

Winchester Science Centre & Planetarium

6m Mobile MPSD Planetarium

<u>Likelihood:</u>	<u>Injury:</u>	<u>Risk level:</u>
1 = v.rare	1 = trivial	1-6 = low
2 = rare	2 = minor	7-11 = moderate
3 = occasional	3 = 1-3day off work	12-25 = high (unacceptable)
4 = likely	4 = 3+ day off work/longterm	
5 = certain	5 = death	

Method Statement

Winchester Science Centre (WSC) provides portable planetarium experiences to public, schools, businesses and private individuals across the UK.

The digital mobile planetarium dome is 6m in diameter and requires an area of 7m x 7m with 4.5m height clearance.

Setting up the dome takes up to 60 minutes, set down is complete within 45 minutes.

Hirers should note that if dome activities are not possible due to control measures required by this document, and of which the hirer has been notified, then a refund will not be offered.

Location requirements:

The mobile planetarium needs to be sited indoors in a quiet, well-lit and clean environment. Flooring needs to be solid and un-raised. Access to at least one power socket is required to power the fan, laptop, projector and sound system. The area around the dome must be cordoned off from anyone passing by.

The planetarium may be used within a large, sturdy and weatherproof marquee with prior agreement. Details of the marquee's construction and power supply will be necessary for WSC to carry out a risk assessment to consider whether it constitutes a safe working environment.

The dome can be quickly evacuated in an emergency. Please advise the WSC staff member of the location of the closest fire exits to the dome.

Access requirements:

The packed-up dome is very heavy and is moved by trolley. There must be step-free and near-level access between the vehicle and the area where the dome will be set up. Parking for a medium-sized vehicle close by is required for unloading/reloading the equipment, again offering step-free access.

The Science Centre must be notified in advance if there are any issues re access and especially if there are any steps or tight corners to negotiate.

Dome capacity:

This 6m planetarium seats up to 30 adults *or* 40 young children *or* up to 10 wheelchair users (dependent on size of wheelchair). If you have a mix of audiences then please contact WSC to discuss. People must not sit on the inside lip of the dome as this slows evacuation.

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Hazard	Who might be harmed and how	Likelihood	Injury	Risk	Control measures in place	Further action required	Responsibility
Slips, trips & falls	Visitors, host staff, or WSC staff. Strains, sprains or impact injuries from falling on (soft) dome or fan	3	2	6	<ul style="list-style-type: none"> No loose cables across an area where people may walk. 		WSC
					<ul style="list-style-type: none"> Area around dome, fan, and cables (7m x 7m) to have controlled entry; this area not to be accessed by anyone except with the agreement of Winchester Science Centre staff. 		Host
Power cut	Visitors, host staff, WSC staff. Dome deflates, lights fail	2	1	2	<ul style="list-style-type: none"> Dome to be sited in a location with emergency lighting provision if/as required 		Host
					<ul style="list-style-type: none"> Dome material is light and would not cause impact injuries Dome design delays complete deflation (deflation naturally creates an air-lock), allowing plenty of time for safe evacuation Presenter trained in safe, calm and speedy evacuation procedure (the dome is flipped over the heads of the audience) Battery-powered torches (carried by both the presenter and teachers) available for light in absence of mains power. 		WSC
Fire (eg due to electrical fault, sparks or arson)	Visitors, host staff, or WSC staff. Smoke inhalation, burns	1	3	3	<ul style="list-style-type: none"> Presenter to ensure dome is not too close to light fittings or other potentially hazardous objects. Dome constructed from fire retardant material (documented) All electrical equipment to be PAT tested Presenter to visually check all equipment on set-up. Damaged electrical equipment not to be used. Presenter trained and confident in safe, calm and speedy evacuation procedure (the dome is flipped over the heads of the audience) If any equipment catches fire within the inflated dome, if presenter considers safe and possible, push equipment out of dome into a clear area. Presenter aware of nearest fire exits. 		WSC
					<ul style="list-style-type: none"> No smoking in or around the dome Host holds responsibility for safe evacuation after leaving the dome; venue must comply with local fire regulations. Host to train WSC presenter if/as required to satisfy 		Host

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					venue's own fire safety requirements.		
Laser pointer	Directed into eye, damage to eye. Especially if grabbed/stolen by child.	1	1	1	<ul style="list-style-type: none"> Only pointers with Class 2 laser up to 1mW to be used*. Presenter to stow pointer when not in use to reduce risk of theft. Presenter to inform school if theft occurs. <p>*Class 2 (1 mW) laser pointers are not a risk in normal use as blink reflexes are sufficient protection. However, it is possible that damage may occur from repeated, deliberate exposure (https://www.gov.uk/government/publications/laser-radiation-safety-advice/laser-radiation-safety-advice)</p>		WSC
Violence (or threats of violence)	Visitor, host staff or WSC staff.	1	5	5	<ul style="list-style-type: none"> Nobody to enter the dome under influence of alcohol or drugs Groups with known behavioural problems to be supervised by adequate numbers of trained (host) staff at all times. 		Host
	Injury or distress from feelings of physical threat. Damage to dome and/or equipment.				<ul style="list-style-type: none"> Visitors not to be left unsupervised inside the dome Presenter trained to quickly evacuate the dome if required No unsupervised minors (under 16yr) to enter the dome Presenter to dynamically assess risk and halt the show if at any time they feel they or the audience are not safe 		WSC
Enclosed space / unusual environment	Visitors, host staff. Claustrophobia, panic	1	2	2	<ul style="list-style-type: none"> Visitors not to be left unsupervised inside the dome Presenter trained to recognise potential for this issue, identify situations as they arise and aid exit of anyone affected. Dome design allows visitors to exit quickly through the doors as required 		WSC
Theft, damage to dome	Financial: host liable for any damage to dome or theft of equipment due to their negligence.	2	n/a	n/a	<ul style="list-style-type: none"> A 7m x 7m area around dome, fan, and cables to have controlled entry; this area not to be accessed by anyone except with the agreement of Winchester Science Centre staff. 		Host
	WSC liable for reasonable wear and tear.				<ul style="list-style-type: none"> WSC Presenter to give verbal warning before entry for visitors not to touch the dome fabric or mirror. Venue staff accompanying minors and/or those with special needs to ensure they do not touch the mirror or 		WSC Host

