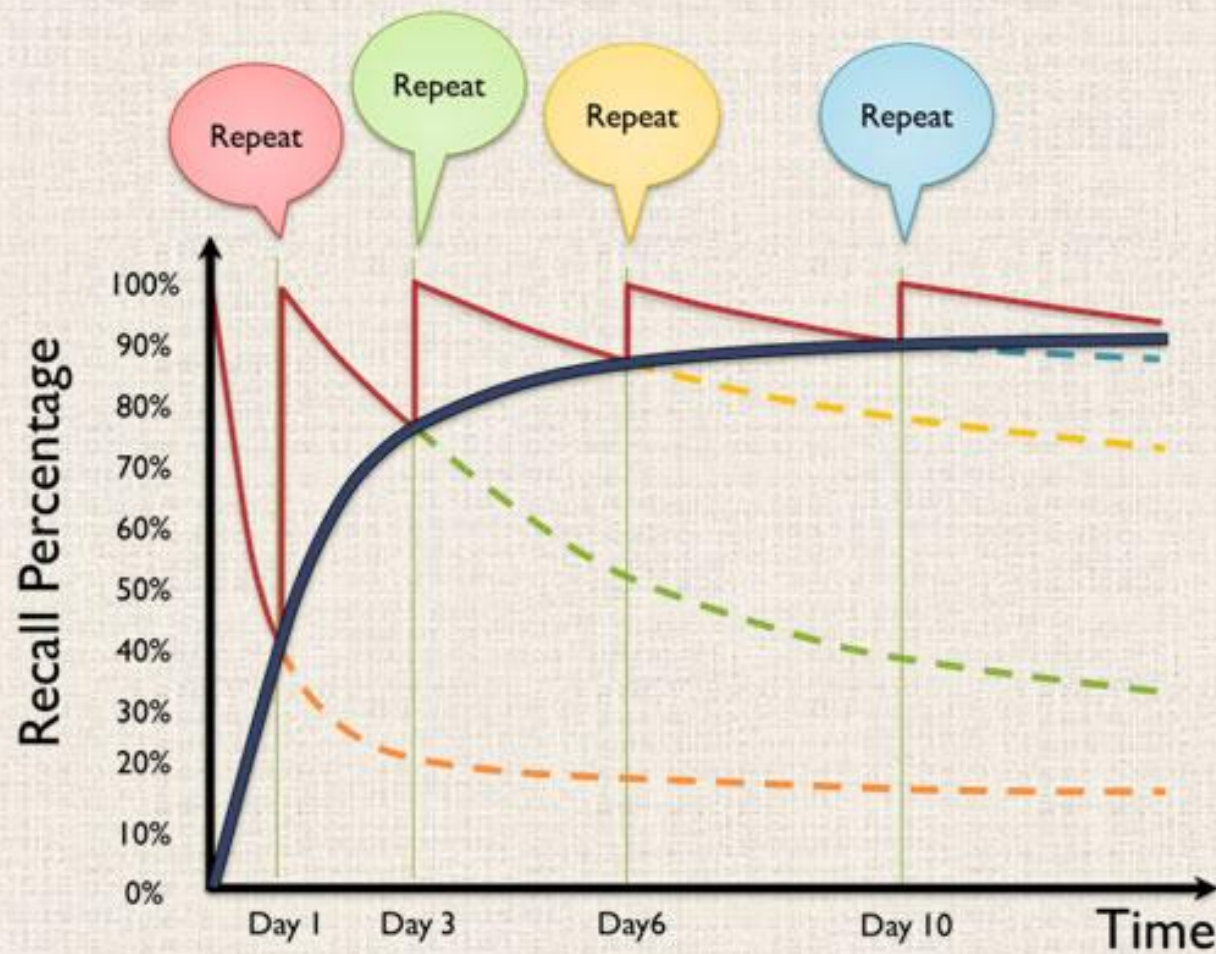




NEBOSH NGC Week 2



adamharries.net





Substances

CHIP

WEL

Biological

Dust





European symbols



Toxic



Very toxic



Harmful



Irritant



Highly
flammable



Extremely
flammable



Explosive



Dangerous to
the environment



Oxidising



Corrosive

New International symbols





Physical Hazards



Explosives



Flammable Liquids



Oxidizing Liquids



Compressed Gases



Corrosive to Metals

Health Hazards



Acute
Toxicity



Skin Corrosion



Skin Irritation



CMR[®], STOT[®],
Aspiration Hazard

Env. Hazards



Hazardous to the
Aquatic Environment



T+

Very toxic

Chemicals that at very low levels cause damage to health.



T

Toxic

Chemicals that at low levels cause damage to health.



Xn

Harmful

Chemicals that may cause damage to health.



Xi

Irritant

Chemicals that may cause inflammation to the skin or other mucous membranes.



C

Corrosive

Chemicals that may destroy living tissue on contact.



Carc Cat 1
and
Carc Cat 2

Category 1 and
category 2
carcinogens

Chemicals that may cause cancer or
increase its incidence.



Carc Cat 3

Category 3
carcinogens



Muta Cat 1
and Muta Cat
2

Category 1
mutagens

Chemicals that induce heritable genetic defects or increase their incidence.



Muta Cat 3

Category 3
mutagens



Repr Cat 1
and Repr Cat
2

Category 1 and
category 2
reproductive
toxins

Chemicals that produce or increase the incidence of non-heritable effects in progeny and/or an impairment in reproductive functions or capacity.



Repr Cat 3

Category 3
reproductive
toxins



N

Dangerous for
the environment

Chemicals that may present an immediate or delayed danger to one or more components of the environment.



Id.

- Substance
- Company
- Hazards
- Ingredients

Emergencies

- First-aid
- Fire-Fighting
- Accidental release

Handling & Storage

- PPE
- Physical/chemical properties
- Stability/reactivity
- Toxological Info.

