Haileybury Astana	Written by: HSE Engineer
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GUIDELINES FOR OUTDOOR PLAY IN SEVERE WEATHER AND DETERMINING THE AIR QUALITY INDEX

HOT AND SEVERE WEATHER PROCEDURES

Seasonally, the Astana region reaches extreme temperatures. Children absorb more heat on hot days and are less capable of dissipating it and cooling their bodies. The purpose of the hot and severe weather policy is to provide guidelines for outdoor activities and to ensure the health and safety of Haileybury Astana School community, especially pupils, during hot weather and avoid heat-related illness.

Children are more at risk of heat-related illness due to their mass to surface area ratio. In addition to this, children lose fluid more quickly than adults and are therefore more likely to become dehydrated quicker. Heat-related illness is increased during both hot, dry conditions and humid conditions. Heat related illness is caused by 3 main factors: humidity, sun radiation and temperature. Humidity is the main factor in heat-related illness and therefore the Heat Index should be monitored.

APPLICABILITY

To ensure effective management of children & adults during severe weather conditions and outdoors activities at Haileybury Astana School all the members of the school community play a vital role.

DEFINITIONS/ABBREVIATIONS

HAS: Haileybury Astana School.

Relative Humidity: The percent of moisture in the air.

Temperature: The temperature of the air in degrees Celsius.

Heat Index - HI: The measurement of air temperature and relative humidity in shaded areas, this shows how the temperature feels.

Severe weather: Severe weather is any dangerous meteorological phenomenon with the potential to cause damage, serious social disruption, or loss of human life. Severe weather can include strong winds, sand and dust storms, heavy rain, floods, hailstorms, downburst, wildfire, cyclones among others.

Heat-related illness:

Heat Cramps: Caused by heavy exertion after prolonged or excessive exercise during extreme

heat (affecting both children and adolescents). Cramps are an early sign that the body is having difficulty dealing with the heat. **Symptoms:** profuse sweating, severe muscular pain, and spasms (usually stomach, arms, and legs), normal or slightly elevated temperature. **Immediate First Aid:** rest in a cool place, provide fluids, do gentle stretching and massage to relieve spasms, and apply firm pressure to cramping muscles. If cramps persist for more than an hour, seek for further care.

Heat Exhaustion: Caused by heat exposure and excessive sweating without necessary fluid replacement. **Symptoms**: heavy sweating, paleness, muscle cramps, tiredness, weakness, dizziness, headache, nausea or vomiting and fainting. **Immediate First Aid:** rest in a cool, shaded, and well-ventilated area, loosen clothing, have the person lie down with feet elevated, apply cool wet clothes or spray with water; give sips of water. Seek for further care if vomiting occurs and persists.

Heatstroke: Is the most serious heat-related illness. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. **Symptoms:** high body temperature (40oC or higher); hot, red, and dry skin; no sweating, headache, or fatigue; nausea and vomiting; rapid and strong pulse, confusion, and disorientation. Can progress to coma and seizures. **Immediate First Aid:** move to a cool room indoors, reduce body temperature by wrapping in wet and cold cloths and sponge with cool water. Seek for medical attention immediately.

Sunburn: Caused by overexposure to the ultraviolet rays of the sun. **Symptoms:** painful, red and warmth skin, skin blisters. **Immediate First Aid:** Apply cool cloths on sunburned area or take a cool bath, apply moisturizing lotion, stay out of the sun until it heals, and do not break the blisters.

Heat rash: Is an irritation of the skin that results from excessive sweating during hot and humid weather. **Symptoms:** red clusters of small blisters that look like pimples, usually on the neck, chest, groin, or elbow. **Immediate First Aid:** move to a cool and dry place, take a cool shower, and keep the rash dry.

