minutes in duration. Coordinate breaks with assigned contest officials.

3. Watch/monitor athletes carefully for necessary action.

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**B. 80.0-84.5 degrees F (YELLOW ZONE)**

- i. All sports
    - 1. Water should always be available and athletes should be able to take in as much water as they desire.
    - 2. Optional water breaks every 30 minutes for 10 minutes in duration. Coordinate breaks with assigned contest officials.
    - 3. A cooling station (ice towels, shaded areas, etc.) will be made available. Cold Water Immersion must be available.
    - 4. Watch/monitor athletes carefully for necessary action
  - ii. Contact sports and activities with additional protective equipment (in addition to the above measures)
    - 1. Protective equipment is removed when not necessary for safety (helmets, shoulder pads, or catching gear).
  - iii. Reduce time of inside and outside activity. Consider postponing activity to later in the day.
  - iv. Thirty minutes prior to the start of an activity, and again 60 minutes after the start of the activity, temperature and humidity readings will be taken at the site of the activity.
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**C. 84.6-87.5 degrees F (ORANGE ZONE)**

- i. All sports
    - 1. Contests may conclude if the temperature move to orange mid-game with required breaks. **No new contest may be started if the temperature is in this range.**
    - 2. Water should always be available and athletes should be able to take in as much water as they desire.
    - 3. Coaches and officials are encouraged to take a 10:00 break every 30:00 of training or competition.
    - 4. A cooling station (ice towels, shaded areas, etc.) will be made available for before, during, and after exercise/training/competition. Cold Water Immersion must be available.
    - 5. Watch/monitor athletes carefully for necessary action
    - 6. If practicing, maximum of 2 hours of training/practice including all breaks from original start time even if WBGT drops below 84.6.
  - ii. Contact sports and activities with additional protective equipment (in addition to the above measures)
    - 1. For Practices: Protective equipment is removed when not necessary for safety (helmets, shoulder pads, or catching gear). Football and lacrosse are permitted a maximum of helmet, shoulder pads, and protective gloves. If additional equipment is necessary for safety, suspend activity.
    - 2. For Contests: Helmets and other protective equipment removed if not involved in activity or necessary for safety. If necessary for safety, suspend activity.
  - iii. Thirty minutes prior to the start of an activity, and again 60 minutes after the start of the activity, temperature and humidity readings will be taken at the site of the activity.
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**D. 87.6-89.9 degrees F (RED ZONE)**

- i. All sports
  - 1. Per Orange Zone protocol, **no new contests can be started if the temperature is in this range.**
  - 2. Water should always be available and athletes should be able to take in as much water as they desire.
  - 3. Coaches and officials are encouraged to take a 10:00 break every 30:00 of training or competition.

4. A cooling station (ice towels, shaded areas, etc.) will be made available for before, during, and after exercise/training/competition. Cold Water Immersion must be available.
5. Watch/monitor athletes carefully for necessary action
6. Maximum of 1 hour of training/practice while temperature is in this range from the original start time even if the WBGT drops below 87.6
- ii. Contact sports and activities with additional protective equipment (in addition to the above measures)
  1. For Practices: No protective equipment may be worn during practice, and there may be no conditioning activities.
  2. For contests already started: Helmets and other protective equipment removed if not involved in activity or necessary for safety.
  3. If necessary for safety, consider postponing games or practices to a cooler time of day.
- iii. Recheck air temperature and humidity every 30 minutes to monitor for increased heat conditions.

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**E.  $\geq 90$  degrees F (BLACK ZONE)**

- i. All sports
  1. No training/competition.
  2. Cancel and/or postpone activity to cooler time of the day.

**NOTE:** While most attention will be given to outdoor sports in the fall and spring, indoor venues/facilities (gymnasiums, wrestling rooms, and swimming/diving facilities) that are not air conditioned should not be neglected for the purposes of this policy. Additionally, sometimes conditions will vary for different aspects of the same competition or practice. For example, one part of a cross-country course may be hotter or more humid than other parts. The best course of action for certified athletic trainers and managers is to take a WBGT reading at the place of the most severe conditions.

**Treatment of Exertional Heat Stroke and Cold—Water Immersion**

The current best practice for the treatment of exertional heat stroke is rapid whole-body cooling via Cold Water Immersion (CWI) on site followed by transport to advanced medical care (cool first transport second). If whole-body CWI is not readily available, alternate evidence-based whole-body cooling techniques can be utilized (e.g. TACO method). The best practices shall be carried out by a licensed athletic trainer, designated healthcare provider, or EMS provider. In the event that these medical providers are not available and heat illness is suspected, cooling should be initiated until advanced medical personnel arrives. The cooling modality shall be ready for immediate use when WBGT is at or above 80F. At WBGT below 80F the cooling modality should be readily available.