Information

- Ecological
- Disposal
- Transport
- Regulatory
- Other



IIISEE





CHIP

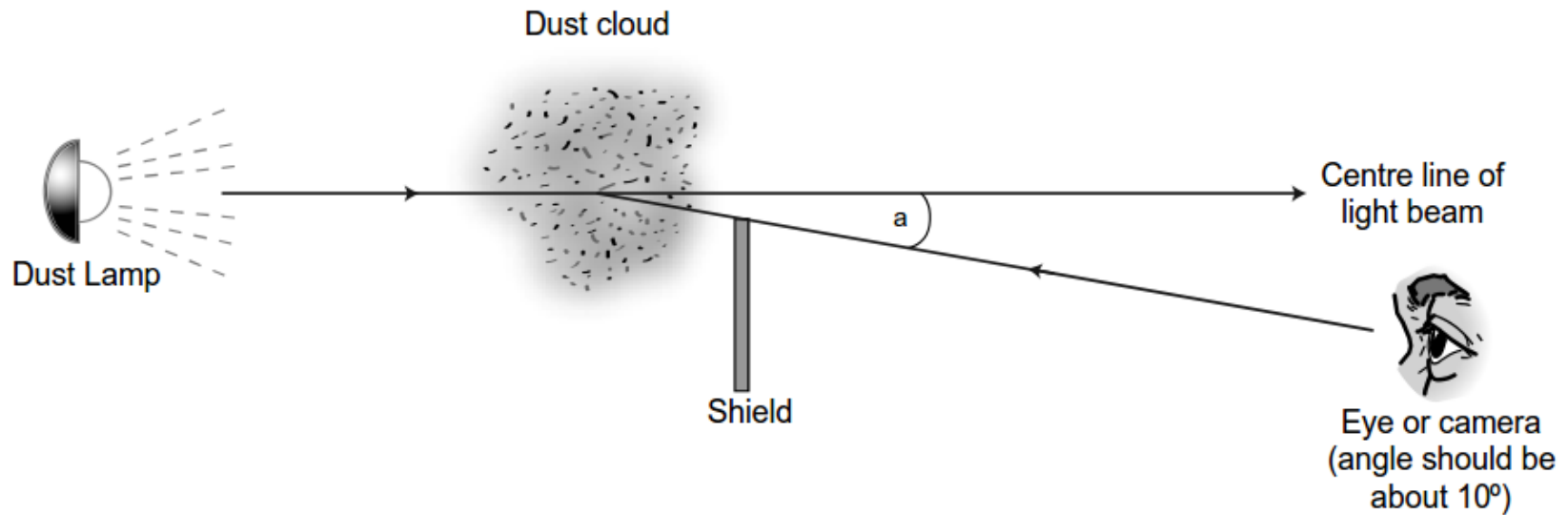
WEL

Biological

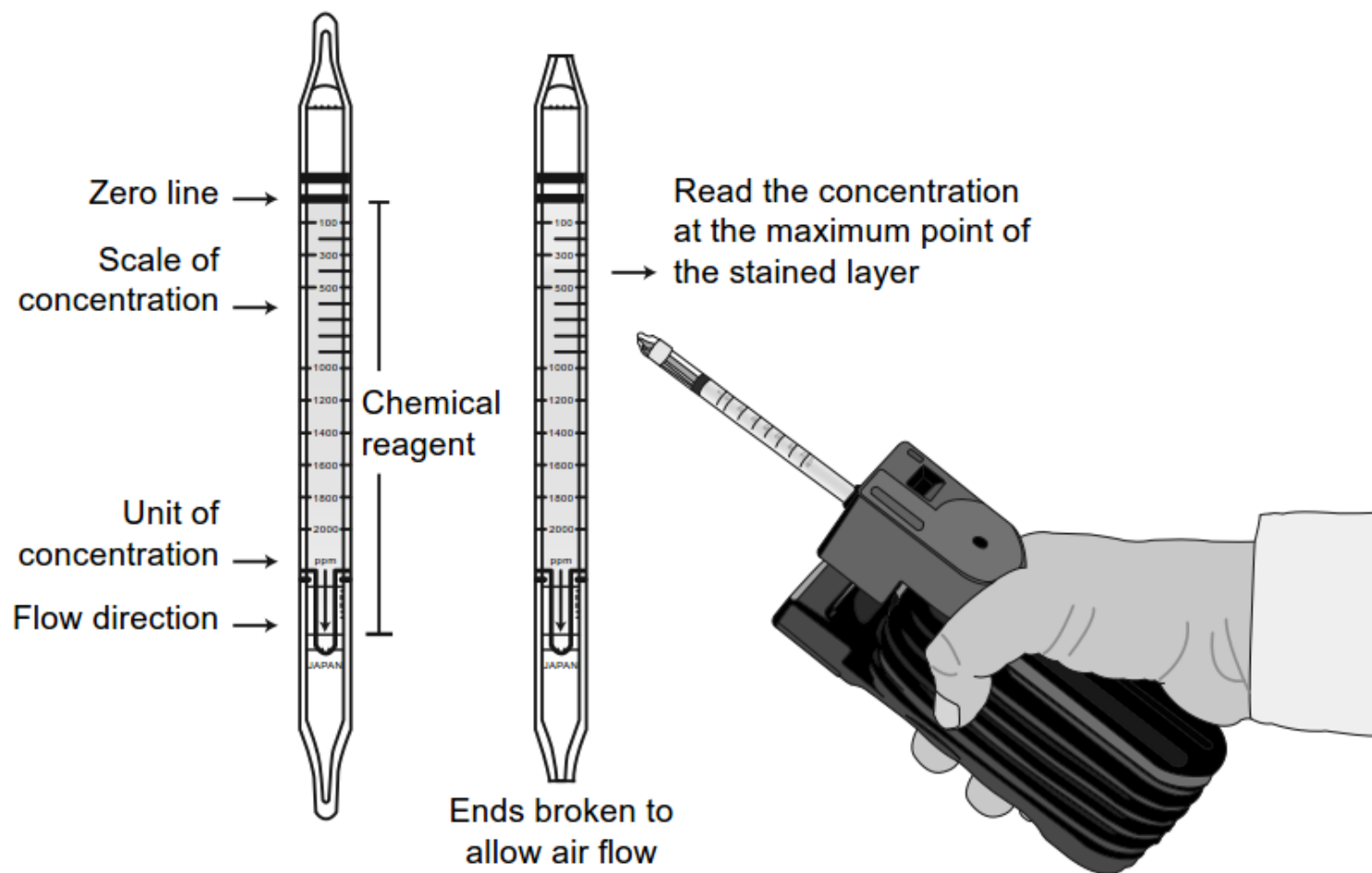
Dust



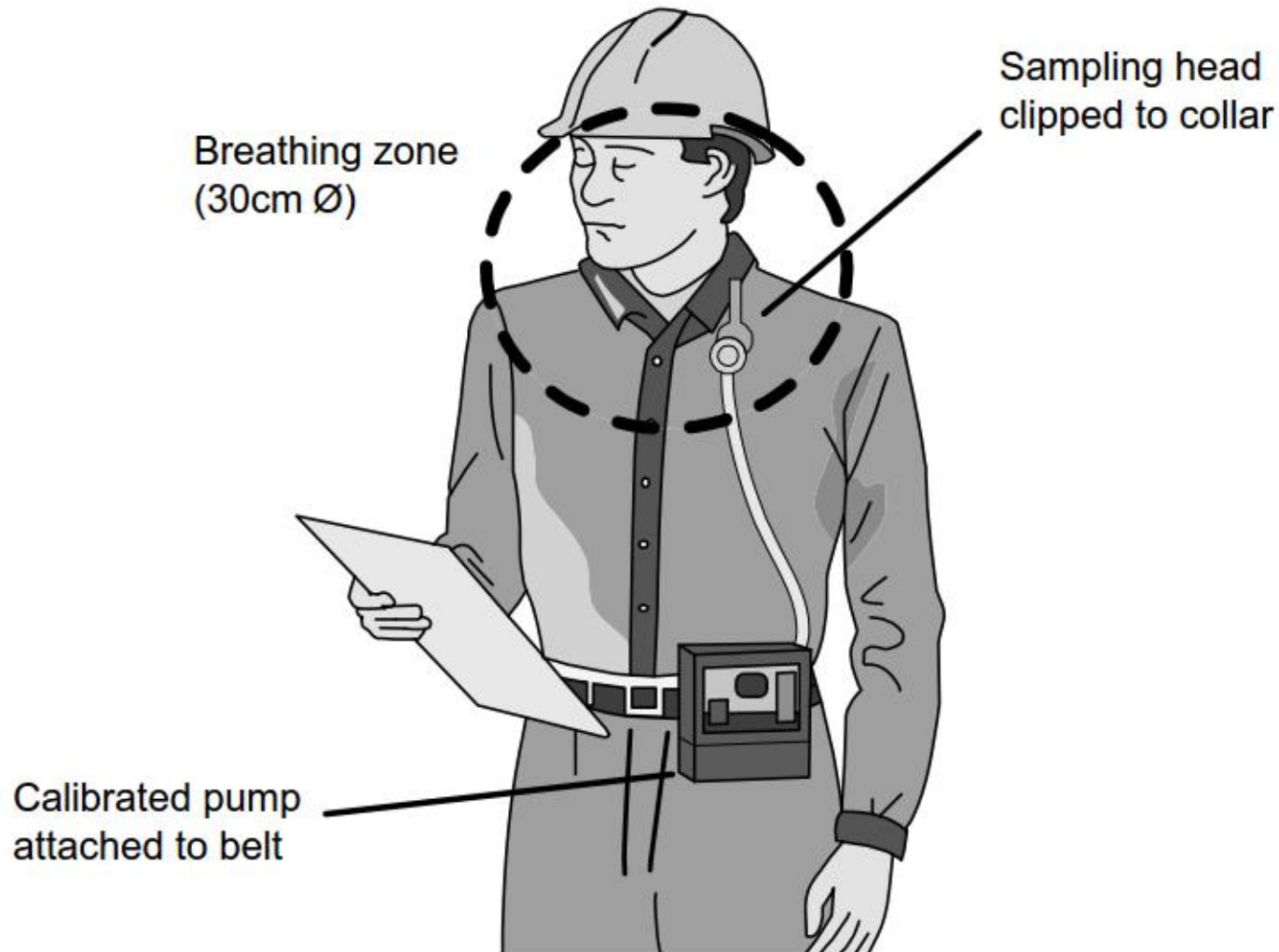
Substance Monitoring

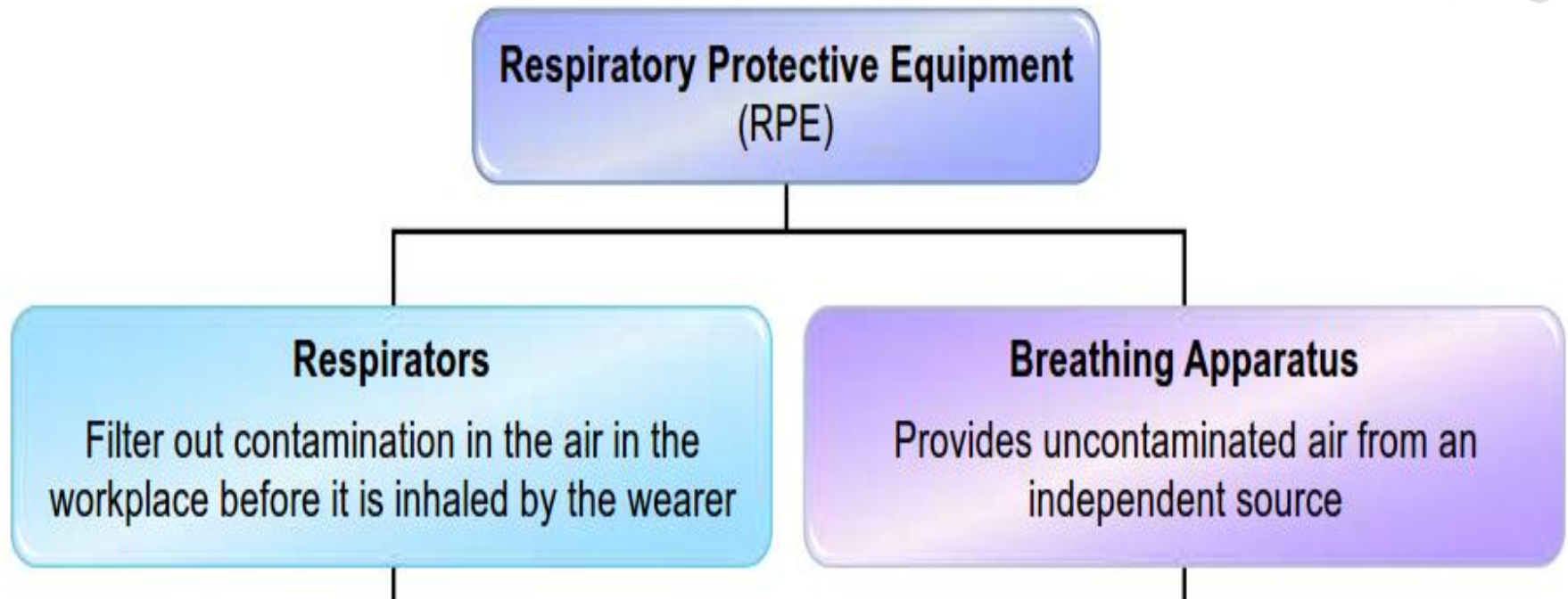


Substance Monitoring



Substance Monitoring







Respiratory Protective Equipment (RPE)

