

Equipment / Activity / Area being assessed	Marvellous Medicine Badge	Risk Assessment ID	MM1
Location	Guiding & scouting venues / party venue / schools		
Who is exposed?	Uniformed organisations, School groups, general public, Dr Randle, supervising adults		
Date of assessment	25/3/25		
Assessor's name	Dr Laura Randle		
Risk = Likelihood of injury x Severity of injury	R = L x S	Low risk = 0 – 6	Medium risk = 7 - 12
			High risk = 13 - 25

L = Likelihood	S = Severity of injury					
	No injury or illness (0)	Minor injury or illness (1)	First aid injury or illness (2)	"3 day" injury or illness (3)	Major injury or illness (4)	Fatality, disabling injury, etc (5)
Zero to very low (0)	0 = Low	0 = Low	0 = Low	0 = Low	0 = Low	0 = Low
Very unlikely (1)	0 = Low	1 = Low	2 = Low	3 = Low	4 = Low	5 = Low
Unlikely (2)	0 = Low	2 = Low	4 = Low	6 = Low	8 = Medium	10 = Medium
Likely (3)	0 = Low	3 = Low	6 = Low	9 = Medium	12 = Medium	15 = High
Very likely (4)	0 = Low	4 = Low	8 = Medium	12 = Medium	16 = High	20 = High
Almost certain (5)	0 = Low	5 = Low	10 = Medium	15 = High	20 = High	25 = High

RISK ASSESSMENT

	Activity	Hazards Identified	Risk rating (High, Medium, Low)	Control Measures in place to control the risk	Risk rating (High, Medium, Low)
1	General room set up Activity tables set up without chairs.	<ul style="list-style-type: none"> Trailing cables from computer and props on tables could present trip hazard. 	L = 2 S = 1 R = 2 Low risk	<ul style="list-style-type: none"> Any scenery, props and resources to be set up to minimise hazards Fire exits to be kept clear at all times. First aider on site at all times. Participants are consulted about any possible allergies, PPE are supplied if necessary Parents/guardians/teachers to remain in close supervision of the children in their care at all times. 	L = 1 S = 1 R = 1 Low risk

2	Excited children	<ul style="list-style-type: none"> Children may not listen Children may run around 'Lab'. 	L =4 S=2 R = 6 Low risk	<ul style="list-style-type: none"> Instructions provided for each experiment. Reinforce lab rules – no running, no eating or drinking, tie hair back, no clothes dangling. Adult supervision at all times 	L =3 S=1 R = 3 Low risk
3	Drug Discovery and Development overview	<ul style="list-style-type: none"> Possible choking hazard if swallow dice Paper based activities and game of snakes and ladders 	L =2 S=3 R = 6 Low risk	<ul style="list-style-type: none"> Appropriate instructions and supervision. 	L =1 S=3 R = 3 Low risk
4	New Medicine Targets 1	<ul style="list-style-type: none"> Horseplay Possible slip hazard if skittle bottles opened. Play a game of skittles and target the diseased cell 	L =2 S =2 R = 4 Low risk	<ul style="list-style-type: none"> Appropriate instructions and supervision. Contain spills with inert absorbent material. Remove leaking bottles 	L = 2 S = 1 R = 2 Low risk
5	New Medicine Targets 2	<ul style="list-style-type: none"> Possible choking hazard on small Lego pieces. Horseplay Design Lego medicines to fit in the drug receptor 	L =2 S =3 R = 6 Low risk	<ul style="list-style-type: none"> Appropriate instructions and supervision. 	L = 1 S = 3 R = 3 Low risk
6	Lead optimization	<ul style="list-style-type: none"> Possible irritation to skin. Possible irritation to eyes (splash). Possible slip Hazard Possible ingestion of liquids Possible ingestion of antacids Ethanol is flammable Participants will compare antacids under different conditions such as pH (100% ethanol, vinegar, water) 	L =3 S = 3 R = 9 Medium risk	<ul style="list-style-type: none"> Appropriate instructions and supervision. Avoid naked flames PPE – goggles / lab coats / gloves Contain spills with inert absorbent material. Provide minimal labelled quantities 	L = 1 S = 2 R = 2 Low risk