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					<p>dome fabric.</p> <ul style="list-style-type: none"> Venue staff to assess visitors with special needs with respect to whether they are safely able to use the mobile dome given the need to follow these instructions. <p>WSC reserves the right to hold individuals/hosts responsible if equipment is stolen/damaged due to negligence of the host organisation.</p> <p>Host organisation should note that valuable equipment inside the dome includes a beautiful shiny mirror that can be tempting to touch.</p>		Host
					<ul style="list-style-type: none"> WSC holds full insurance for dome and equipment Presenter to inspect dome and equipment on arrival at the venue and while setting down, and to alert host of any damage/theft as soon as possible Visitors told not to touch dome fabric or mirror 		WSC
Movement of the dome equipment	Visitors, members of public. Trolley runs over foot, child runs into trolley	1	3	3	<ul style="list-style-type: none"> Care taken with trolley, moving slowly where others are present. Care with any movement up/down ramps. Request help from host to clear areas of people as required Trolley fitted with brakes to allow it to be stopped in position without being held. 		WSC
					<ul style="list-style-type: none"> Provide safe access (not through crowds of people) from vehicle to dome location both for set-up and pack-down. 		Host
	WSC staff, host Staff. Back Injury	3	4	12	<ul style="list-style-type: none"> Presenter to be trained in safe lifting procedure Presenter not to lift equipment if they feel unable to do this safely. Presenter to request aid from co-workers and/or help from host (where host is competent to provide this) as required Presenter to prevent others lifting heavy equipment unless they are both trained and confident in safe lifting procedure Presenter to inform manager if any concerns re this issue Equipment designed to minimise lifting of heavy equipment Van fitted with a ramp and winch to avoid heavy lifting when loading or unloading van. Trolley may be loaded without 		WSC

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					winch if adequate people are available to achieve this safely. Else items to be loaded one by one into van.		
Ramp	Presenter, onlookers	2	2	4	<ul style="list-style-type: none"> ▪ Presenter to ensure ramp is locked in place before and after use ▪ Presenter to ensure onlookers are positions so the trolley/ramp could not fall onto them if this were to fail. ▪ Ramp not to be used if any damage is apparent. ▪ Refer to Van RA 		WSC
Trolley rope / fixings	Fixing to winch fails at any point, trolley rolls back	2	1	2	<ul style="list-style-type: none"> ▪ Only supplied fixings to be used, unless documentation is available to show that they can bear a weight of trolley. ▪ Presenter to ensure nobody is standing at the bottom of the ramp as the trolley is raised. ▪ Presenter to lower trolley back down ramp if any visual/auditory indication is given of possible failure, unless the trolley is within two seconds of being secured on the van bed and the indication is not of immediate failure. ▪ Presenter to shout a warning if it appears the trolley may be released, for the benefit of anyone out of their sight who may be in danger 		WSC
Winch	Presenter, hands/hair / clothing caught in winch	1	4	4	<ul style="list-style-type: none"> ▪ Presenter not to allow anyone untrained to be near the winch during use. ▪ Presenter to ensure their hands, hair, clothing and other items at risk are held away from the rope where this enters the winch so that they may not be caught. ▪ Presenter to ensure that they have immediate access to the stop switch at any time that a person is inside the van when the winch is working. ▪ Refer to Van RA 		WSC
Movement of trolley within van	Damage of equipment. Trolley hits front of van during impact,	1	3	3	<p>Trolley to be placed at winch/driver-end of van bay with wheel brakes on during transit. (In tests, trolley does not move during normal driving conditions with these control measures.)</p> <p>Presenter to stop vehicle and check if there is any suspicion that the trolley has moved during transit.</p> <p>Note that the ramp position is a barrier to the trolley exiting the</p>		WSC

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					rear doors if this were to roll backwards.		

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Audience Code of Conduct

Audiences under the age of 16 or vulnerable adults must be supervised at all times (please ensure adequate supervision to cover the possibility that one supervising adult may need to escort somebody out of the planetarium and have to leave the area, eg in case of a heavy nose bleed).

We expect that audiences:

1. Do not run in the area around the planetarium
2. Do not eat or drink near or inside the planetarium
3. Move carefully when entering/exiting and inside the planetarium
4. Do not touch the delicate planetarium fabric or any of the equipment (inside or outside the dome)
5. Listen to WSC staff, treat them with respect and follow their instructions

Winchester Science Centre staff reserves the right to ask members of the audience who are being disruptive to leave the planetarium. The host venue is responsible for making sure in such cases that the expelled audience member(s) leave the area and that the remaining audience is still adequately supervised.

The information provided in this risk assessment has been communicated to all members of the Planetarium team. All control measures mentioned will be implemented to ensure that the event holds a minimal risk. We re-assess hazards and re-evaluate risks yearly, as well as on an ad-hoc basis should the need arise.

Sign/date:	Approved By: Jenny Shipway	Director of Learning and Participation
Sign/date:	Authorised by: Hannah Willatts	Health and Safety Officer
Sign/date:	Sophie Kirk	Planetarium Presenter
Sign/date:	Mark Watson	Planetarium Presenter
Sign/date:	Jorien van den Bor	Planetarium Presenter