Respirators

Filter out contamination in the air in the workplace before it is inhaled by the wearer

Simple
filtering
respirators

Power
assisted
respirators

Breathing Apparatus

Provides uncontaminated air from an independent source



Respiratory Protective Equipment (RPE)

Respirators

Filter out contamination in the air in the workplace before it is inhaled by the wearer

Simple
filtering
respirators

Power
assisted
respirators

Breathing Apparatus

Provides uncontaminated air from an independent source

Fresh air hose
BA

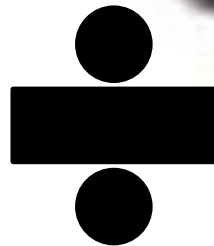
Powered airline
BA

Self-
contained BA

Assigned Protection Factor(APF)

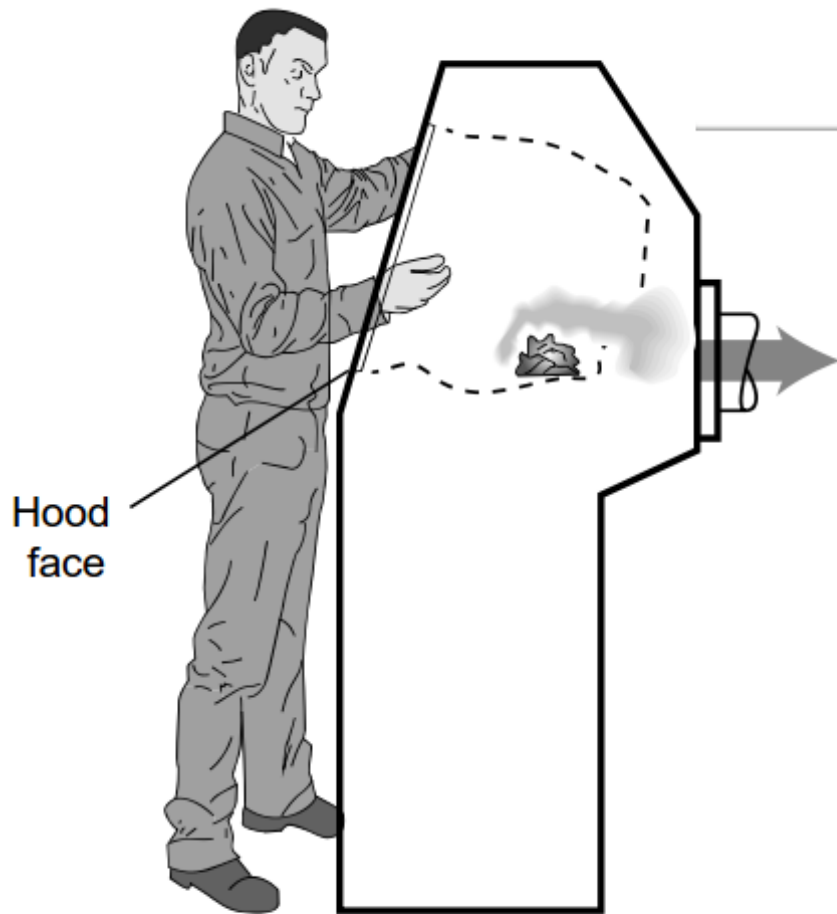


50mg/m³



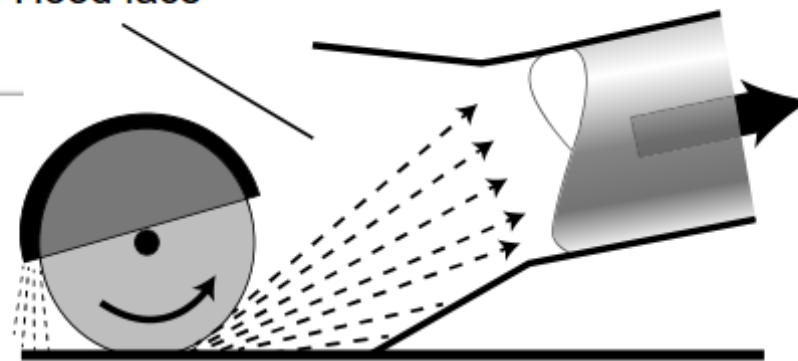