## **Excessive Cold**

Cold exposure can be uncomfortable, impair performance and even become life threatening. Conditions created by cold exposure include frostbite and hypothermia. Wind chill can make activity uncomfortable and can impair performance when muscle temperature declines. Frostbite is the freezing of superficial tissues, usually of the face, ears, fingers, and toes. Hypothermia, a significant drop in body temperature, occurs with rapid cooling, exhaustion and energy depletion. The resulting failure to the temperature-regulating mechanisms constitutes a medical emergency. The MSL cold exposure policy utilizes wind chill, precipitation, and the type of activity to determine playing and practice restrictions.

### **Wind Chill Temperature Index**

Cold temperatures, along with wet and windy conditions, can increase the risk of frostbite and hypothermia, even when air temperature is above freezing. For this reason, the Mid-Suburban League has developed a cold policy using the Wind Chill Temperature (WCT) Index. WCT Index takes into account two variables - temperature and wind speed.

Cold Exposure:

- Asthma attack (bronchospasm) triggered due to breathing cold air
- Coughing, chest tightness, burning sensation in throat and nasal passage
- Reduction of strength, power, endurance, and aerobic activity
- Core body temperature reduction, causing reduction of motor output

Cold Recognition:

- Shivering, a means for the body to generate heat
- Excessive shivering contributes to fatigue, loss of motor skills
- Numbness and pain in fingers, toes, ears, and exposed facial tissue
- Drop in core temperature; athlete exhibits sluggishness, slowed speech, disoriented

Clothing is one of the most important parts of keeping the athlete's body warm. Athletes should dress in layers and try and stay dry. Layers can be added or removed depending on temperature, activity and wind chill. Athletes should layer themselves with wicking fabric next to the body, followed by lightweight pile or wool layers for warmth.

Athletes should use a wind block garment to avoid wind chill during workouts. Heat loss from the head and neck may be as much as 50% of total heat loss; therefore the head and neck should be covered during cold conditions. Other extremities should be covered at all times to protect from the wind chill.

An example of appropriate layering is:

1. Inner Layer: Wicking layer (wool or polyester)
2. Middle Layer: Insulation layer (fleece or wool)
3. Outer layer: Water and windproof layer

### **Precipitation**

In addition to Wind Chill, the cold policy also creates a differentiation between days with precipitation and dry days. Wind speed interacts with ambient temperature to significantly increase body cooling. When the body and clothing are wet (whether from sweat, rain, snow, or immersion), the cooling is even more pronounced due to evaporation of the water held close to the skin by the wet clothing.

### Type of Activity

A third factor in the cold policy is the type of activity that is taking place. Activities are divided into two categories; Continuous Movement (CM) and Non-Continuous Movement (NCM). Generally, while engaging in CM activities, because of the nature of the activity, more body heat is created. In NCM activities, the amount of movement is decreased therefore less body heat is created.

Continuous Movement activities are:

- Cross-country
- Football
- Lacrosse
- Soccer
- Tennis

Non-Continuous Movement (NCM) activities are:

- Baseball
- Golf
- Softball
- Track

### Protocol for Determining the Wind Chill Temperature

District 211 and 214 schools are equipped with Weather Sentry and Perry Weather systems respectively. These systems provide measures of temperature and wind speed. These measures are used to calculate the “Feels like” in the system. District 211 and 214 schools will use the “feels like” number to compare to Chart 1 to determine any practice or game limitations due to potential cold.

**Chart 1:**

WC / Feels Temperature	Practice Limitations	Game Limitations
40 Degrees to 32 Degrees without precipitation	No Restrictions	CM games as scheduled, NCM games are canceled but can be played with mutual AD consent
40 Degrees to 32 Degrees with precipitation	Practices limited to 2 hours	Consider canceling CM games if precipitation is not a field factor with mutual AD consent, cancel NCM games
Below 32 Degrees to 15 Degrees without precipitation	Practices limited to 2 hours	CM games can be played with AD consent, cancel NCM games
Below 32 Degrees to 15 Degrees with precipitation	Practices limited to 1 hour	CM games can be played with AD consent, cancel NCM games
Below 15 Degrees without precipitation	Practices limited to 1 hour, rewarm every 15 minutes	Cancel games
Below 15 Degrees with precipitation	No outside practices	Cancel games
Below 5 Degrees N	No outside activities	Cancel games



## Severe Weather (Lightning or Tornado)

In conjunction with the IHSA and the Mid Suburban League has developed the following guidelines for severe weather situations. A copy of the [IHSA Severe Weather Safety Guidelines](#) can be found on their website.

In order to determine if conditions are safe to play during the potential of severe weather, coaches and administrators must rely on multiple data; Thor Guard, lightning detection system, Weather Sentry, sight, and sound.