7	<p>Is it Safe</p> <p>Participants will sort plastic figurines into groups and then Use a UV LED black light torch to identify those with invisible biomarkers (long wave, W)</p>	<ul style="list-style-type: none"> • Possible UV light Exposure • Possible irritation to eyes. 	<p>L =3 S = 2 R = 6 Low risk</p>	<ul style="list-style-type: none"> • Avoid prolonged exposure to black light and never hold < 20cm of eyes. • Appropriate instructions and supervision. 	<p>L = 1 S = 2 R = 2 Low risk</p>
8	<p>Does it work / High Through put screening</p> <p>Participant will perform simple pH experiments.</p> <p>All food grade:</p> <ul style="list-style-type: none"> • White vinegar (acetic acid) • Table Salt (NaCl) • Baking Soda (Sodium bicarbonate) • Red Cabbage Water Indicator 	<ul style="list-style-type: none"> • Possible irritation to skin. • Possible irritation to eyes. • Possible slip Hazard • Possible ingestion of liquids 	<p>L = 2 S = 2 R = 4 Low risk</p>	<ul style="list-style-type: none"> • All food grade / non hazardous reagents • PPE - goggles • Contain spills with inert absorbent material. • Appropriate instructions and supervision. • Wash hands if come into contact. 	<p>L = 1 S = 2 R = 2 Low risk</p>
9	<p>Target ID</p> <p>Create a model drug using card, pipe cleaners and beads</p>	<ul style="list-style-type: none"> • Possible cuts from misuse of pipe cleaners • Possible choking hazards 	<p>L =2 S =3 R = 6 Low risk</p>	<ul style="list-style-type: none"> • Appropriate instructions and supervision. 	<p>L =1 S =3 R = 3 Low risk</p>
10	<p>My Medicine 1</p> <p>Personalised Medicine sand art</p>	<ul style="list-style-type: none"> • Possible temporary irritation to eyes. • Possible minor irritation to skin. • Possible slip hazard 	<p>L = 2 S = 1 R = 2 Low risk</p>	<ul style="list-style-type: none"> • Wash hands after use • Sweep up spillages • Appropriate instructions and supervision. 	<p>L = 1 S = 1 R = 1 Low risk</p>
11	<p>My Medicine 2/ Drug Safety</p> <p>PTC taste test</p>	<ul style="list-style-type: none"> • Possible GI discomfort if strip ingested. • Strips may cause mild skin or eye irritation • Rare allergic reaction to PTC 	<p>L = 2 S = 1 R = 2 Low risk</p>	<ul style="list-style-type: none"> • Appropriate instructions and supervision. • Strong dislike to taste – participant offered a drink of water. 	<p>L = 1 S = 1 R = 1 Low risk</p>
12	<p>Mentos Demo</p>	<ul style="list-style-type: none"> • Possible slip hazard 	<p>L =3 S = 1 R = 3 Low risk</p>	<ul style="list-style-type: none"> • Appropriate instructions and supervision. • Contain spills with inert absorbent material • All food grade / non hazardous reagents • Work in a tray 	<p>L = 1 S = 1 R = 1 Low risk</p>


	The lead will use different numbers of mentos into diet pop to demonstrate drug testing				
13	Making Medicines Participants will crush camomile/lavender or peppermint. Then form a 'tablet' using cornstarch and water.	<ul style="list-style-type: none"> Possible spillages and slip hazards. Possible cuts & bruises from mishandling pestle and mortar 	L =3 S=1 R = 3 Low risk	<ul style="list-style-type: none"> Appropriate instructions and supervision. All food grade / non hazardous reagents Contain spills with inert absorbent material 	L = 1 S = 1 R = 1 Low risk
14	Drug Formulation Preparing a coating to protect a 'pill' from stomach acid. Cornstarch/ flour/ vegetable oil/ sugar/ salt/ icing sugar/ sweet	<ul style="list-style-type: none"> Possible spillages and slip hazards. 	L =0 S = 1 R = 0 Low risk	<ul style="list-style-type: none"> Appropriate instructions and supervision. All food grade / non hazardous reagents Contain spills with inert absorbent material Do not eat food in labs 	L=1 S = 1 R = 1 Low risk
15	Drug Safety Learn about polymorphisms and Create a bead bracelet and	<ul style="list-style-type: none"> Possible choking hazards Possible spillages and slip hazards. 	L =2 S=1 R = 2 Low risk	<ul style="list-style-type: none"> Appropriate instructions and supervision. Immediately collect any beads which may fall on floor 	L=1 S=1 R = 1 Low risk