**5
mg/m³**





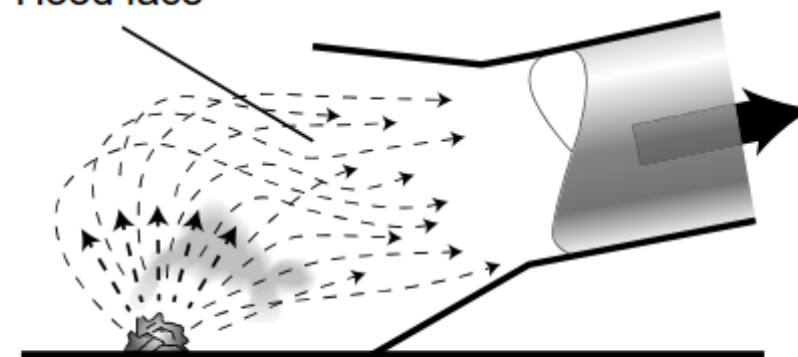
(a) Enclosing hood

Hood face

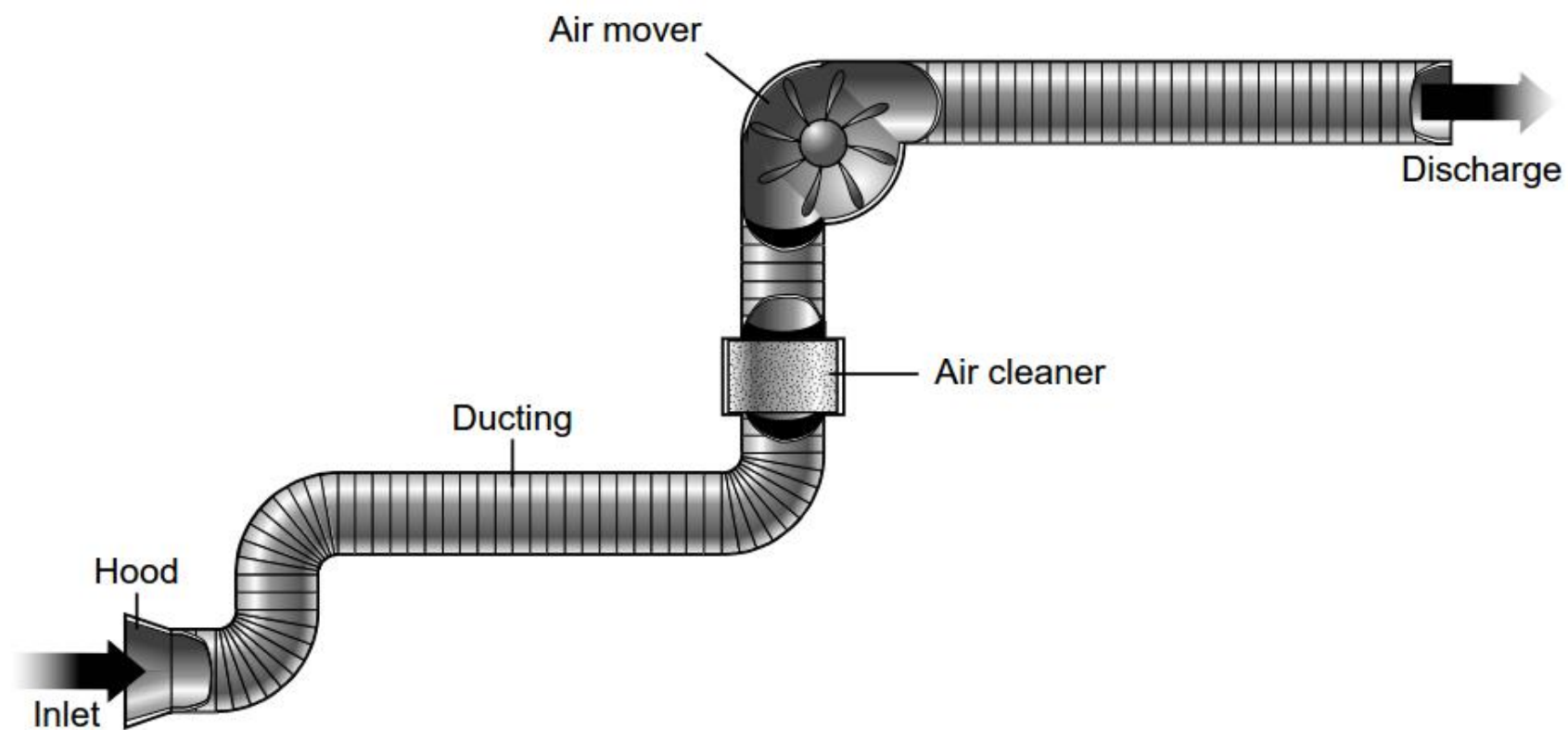


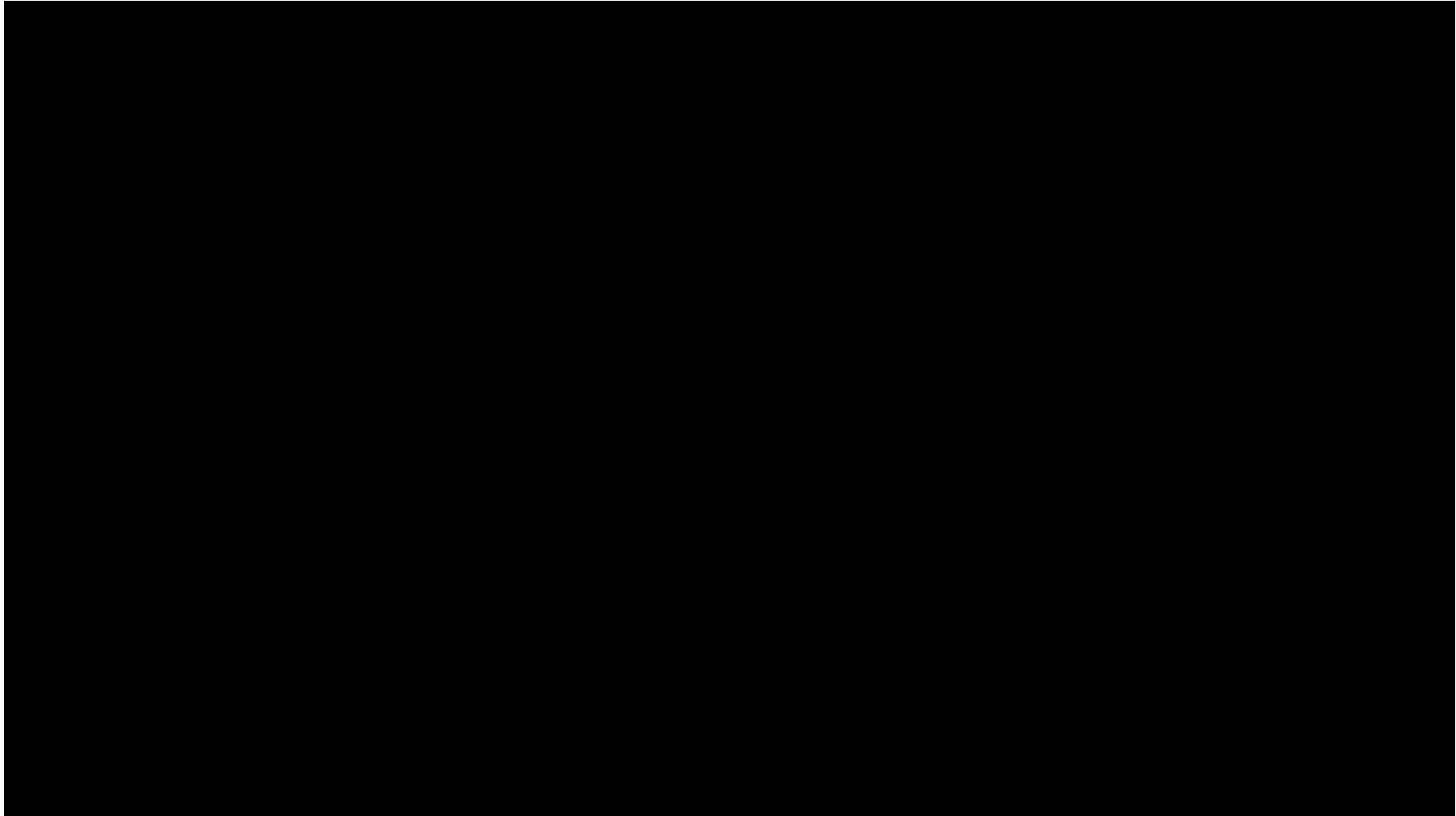
(b) Receiving hood

Hood face

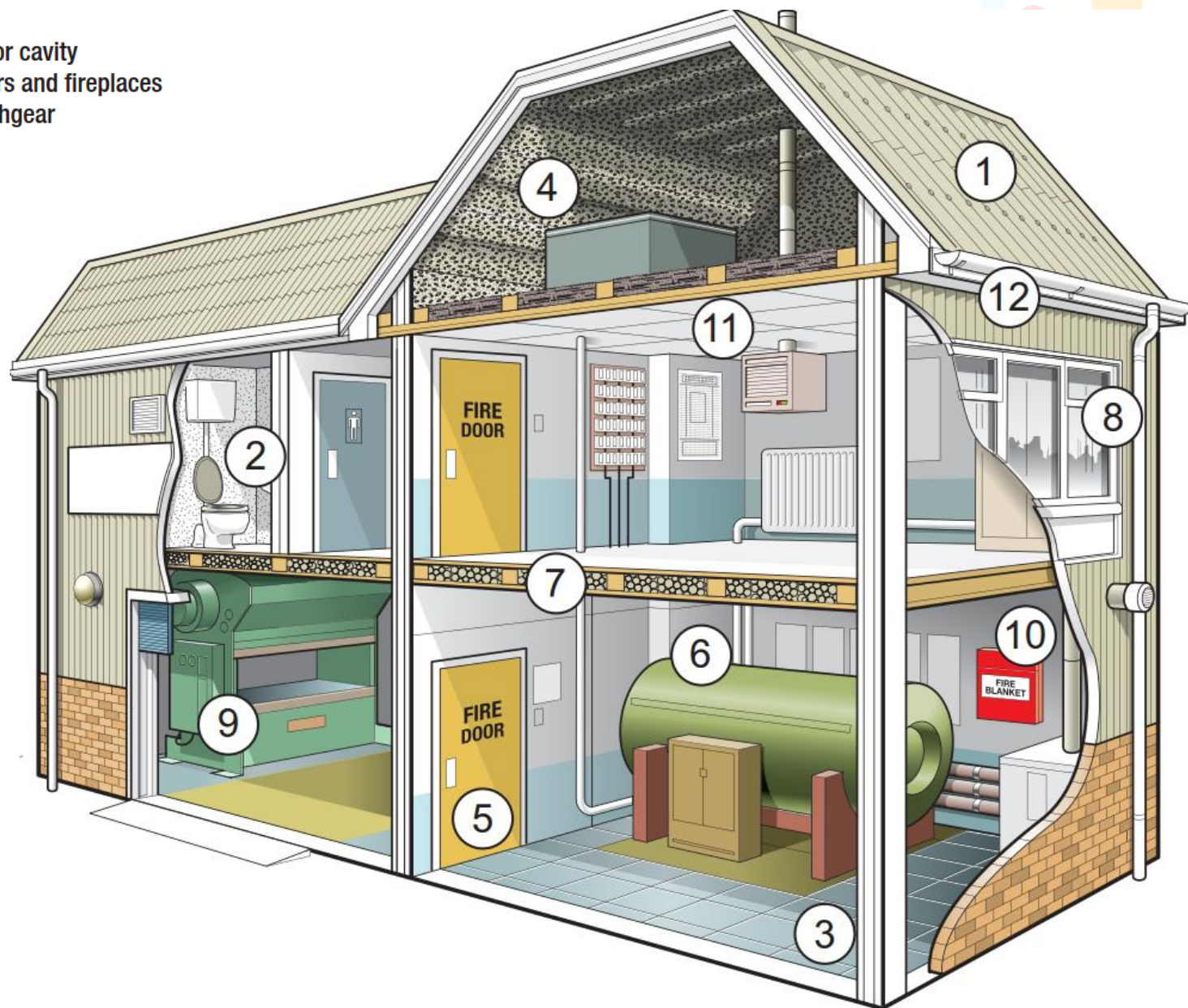


(c) Capturing hood





1. Asbestos cements products
2. Textured coatings
3. Floor tiles
4. Sprayed coatings on ceilings and walls
5. Asbestos insulating board
6. Lagging
7. Loose asbestos in ceiling or floor cavity
8. Board around windows, radiators and fireplaces
9. Fuse boxes and electrical switchgear
10. Textiles
11. Ceiling tiles
12. Soffit boards





Health and Safety
Executive

Asbestos essentials

A task manual for building, maintenance and allied trades on non-licensed asbestos work



