

Risk Assessment – Bottle Rockets Activity

Name of activity, event, and location	8 th Chelmsford Bottle Rockets activity	Date of risk assessment	17th September 2026	Name of person doing this risk assessment	Christopher Birt
		Date of next review	17 th September 2027		

What could go wrong? What hazard have you identified? What are the risks from it?	Who is at risk?	What are you going to do about it? How are the risks already controlled? What extra controls are needed? How will they be communicated to young people and adults and remain inclusive to all needs?	Review & revise What has changed that needs to be thought about and controlled?
A hazard is something that may cause harm or damage. The risk is the harm that may occur from the hazard.	For example: young people, adult volunteers, visitors	Controls are ways of making the activity safer by removing or reducing the risk. For example, you may use a different piece of equipment or you might change the way you do the activity.	Keep checking throughout the activity in case you need to change what you're doing or even stop the activity. This is a great place to add comments which will be used as part of the review.
		Terminology used in this risk assessment: Arena: designated area for launching rockets Launchpad bottle rocket launching device Rocket bottle rocket including nosecone and fins Spectator anyone outside the arena Participant anyone inside the arena Leader responsible adult or adults supervising the activity	
Mechanical failure of equipment	All Members	Leader to ensure thorough check of all equipment prior to running the activity, including: - Launchpads: visual inspection of all plastic parts for wear and tear, deformation, including anchor points. Visual inspection of all rubber bands for signs of perishing and replace if necessary. Visual inspection of all o-rings for wear and tear. - Hoses: pressure test all hoses and hose sections, to a pressure of 80 psi. - Pumps: visual inspection and pressure test to 80 psi. - Rockets: verify all rocket bottles are for fizzy drinks and suitable for pressurisation. - Visual inspection for damage. Preference for 1-2ltr bottles.	
Inappropriate use of equipment	All Members	All participants instructed to follow directions of the leader, who will directly oversee approaching launchers, pressurisation and launch activities: - All participants to stay outside the arena unless invited. - Only participants involved in launching to approach the rockets. - Pressurisation/pumping to be conducted with hoses fully extended (approx 1.5m). - Launch to be conducted with launch ropes unwound and fully extended (approx 12m). - Launchpads to be spaced at least 2 metres apart, in the centre of the arena.	

You can find more information in the Safety checklist for Section Volunteers and at scouts.org.uk/safety

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		Leader to ensure pressurisation devices (pumps) are not left unattended, (thus preventing unsupervised launches)	
Injury during pressurisation and launch	All Members	Leader to ensure the following at all times: 1. Mark out a designated arena recommended 30m or larger (minimum 20m) wide and across. 2. All spectators to remain outside of the arena. 3. All participants invited into the arena to wear safety goggles at all times. 4. Leaders in the vicinity of rockets to wear safety goggles at all times. 5. Launch pad to be fully anchored into the ground. Leader to check it's secured prior to every launch. 6. Pressurisation/pumping to be conducted with hoses fully extended, with participant standing AWAY and NOT standing above the rocket. 7. Once pressurisation commenced, NO ONE to approach the pressurised rocket. Leader 8. Launching to be conducted with launch ropes fully unwound and extended (approx. 5m), and on the command of the Leader only. 9. Leader to ensure bottles are pumped up to recommended 30-50psi only (young people), and 80psi absolute max (adults only). 10. Leader to monitor launch pads, rockets and spectators. ABORT any pressurisation or launch if launcher or rocket become dislodged or loose, or spectators enter the arena, by disconnecting the pumps.	
Injury from falling rockets	All Members	1. Ensure all spectators are outside the arena, and that participants are well away from rockets at launch. 2. Leader to consider on-site whether to provide aerial cover for spectators (eg tarp, event shelter). 3. Leader to consider on-site whether a verbal or whistle alert should be given prior to launching each rocket. 4. Leader to continuously monitor weather conditions and ensure they are appropriate for launched rockets to land back within the arena. Suspend the activity if rockets are often landing outside the arena until conditions improve. Alternatively increase the size of the arena so rockets land within, or reduce firing pressure so rockets don't fly so high.	

Don't forget, as part of your programme planning, you should have contingency activities in reserve just in case you can't do what was planned or you need to stop half way through. Make sure this is shared with those involved, so everyone knows how to respond. You should have risk assessed contingency activities prior to them taking place and communicated key information to those involved as with all activities.

DOCUMENT VERSION CONTROL

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Version Number	Changes Made	Changes Made By	Date
1.0	Document Created	Christopher Birt	17/09/2026
1.0	Document Version Control Log Created	Kyla Flack	17/09/2026

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