### **SEVERE WEATHER PLAN**

1. The athletic director shall monitor local weather conditions before and during practices and contests
2. If warranted, by a Thor Guard or lightning detection alert, seeing a lightening ground strike, or hearing thunder; evacuate all spectators and athletes to indoor shelter. *Due to the possibility of electrocution by a direct lightning strike, the pool and pool area shall be treated in the same manner as an outside area and should be evacuated during severe weather incidents.*
  - a. A designated safer place is a substantial building with plumbing and wiring where people live or work, such as a school, gymnasium or library. An alternate safer place from the threat of lightening is a fully enclosed (not convertible or soft top) metal car or school bus.
3. Suspension and resumption of play
  - a. When the Thor Guard or lightning detection system sounds an alert, suspend play until the Thor Guard or lightning detection system signals the "All Clear" and vacate the outdoor activity to a designated safer location immediately.
  - b. When thunder is heard, or lightning is seen\*, the leading edge of the thunderstorm is close enough to strike your location with lightening. Suspend play for at least 30 minutes and vacate the outdoor activity to the designated safer location immediately.
    - i. 30 minutes rule. Once play has been suspended, wait at least 30 minutes after the last thunder is heard or lightning is witnessed\* prior to resuming play.
    - ii. Any subsequent thunder or lightning\* after the beginning of the 30-minute count will reset the clock and another 30-minute count should begin.
    - iii. Thor Guard and Weather Sentry should be used to assist in making a decision to suspend play if a lightning strike is noted to be within 10 miles of the event location. However, you should never depend on the reliability of these devices and, thus, hearing thunder or seeing lightning\* should always take precedence over information from a mobile app or lightning-prediction device.
  - c. If the local tornado system should sound, vacate the outdoor activity to a designated safer location immediately.
4. The athletic director will review this procedure annually with all administrators, coaches and game personnel and train all personnel.
5. The athletic director will inform student-athletes and their parents of the lightning policy at start of the season.

\*- At night, under certain atmospheric conditions, lightning flashes may be seen from distant storms. In these cases, it may be safe to continue an event. If no thunder can be heard and the flashes are low on the horizon, the storm may not pose a threat. Independently verified lightning detection information, Weather Sentry or Thor Guard, should be consulted to further evaluate potential hazards from storms.

**Safe Areas:** All personnel, athletes and spectators should be clearly informed of available safe structures or shelters in the event a thunderstorm approaches. A safe structure is any fully enclosed building frequently used by people. In absence of that – athletes and spectators should go to any vehicle with a hard metal roof. Roll up the windows and do not touch the sides of the vehicle. If no safe structure or vehicle is available, find a thick grove of small trees surrounded by taller trees or a dry ditch. Assume a crouched position on the ground with only the balls of your feet touching the ground. Wrap your arms around your knees and lower your head. Minimize contact to the ground since lightning often travels through the ground.



**Avoid:** Tall trees or objects like light poles or flagpoles, individual trees, standing pools of water and open fields. Also avoid being the highest object on the field. Do not take shelter under trees. Avoid bathrooms if another building is available, and do not use a land-line telephone. A cellular phone or portable phone is a safe alternative if in a secure shelter or vehicle.

**Resuming Activity:** Everyone should wait at least 30 minutes after the last flash of lightning or sound of thunder or the Thor Guard/lightening detection signals “All Clear” before returning to the field or activity.

### ***TORNADO ACTION PLAN***

Once a warning is issued, either through an audible siren or on the FEMA Wireless Alert:

1. The athletic director or coach will direct individuals to seek shelter indoors in areas identified within the building as safe to shelter-in-place.
2. Safe areas are interior rooms or hallways, free of windows, and should ideally have a second story above them.
3. Athletes and spectators should remain in the shelter-in-place locations and the outdoor conditions should be monitored via the internet or local television.
4. Once the conditions are determined to be safe, resumption of activities can take place.

### ***Lightning***

All Mid Suburban League schools are equipped with a Thor Guard or lightning detection system. Commonly, Thor Guard is incorrectly referred to as a lightning detector. In addition to lightning detection, Thor Guard is also a lightening prediction system. Detection technology is based on electromagnetic (EMF) disruptions in our atmosphere, or what we would recognize as “static” on our AM radio dial. This technology can determine the distance between your location and the location of a lightning strike that has already occurred. Both Thor Guard and lightening detection systems can see lightning strikes in your region. In addition to detecting lightning strikes, Thor Guard constantly monitors the ongoing increases or decreases in intensity of the EMF to generate a prediction of lightning occurring in your immediate area (typically within a 2-2.5 mile radius). Thor Guard will detect lightning strikes that have occurred and attempt to predict potential strikes in the future.