<http://www.beware-asbestos.info/>

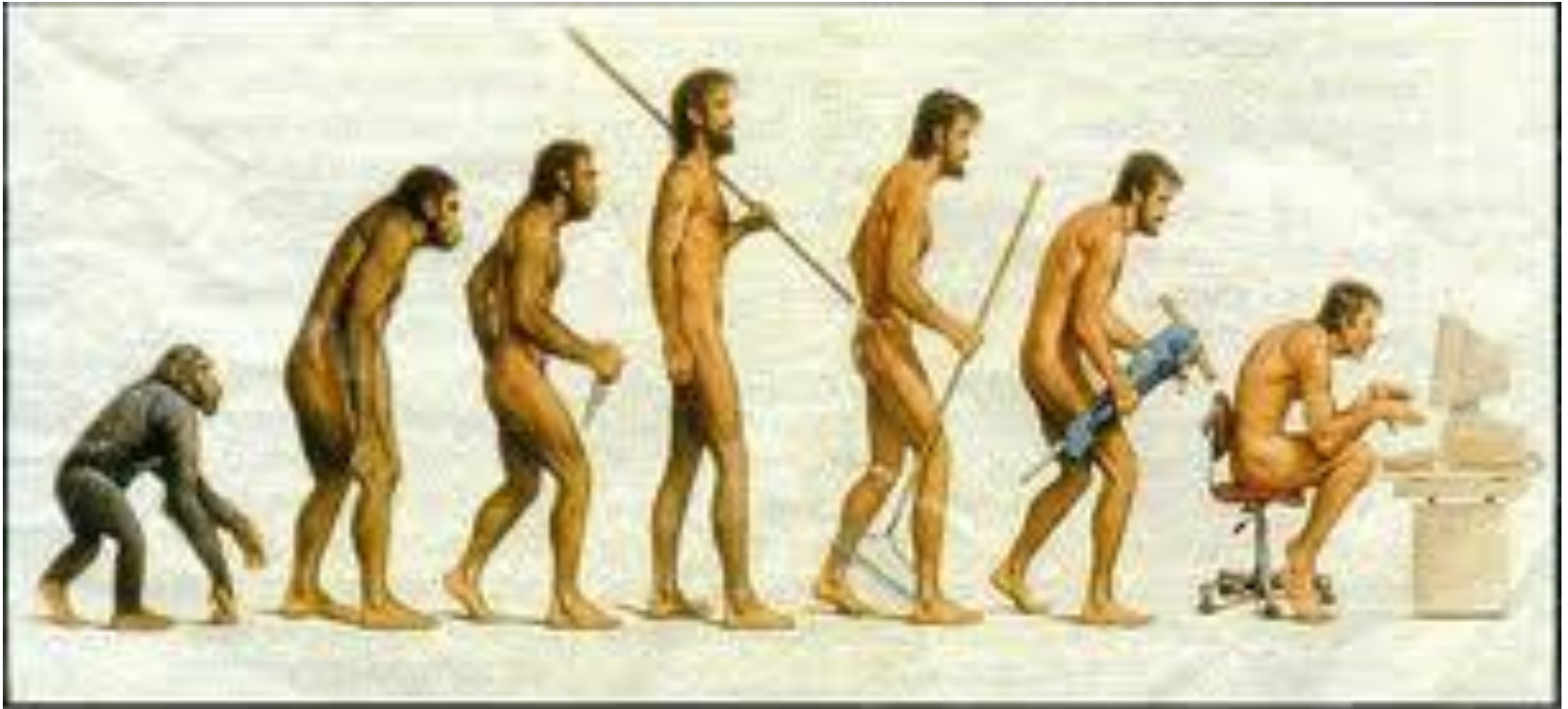


silica dust



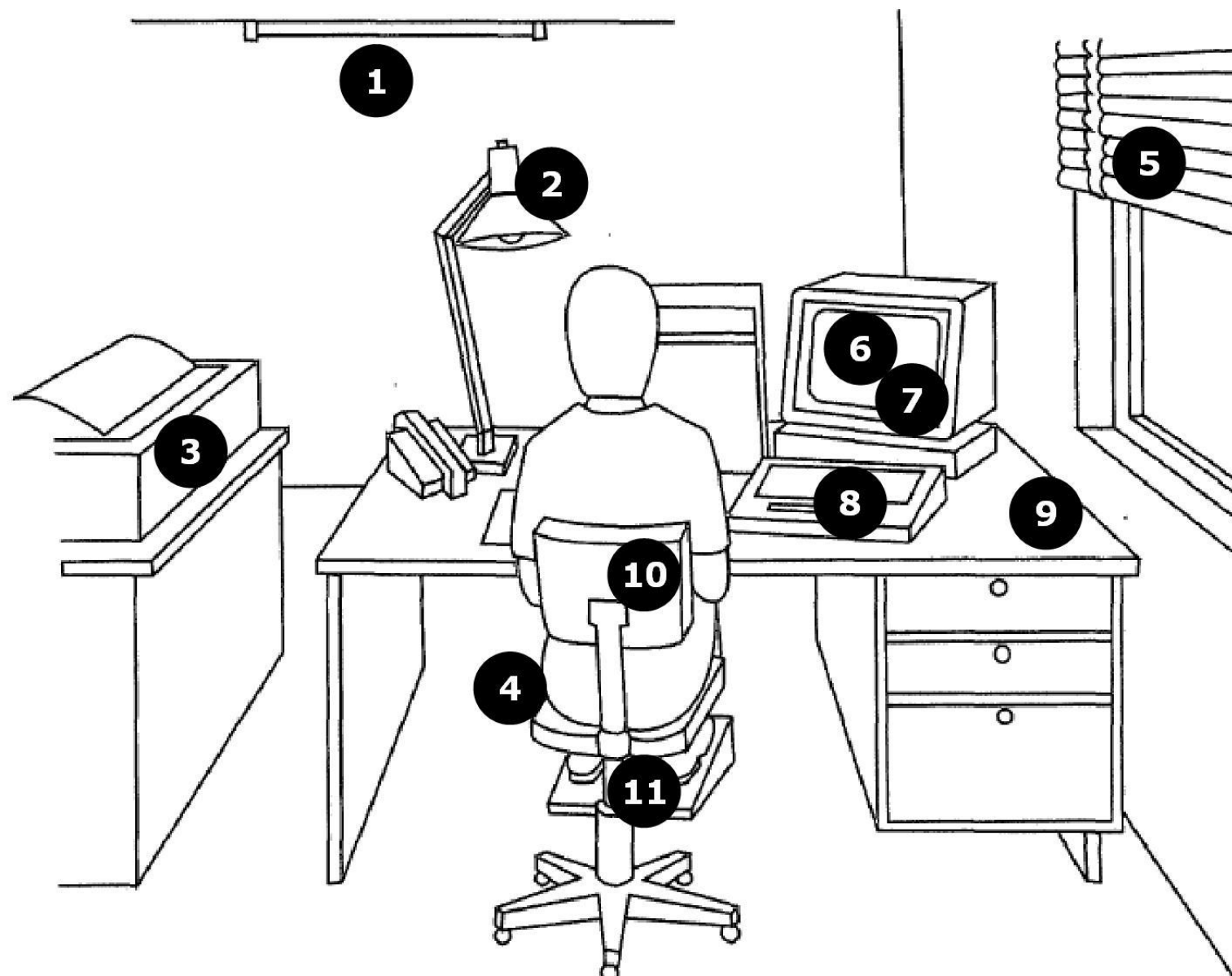
Musculoskeletal

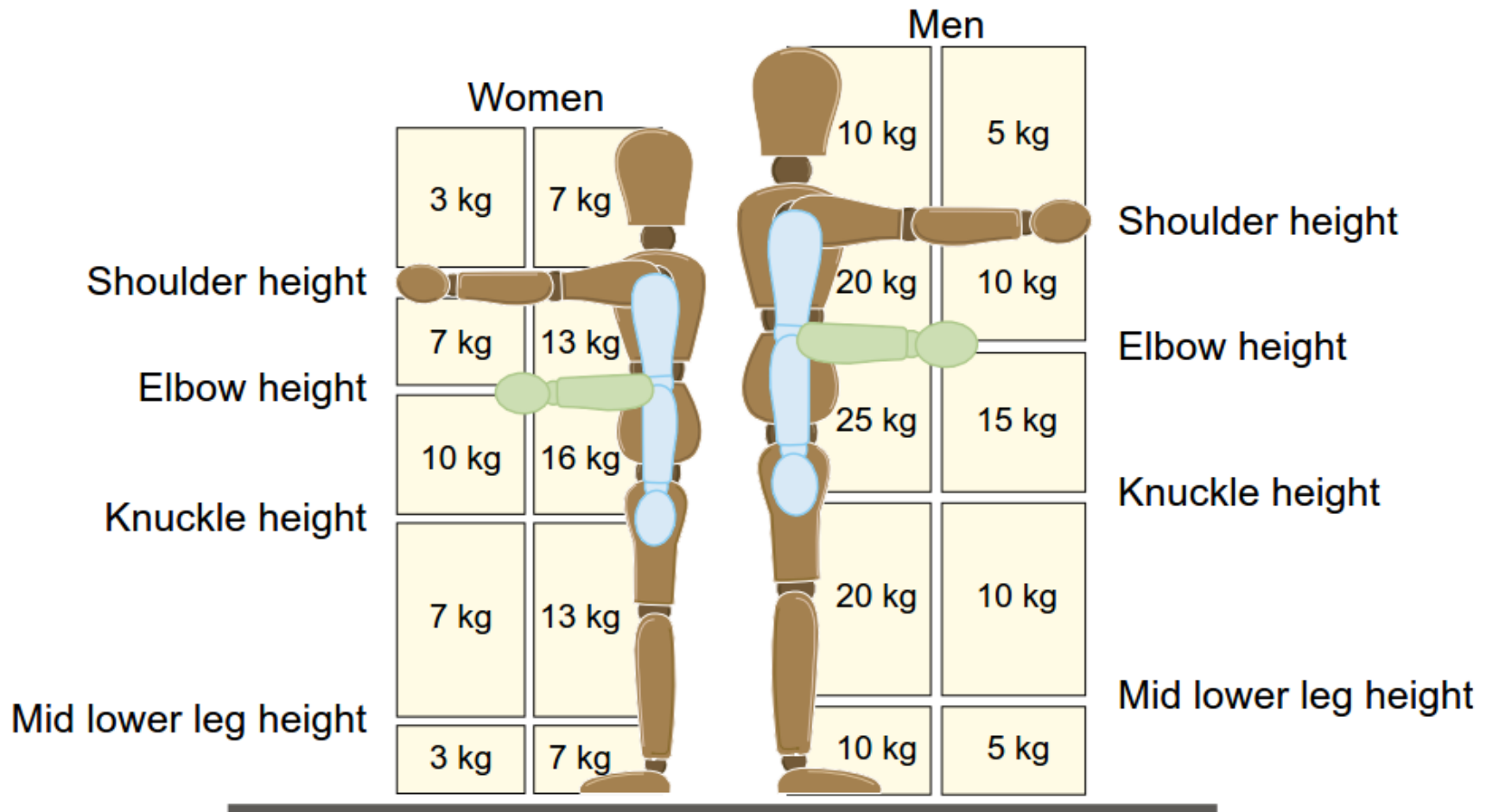
WRULD



DSE







Mechanical Aids



Truck/trolleys

PUWER 1998