COSHH ASSESSMENT in consultation with CLEAPSS (CLP Hazcards, 2016 Edition, and later updates)

Hazardous Substance	Hazard Type	State S/L/G	Quantity used	Exposure	Controls and Precautions	Disposal route, Spillage procedure Emergency procedures
Vinegar (5% / 0.8M)	CLEAPSS - Currently not classified as hazardous <1.7M otherwise Irritant	Liquid	~50mL	<i>Frequency:</i> 1-5 times / day <i>Duration:</i> 6-10 min	Wear Eye protection	<ul style="list-style-type: none"> All spillages mopped up immediately with inert absorbent material. Disposal – dilute and pour down foul-water drain. Storage - Tightly closed container
Sodium Bicarbonate	CLEAPSS - Currently not classified as hazardous.	Solid	<5g	<i>Frequency:</i> 1-5 times / day <i>Duration:</i> 6-10 min		<ul style="list-style-type: none"> Disposal – Solid in household waste. Liquid rinse down foul water drain. Storage - Tightly closed container

Sodium Chloride (Table salt)	Warning	Liquid	~2mL	<i>Frequency:</i> 1-5 times / day <i>Duration:</i> 6-10 min		<ul style="list-style-type: none"> • All spillages mopped up immediately with inert absorbent material. Rinse with water. • Disposal – dilute and pour down foul-water drain • Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing • Skin contact: Wash immediately with plenty of soap and water. • Storage - Tightly closed container
Dish Soap	Warning	Liquid	~2mL	<i>Frequency:</i> 1-5 times / day <i>Duration:</i> 6-10 min		<ul style="list-style-type: none"> • All spillages mopped up immediately with inert absorbent material. Rinse with water. • Disposal – dilute and pour down foul-water drain • Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing • Skin contact: Wash immediately with plenty of soap and water. • IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately seek medical advice • Storage - Tightly closed container
Glucose (Sugar)	Not considered hazardous	Solid	<5g	<i>Frequency:</i> 1-5 times / day <i>Duration:</i> 6-10 min		<ul style="list-style-type: none"> • Disposal – Solid in household waste. Liquid rinse down foul water drain. • Storage - Tightly closed container
Corn starch	Not considered hazardous	Solid	<5g	<i>Frequency:</i> 1-5 times / day <i>Duration:</i> 6-10 min		<ul style="list-style-type: none"> • Disposal – Solid in household waste. Liquid rinse down foul water drain. • Storage - Tightly closed container
Hand held Low power UVA lamp (<5W)	Caution Ultra Violet radiation	N/A	N/A	<i>Frequency:</i> 1-5 times / day <i>Duration:</i> 6-10 min	<ul style="list-style-type: none"> • Wear Eye protection 	<ul style="list-style-type: none"> • Avoid prolonged exposure to black light and never hold < 20cm of eyes. • ensure arms fully covered • Handle with care to avoid breakage
Ethanol	Flammable Irritant	Liquid	<5mL	<i>Frequency:</i> 1-5 times / day <i>Duration:</i> 1-5min	<ul style="list-style-type: none"> • Keep away from heat. 	<ul style="list-style-type: none"> • Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