**If the Thor Guard or lightning detection system goes into Red Alert a warning will sound. The athletic fields and spectators are to be cleared immediately. All athletes and spectators will be directed to take shelter indoors immediately. If the Thor Guard is in Yellow, warning mode, an alarm will not sound but coaches and administrators should consult the Weather Sentry weather application to monitor potential severe weather conditions.**

**When thunder is heard, or a cloud-to-ground lightning bolt is seen, the thunderstorm is close enough to strike your location with lightning. The athletic fields and spectators are to be cleared immediately. All athletes and spectators will be directed to take shelter indoors immediately.**

At night, under certain atmospheric conditions, lightning flashes may be seen from distant storms. In these cases, if the Thor Guard has not alerted, it may be safe to continue an event. **If no thunder can be heard and the flashes are low on the horizon, the storm may not pose a threat. Independently verified lightning detection and prediction information, Weather Sentry, Thor Guard or lightning detection system, should be consulted to further evaluate potential hazards from storms.**

### ***Tornado***

#### ***WARNING SYSTEMS***

Tornadoes and severe thunderstorms can develop quickly, so an important component of a severe weather plan is a reliable warning system. Warnings are disseminated through outdoor warning sirens, local television and radio stations, cable television systems, cell phone apps, and NOAA weather radio. Find out how all these systems work and which are available to you.

Public Warning Sirens are used in many towns to warn people of tornadoes. However, rural areas and smaller towns do not have them. If your community does have sirens, find out how they are used and if you can hear them.

Remember, even if a siren is nearby, they are intended as an outdoor warning system. You may not be able to hear it inside your house. When you hear sirens, do not call 911 to ask what is happening; instead, listen to NOAA Weather Radio or local radio or TV for the warning information.

Most local radio and television stations broadcast storm warnings. Cable television systems will also have warning information, sometimes on a designated channel. However, satellite television stations do not provide local warnings unless you are watching a local station.






Many smartphone apps are available to provide warning notification. One particular service is the free Wireless Emergency Alerts provided through the Federal Emergency Management Agency. The warnings are broadcast from cell towers in the vicinity of the tornado and flash flood, so you will receive them if you are near the hazard. Coaches should check to ensure that the emergency weather alerts are activated on their cell phones.

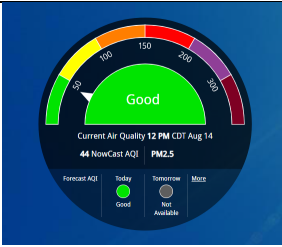
## Recognition and Management of Air Quality

The Air Quality Index (AQI) is a system developed by the US Environmental Protection Agency that describes the general health effects associated with different pollution levels, as well as whatever precautionary steps may need to be taken if air pollution levels rise into an unhealthy range. During times of suspected high air pollution, the AQI should be checked prior to all practices and contests. A particular location's AQI can be found at <https://www.airnow.gov/>

The AQI takes into consideration the five major determinants of air pollution: ozone, particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide. The measured pollutant concentrations are then converted into a number on a scale of 0 to 500. Higher numbers correlate to a greater level of air pollution. Under the Clean Air Act, the National Ambient Air Quality Standard is 100. An AQI level greater than 100 indicates that a pollutant is in the unhealthy range.

The table below shows when and how to modify outdoor physical activity based on the Air Quality Index. This guidance can help protect the health of all children, including teenagers, who are more sensitive than adults to air pollution.

Air Quality Index	Outdoor Activity Guidance
 <b>green</b> GOOD	Great day to be active outside!
 <b>yellow</b> MODERATE	Good day to be active outside! Students who are unusually sensitive to air pollution could have symptoms.*
 <b>orange</b> UNHEALTHY FOR SENSITIVE GROUPS	It's OK to be active outside, especially for <b>short activities</b> such as recess and physical education (PE). For <b>longer activities</b> such as athletic practice, take more breaks and do less intense activities. Watch for symptoms and take action as needed.* Students with asthma should follow their asthma action plans and keep their quick-relief medicine handy.
 <b>red</b> UNHEALTHY	For <b>all outdoor activities</b> , take more breaks and do less intense activities. Consider moving <b>longer or more intense activities</b> indoors or rescheduling them to another day or time. Watch for symptoms and take action as needed.* Students with asthma should follow their asthma action plans and keep their quick-relief medicine handy.
 <b>purple</b> VERY UNHEALTHY	Move <b>all activities</b> indoors or reschedule them to another day.



Sample Air Quality  
from [airnow.gov](https://www.airnow.gov/)

Using the information above and the reading from the [www.airnow.gov](https://www.airnow.gov/) website for the contest/practice locations ZIP code, the following chart will be used to determine the response to poor air quality.

<b>Air Quality</b>	<b>Practice and Game Limitations</b>
<b>Below 150</b>	No Restrictions
<b>150 - 175</b>	Athletic trainers monitor situation. Consider moving practices indoors
<b>175 - 200</b>	Outside practice limited to 2 hours, consider moving practices indoors. Consider canceling CM games and practices
<b>Over 200</b>	No outside activities