Mechanical Aids



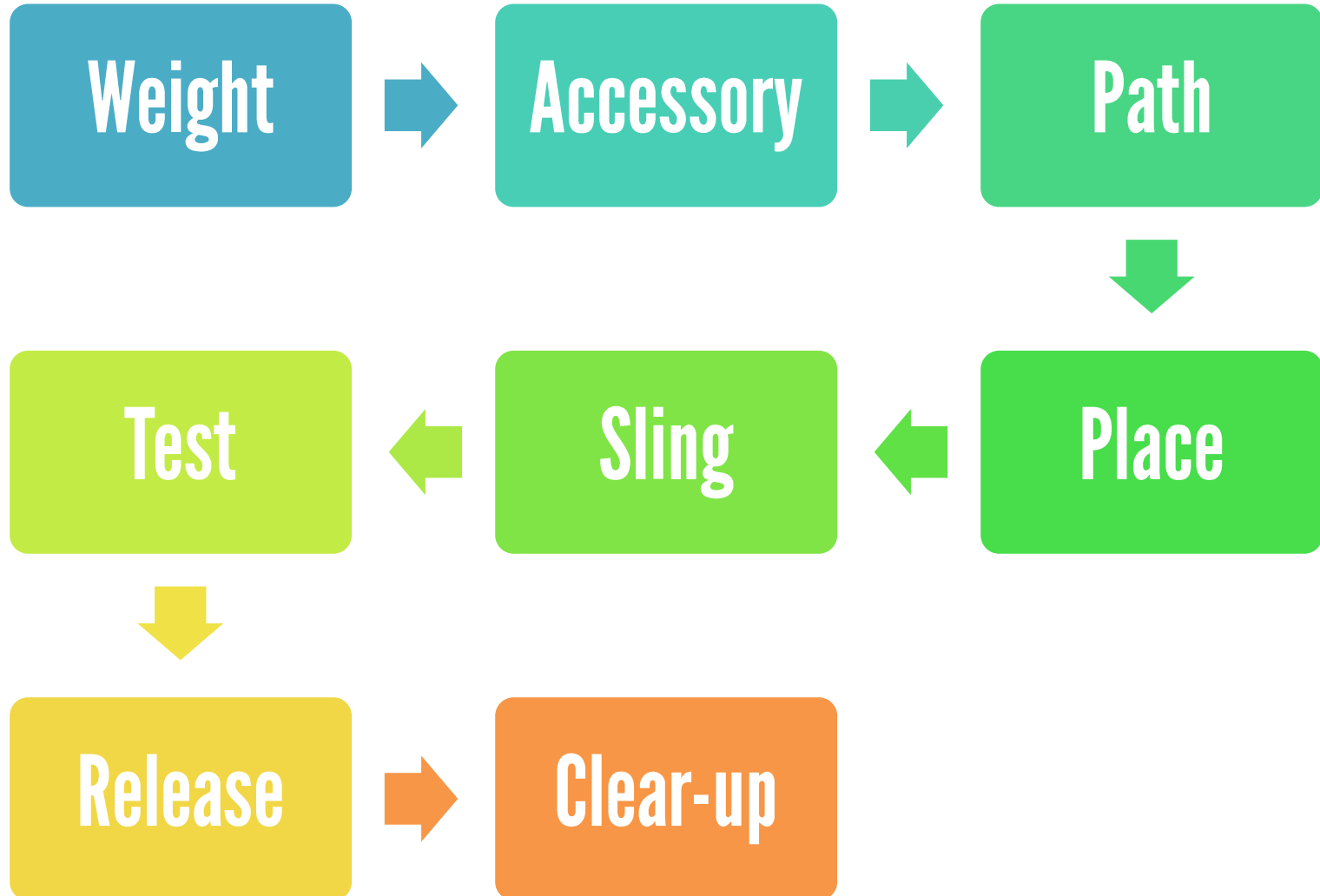
Hoists etc.

PUWER 1998

LOLER 1998



LOLER 1998





Instability
Falls
Collisions
Propulsion

ÜBER FAIL

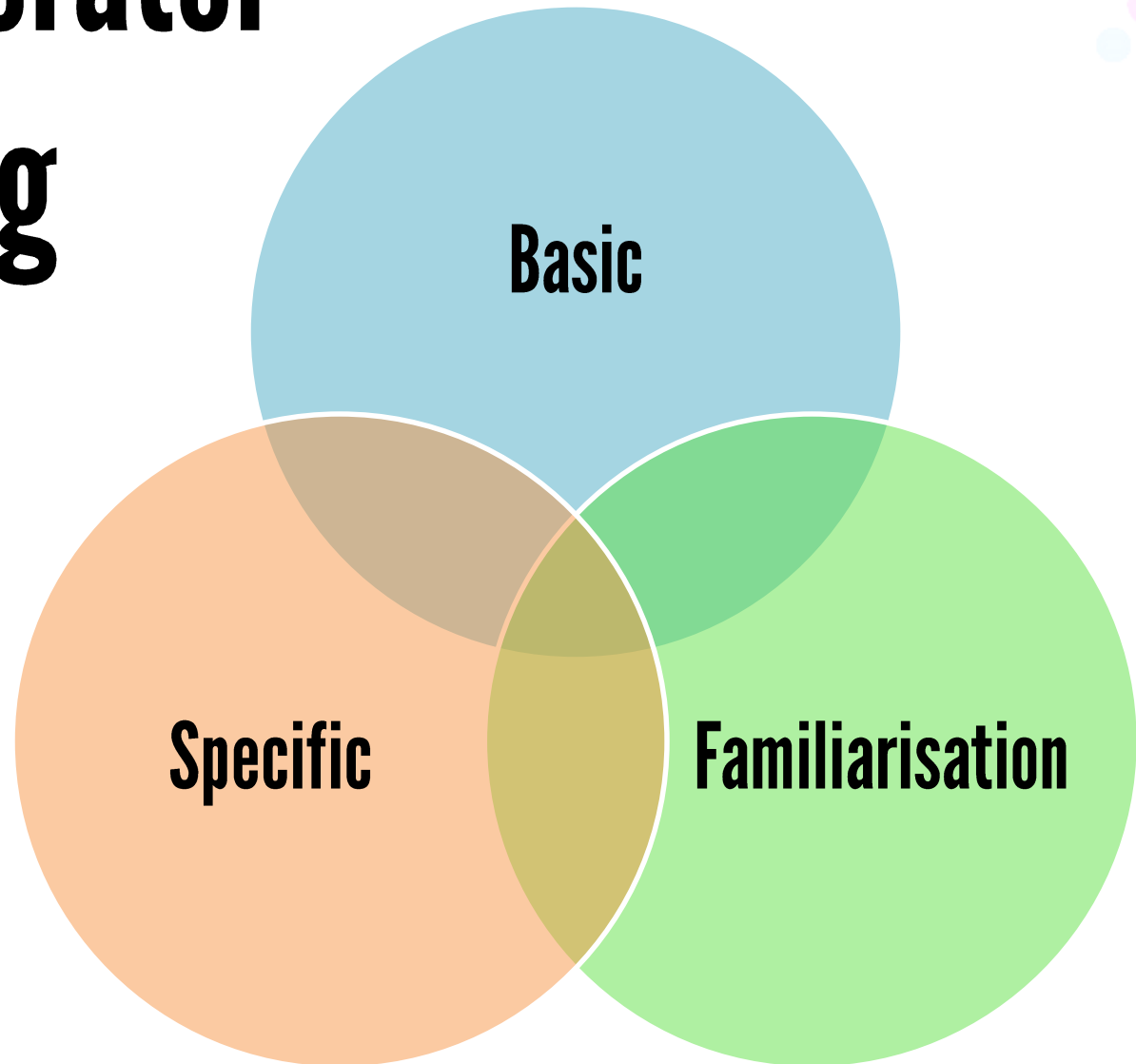
Regular fail does NOT adequately
describe this failure!