RESPONSIBILITIES

It is the responsibility of the HAS HSE Engineer and Medical Department to develop and update the severe weather policy.
It is the responsibility of the HSE Committee and the Medical Department to send out relevant prompts to the teachers regarding hot or severe weather.
It is the responsibility of the HSE Committee to share the policy for severe weather conditions and guidelines to outdoor activities with the Academic Staff and the HAS community and make it available for parents.
It is the responsibility of the SLT to implement the policy and ensure that the teachers follow the guidelines to keep the children safe.
It is the responsibility of the Instrumentation Engineer to monitor the performance of Smart Weather Station for measuring air temperature, humidity and air pollution, wind strength and direction.
It is the responsibility of the Main Receptionist and Junior School Receptionist to update weather information, determine the Heat index according to the HI-chart and recommended Guidelines for Outdoor Activities at the following time intervals: 7.45 a.m., 9.45 a.m., 11.45 a.m., 12.25 p.m. or at more regular times in peak season.

NOTE: Readings are provided to the Senior Leadership Team, Academic Staff, Medical Department and HSE Engineer via communications processes. Play and activity will be moderated based on the readings provided in line with Heat Index Guidelines.

It is the responsibility of all HAS staff, parents, and pupils to follow this policy.

PROCEDURE AND DUTIES
HAS has the responsibility to ensure the health and safety of their pupils, staff, and parents always, and this includes outdoor activities during hot and severe weather conditions.

During outdoor play/learning time/outdoor activities, children should be carefully observed for signs of heat illness, and any necessary action taken immediately. All members of staff will be informed and up to date on the signs and symptoms of heat related illness. Outdoor areas must have shaded zones. Cool water must be accessible for all children at all times of the day.

1) It is the expectation of HAS that **the parents**:

- Provide a hat in their child's bag.
- Apply sunscreen to their children before coming to school.
- Remind their children to wear their hat during outdoor activities.
- Remind their children to regularly drink water.

2) Additionally, the HAS expects from all **the pupils** that they:
- Apply sunscreen before coming to school.
- Wear their hats and drink water regularly during outdoor activities.
- Inform the Teacher and/or Medical Department if experiencing any symptoms of heat-related illness or asthma.
- Take regular rest periods while playing outdoors.

3) **The Academic Leadership Team** should:
- Read the temperature and humidity on the outdoor thermometer or another School source of weather information.
- Read the Guidelines for Outdoor Activities and/or use the HI (appendix A) to allow or not allow the outdoor activity/break.
- Look out for other severe weather such as thunderstorms, downbursts, high winds, strong rainstorms, hail, dust storms, etc.

4) **The members of the Physical Education/Sports Department** should:
- Read the Guidelines for Outdoor Activities.
- Use the HI (appendix A) to calculate and report to the Head of P.E/Sports Section, who would then allow or not allow the outdoor activity/break.
- Remind pupils to drink plenty of water during outdoor activities and always wear their hats.
- Remind pupils to take regular rest periods while playing outside.
- Observe closely for symptoms of heat-related illness and provide immediate first aid and/or take the children to the school medical department.
- Do not allow children to play outdoors during a dust storm or other forms of severe weather.
- Observe closely asthmatic children when the weather conditions are dusty.

5) **The Teachers and Assistants should**:

- Plan to allow pupils approximately 20 minutes before outdoor exposure for application of sunscreen prior to outdoor activities in the direct sun if it's necessary.
- Remind pupils to drink plenty of water during outdoor activities and always wear their hats.
- Remind pupils to take regular rest periods while playing outside.
- Direct pupils to utilize shaded areas when engaging in outdoor activities.
- Observe closely for symptoms of heat-related illness and provide immediate first aid and/or take the children to the school medical department.

- Do not allow children to play outdoors during a dust storm or other forms of severe weather. Observe closely asthmatic children when the weather conditions are dusty.

6) HAS has taken the following measures to maintain health and safety in whole community:

- We are equipped with shaded playgrounds/outdoor areas.
- We always ensure the accessibility to water fountains/cool water.
- We reschedule/reduce outdoor activities during hot months.
- We cancel outdoor activities during severe weather as per the updates from the authorities.