						<ul style="list-style-type: none"> • Skin contact: Wash immediately with plenty of soap and water. • Ingestion: rinse mouth. Do NOT induce vomiting. Immediately seek medical advice • Inhalation: Remove person to fresh air and keep comfortable for breathing • Storage - Tightly closed container
<p>Phenylthiocarbamide Strips</p> <p>20 micrograms per strip, far below the toxicity level</p>	Considered non-hazardous	Solid	1 strip	<p><i>Frequency:</i> 1-5 times / day</p> <p><i>Duration:</i> 1-5min</p>	N/A	<ul style="list-style-type: none"> • Storage - Tightly closed container • Skin contact: Wash immediately with plenty of soap and water. Get medical attention if symptoms develop • Ingestion: rinse mouth with water and seek medical attention if symptoms develop. • Inhalation: Remove person to fresh air and keep comfortable for breathing • Eye Contact: Flush eyes with water as a precaution and seek medical attention if irritation persists.
Antacid Tablets	Toxicity: If ingested in large amounts, symptoms of toxicity (especially with products containing high levels of sodium or calcium) may occur	solid	<1g	<p><i>Frequency:</i> 1-5 times / day</p> <p><i>Duration:</i> 10-30min</p>	<ul style="list-style-type: none"> • Wear Gloves if handling large quantities • Use in a well ventilated area 	<ul style="list-style-type: none"> • All spillages mopped up immediately with inert absorbent material. Rinse with water. • Disposal – dilute and pour down foul-water drain • Storage - Tightly closed container • Inhalation: Remove person to fresh air. Seek medical advice if symptoms persist. • Skin contact: Wash with soap and water. Seek medical advice if irritation develops. • Eye contact: Rinse with plenty of water for several minutes. If irritation persists, seek medical attention. • Ingestion: In the event of ingestion beyond the recommended dose, do not induce vomiting. Seek medical attention if symptoms of overdose or adverse reactions occur (e.g., nausea, dizziness, vomiting).

Waste Disposal procedures	<ul style="list-style-type: none"> • Non hazardous liquids can be rinsed down foul water drain. • Non hazardous waste can be disposed of in household waste. • Consult CLEAPSS hazcards / W Hazard summary 	
Emergency Procedures:	<p>Following CLEAPSS General Incident strategy: Assess > Respond > Manage</p> <p>Fire</p> <ul style="list-style-type: none"> • <i>Safe to deal with:</i> Cut off ignition / fuel source and extinguish flames • <i>NOT safe to deal with:</i> Evacuate building by nearest fire exit and call 999 <p>Spillages/ leaks</p> <ul style="list-style-type: none"> • <i>Safe to deal with:</i> Wear correct PPE, maintain safety. Contain > collect > treat spill. Clean spill area. Dispose of treated spill. Ensure all contaminated equipment is cleaned, check clothes / skin. Wash thoroughly. • <i>NOT safe to deal with:</i> Isolate and secure spill area. Call CLEAPSS helpline 01895 251 496f or advice or 999. <p>First aid</p> <ul style="list-style-type: none"> • <i>Non chemical emergencies:</i> clothing / hair on fire > Stop, drop & roll, Burns > Cools and seek medical advice, cuts > control bleeding, raise wound, if severe seek medical advice. Asthma attack / anaphylactic shock > Support & protect. Fainting / epileptic fit > lower casualty to floor if losing consciousness, make area safe, if unconscious place in recovery position. Seek medical advice if required. Contact supervising adult / parent. Electric shock > isolate from supply, call 999. • <i>Chemical emergencies:</i> Eye > irrigate 10min, if severe call 999, otherwise call 111 for advice. Mouth> Rinse and spit, if symptoms severe call 999, otherwise call 111 for advice. DO not induce vomiting. Do not swallow liquid. Inhaled > Move to fresh air, if symptoms severe call 999, otherwise call 111 for advice. Ventilate / evacuate area as necessary. Skin > irrigate 10min, if severe call 999, otherwise call 111 for advice. Remove any contaminated / restricting clothing or jewellery while irrigating. 	
Reviewed by:		Date: 25/3/25
Next Review date:	Next time activity happens again	