VIRAL VIDEOS AND THINGS



FLT Operator Training





EnTICE



SMTTH 601



Statutory Inspections



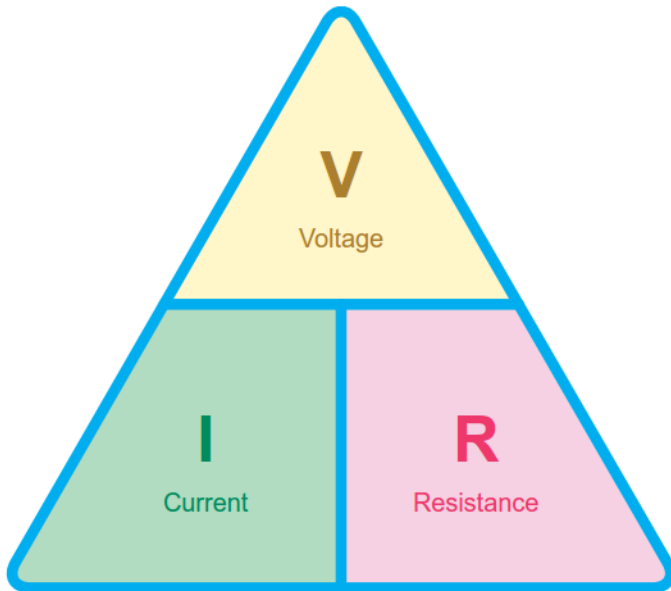
After installation

1st time use

Exposure

Electricity

Ohm's Law



$$V = I \times R$$

Diff. between + and -

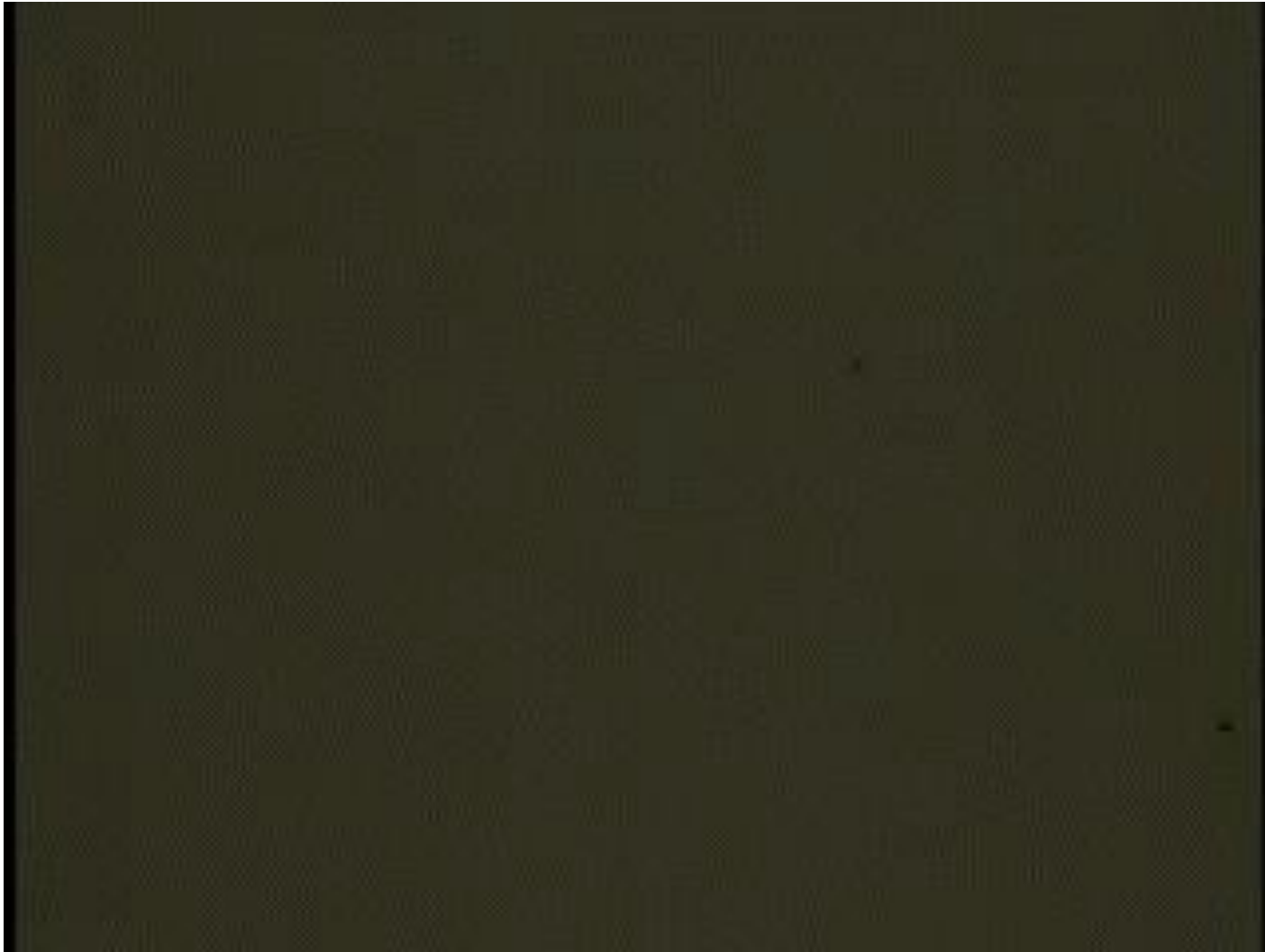
$$I = \frac{V}{R}$$

Flow

$$R = \frac{V}{I}$$

Resistance to flow

Principles of Electricity





BSAFE



STUPID PEOPLE

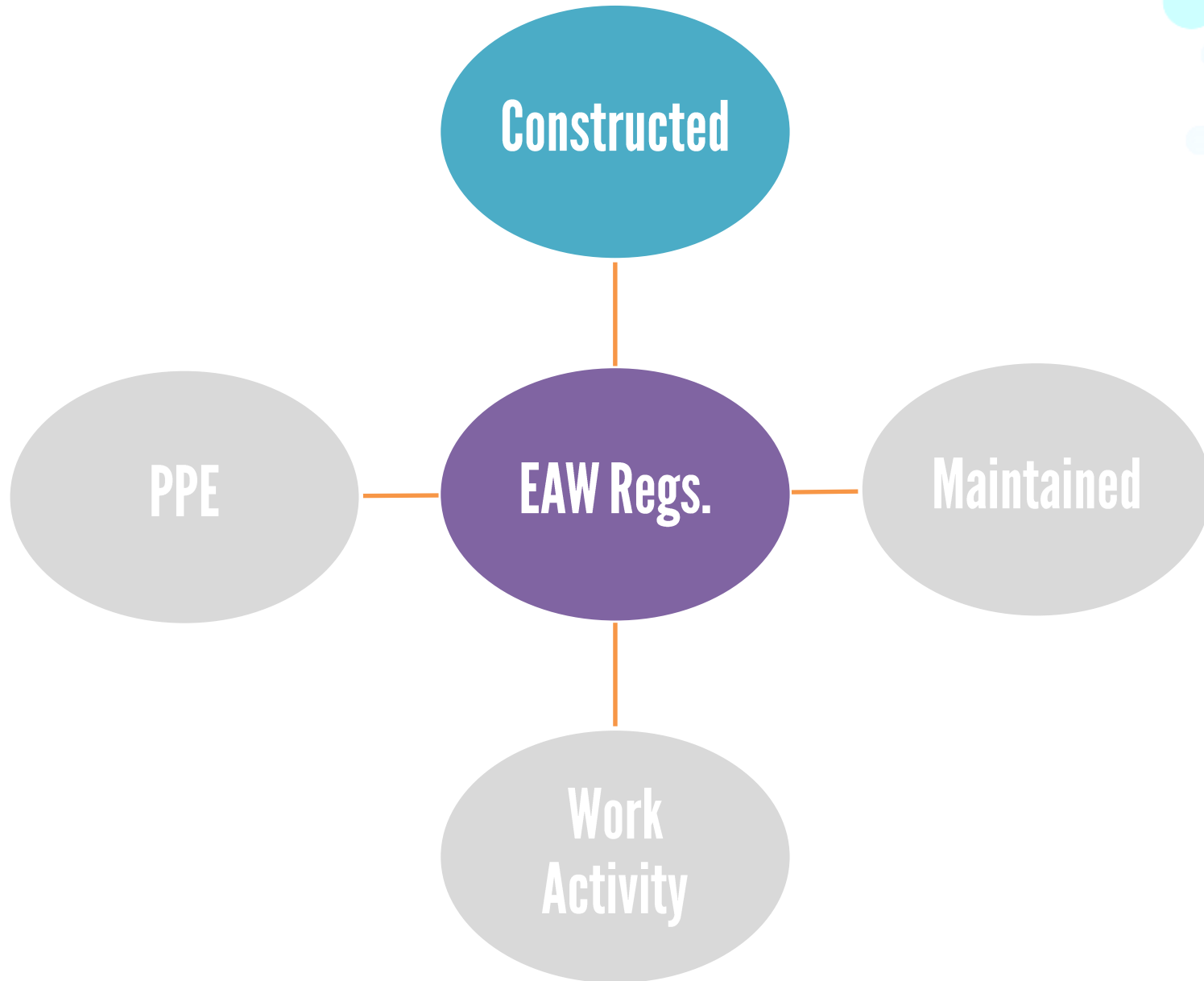
Thank you for taking yourself out of circulation willingly.