APPENDIXES

- **Appendix A:** Heat Index Chart
- **Appendix B:** Heat Index Guidelines for Outdoor Activities

Appendix A - Heat Index Chart (HI Chart)

Air Temperature °C	19°	20°	21°	24°	26°	27°	28°	29°	30°	31°	32°	33°	34°	35°	36°	37°	38°	39°	40°	41°	42°	43°
0%	15	17	19	22	25	26	26	27	27	28	29	29	30	31	32	32	33	34	35	36	36	37
10%	17	18	19	23	25	26	26	27	28	29	29	30	31	32	33	34	35	36	37	38	39	40
20%	17	18	20	23	25	26	27	27	28	29	30	31	32	33	34	35	37	38	39	41	42	44
30%	18	18	20	23	25	26	27	28	29	30	31	32	33	35	36	38	39	41	43	45	47	49
40%	18	19	20	24	26	27	28	29	30	31	32	34	35	37	39	41	43	46	48	51	54	57
45%	18	19	20	24	26	27	28	29	30	32	33	35	37	39	41	43	46	49	51	54	58	61
50%	18	19	21	24	26	27	28	30	31	33	34	36	38	41	43	46	49	52	55	58	62	65
55%	18	19	21	24	26	28	29	30	32	34	36	38	40	43	46	49	52	55	59	62	66	70
60%	19	19	21	24	27	28	29	31	33	35	37	40	42	45	48	51	55	59	63	67	71	76
65%	19	20	21	24	27	28	30	32	34	36	39	41	44	48	51	55	59	63	67	72	77	82
70%	19	20	21	24	27	29	31	33	35	38	40	44	47	50	54	58	63	67	72	77	82	

NOTE: To find the Heat Index it is necessary to correlate the temperature and humidity. (Example: for an outdoor temperature of 32°C and humidity of 45%, the HI is 33, which is in the orange/warning category). The HI chart and the Guidelines for Outdoor Activities are to be placed near the outdoor thermometers and Junior School Receptionist.

Appendix B - Heat Index Guidelines for Outdoor Activities

Heat Index	Action
Up to 27	**SAFE**
	Establish basic heat safety and planning
	Children may play outdoors.
	Watch signs of children feeling uncomfortable (discomfort and fatigue). Watch out for other severe weather (heavy rain, thunderstorms, high wind, dust storms).
	Remind children to wear their hats, put on sunscreen and drink water.
28-30	**CAUTION**
	Heighten Awareness and keep a lookout
	Children can play outdoors but should be monitored for signs of heat-related illnesses, particularly sensitive groups. Limit outdoor exposure if deemed necessary.
	Increase the number of rest periods and water intake. Remind children to wear hats and sunscreen.
	Reschedule outdoor activities to a cooler time (early morning or evening). Limit heavy physical activities.
31-34	**WARNING**
	Implement precautions and continue raising awareness
	Extensive outdoor activities should be avoided. Children cannot spend the whole break outside. Outdoor exposure limited to maximum 20 minutes. Outdoor shade should be offered.
	Increase the number of rest periods and water intake. Remind children to wear hats and sunscreen.
	Practice extreme caution for heat-related illnesses. Sensitive groups to remain indoors.
Over 35	**DANGER**
	Implement aggressive protective measures
	NO OUTDOOR ACTIVITIES. Provide indoor areas to play.
	Increase water intake, even while playing indoors.
	Practice extreme caution for heat-related illnesses, even while indoors.

COLD AND SEVERE WEATHER PROCEDURES

In normal circumstances, it is preferable to allow and encourage pupils to get some fresh air and exercise outdoors, even during cold weather.

It is generally unsafe for pupils to spend protracted periods of time outdoors in temperatures of -20°C or below. However, declaring a change between the two based on just the ambient temperature or date alone is to ignore the additional contributory climatic factors.

Certain summer days can be wet or too windy for safe or comfortable outside play, whilst winter conditions may occasionally be bright, still, and perfect for play in the snow.

The age and size of the pupils is a further contributory factor to the length of time children may be exposed to such cold temperatures.

The perceived temperature, calculated from the wind speed and ambient temperature determines the length of time children play outside. Junior Reception will inform all staff of the perceived temperature, and which coloured ‘zone’ this pertains to at 10 am and 12pm each day. The action to take depends on the age of the children.

Orange Zone: Above -5°C KS2 and Sr. School pupils play outdoors for up to 40 mins, K-KS1 for 20 mins.

Yellow Zone: -6 to -12°C KS2 and Sr. School pupils play outdoors for up to 20 mins, KKS1 for 15 mins.

Green Zone: -13 to -25°C All pupils can play outdoors for up to 10 mins. Blue Zone: Below -25°C

All pupils stay inside.

Please consult the table below for the exact perceived temperatures in each zone. Please print a copy of this and display it in your room.

Appendix: Guidelines for Outdoor Play: Environmental Conditions

Wind Speed (km/h)	Ambient Temperature °C									
	5	0	-5	-10	-15	-20	-25	-30	-35	-40
5	4	-2	-7	-13	-19	-25	-30	-36	-41	-47
10	3	-3	-9	-15	-21	-27	-33	-39	-45	-51
15	2	-4	-11	-17	-23	-29	-35	-41	-48	-54
20	1	-5	-12	-18	-24	-30	-37	-43	-49	-56
25	1	-6	-12	-19	-25	-32	-38	-44	-51	-59
30	0	-6	-13	-20	-26	-33	-39	-46	-52	-59
35	0	-7	-14	-20	-27	-33	-40	-47	-53	-60
40	-1	-7	-14	-21	-27	-34	-41	-48	-54	-61
45	-1	-8	-15	-21	-28	-35	-42	-48	-55	-62
50	-1	-8	-15	-22	-29	-35	-42	-49	-56	-62

Key

All pupils maximum 40 minutes	All pupils maximum 20 minutes	All pupils maximum 10 minutes	All pupils to remain indoors

DETERMINING THE AIR QUALITY INDEX

The following rules are provided to ensure that air quality is monitored, and levels of outside activity are modified once air quality values are increasing.

1. The School Smart Weather Station will be used to collect the data. In the event of a malfunction the US Consulate readings http://aqicn.org/city/kazakhstan/astana/us-embassy/ can be used as a backup source of information.

2. Human and Safety Engineer will monitor the AQI at the start of the school day and report the levels to the AQI email group; this includes the PE Department, Heads of Schools, and Early Years staff. It will then be checked at regular intervals.

3. The Main Receptionist and Junior School Receptionist will inform the Head of Junior School and Deputy Head Pastoral of the daily value at 0830 and 1100.

Junior School will stop all outdoor activities once the AQI value reaches 201 and above.

Senior School will stop all outdoor activities once the AQI reaches 251 and above.

4. PE and duty staff will act accordingly.

5. The School medical department will update the PE department of any “sensitive students” as they need to modify their behavior at lower AQI values.

6. For school fixtures outside of school time, either the School Doctor or Head of PE will monitor

the AQI and inform all staff involved.

7. International Schools Athletics Conference (ISAC) guidelines will be followed for Saturday sporting tournaments, these are:
If the AQI is 251 or above 3 hours prior to the event, then the event will be cancelled.
If the event has gone ahead and then the AQI value increases to 276 once the event is in play, then the tournament would be stopped.
Modifications would take place for an AQI within these values once the tournament is in play until a value of 276 has been reached.

8. The US Environment Protection Agency assigned a specific colour to each AQI category to make it easier for anyone to quickly understand whether air pollution is reaching unhealthy levels in their communities. For example, the colour “Orange” means that conditions are “unhealthy for sensitive groups,” while the colour “Red” means that conditions may be “unhealthy for everyone,” and so on.

Appendix: Air Colours

Daily AQI	Colour Levels of Concern	Values of Index	Description of Air Quality and Response
Green	Good	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Yellow	Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Orange	Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The public is less likely to be affected.
Red	Unhealthy	151 to 200	Some members of the public may experience health effects; members of sensitive groups may experience more serious health effects. Outdoor PE and breaktime/activities for sensitive individuals, only with modification.
Purple	Very Unhealthy	201 to 250	The risk of health effects is increased for everyone. No outdoor PE and breaktime/activities for Junior School pupils.
Purple	Very Unhealthy	251 to 300	The risk of health effects is increased for everyone. No outdoor PE and breaktime/activities for Senior School pupils.
Maroon	Hazardous	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

Signed by:

John Coles, Headmaster