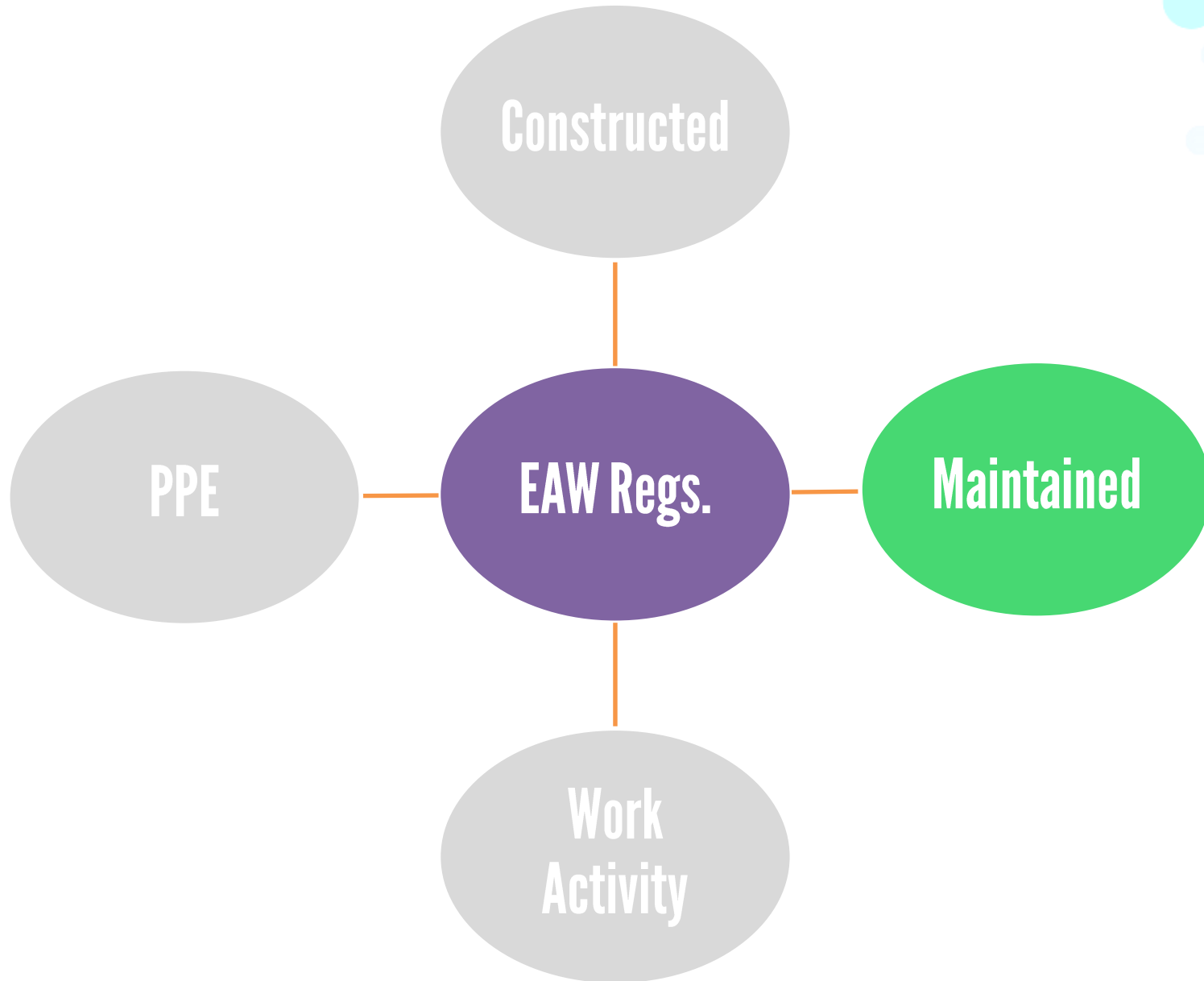


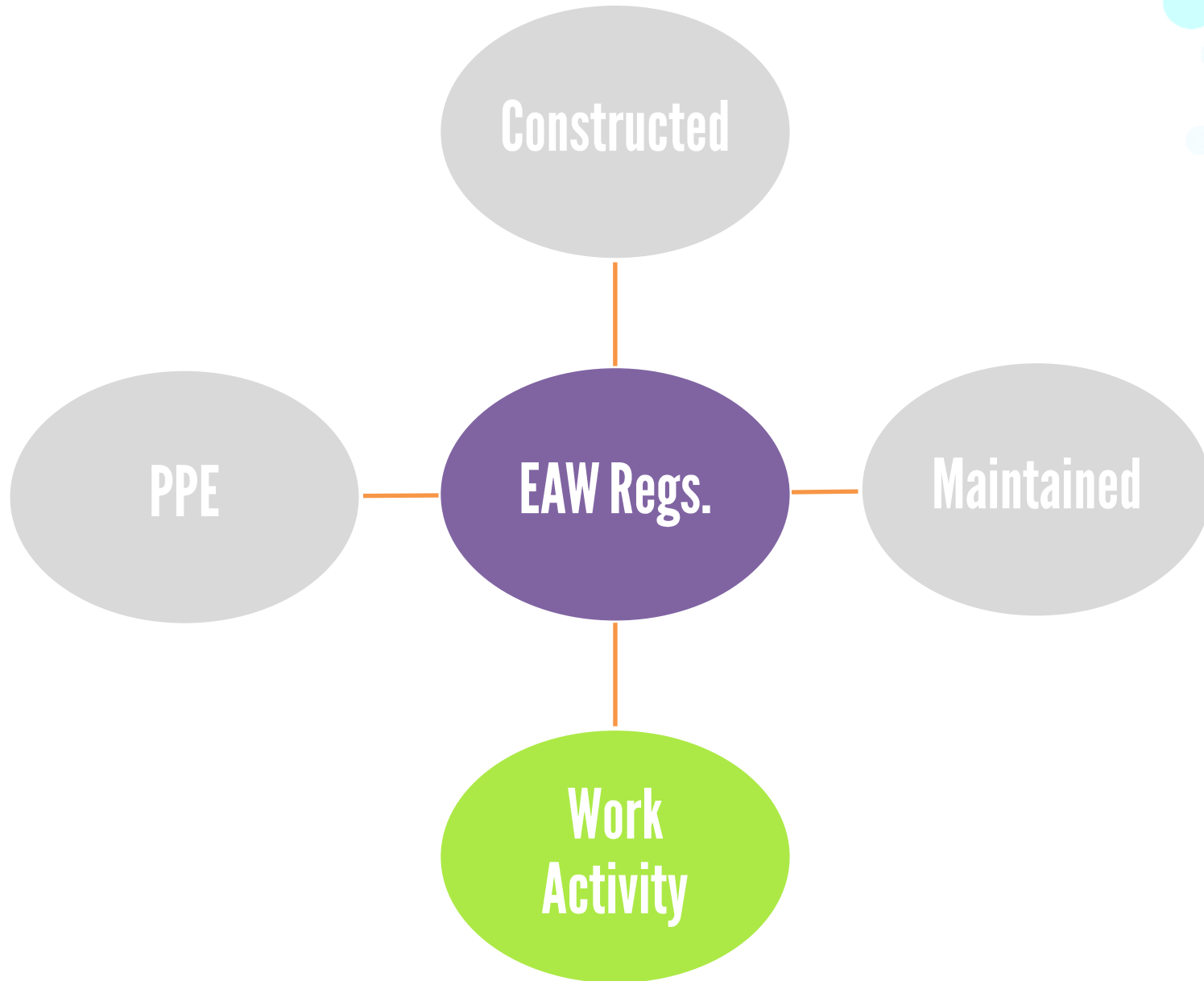
High voltage

Arc Flash









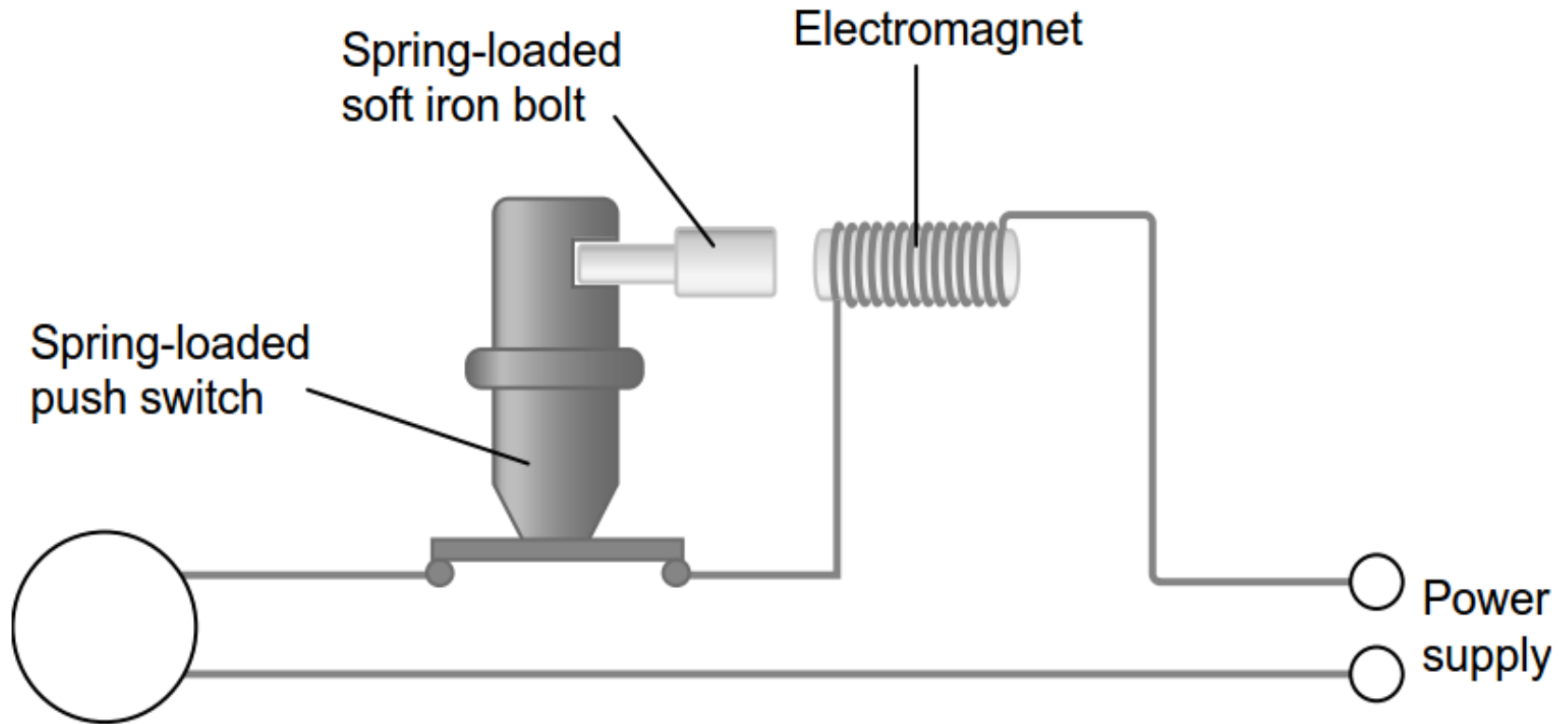
multi-lock hasp



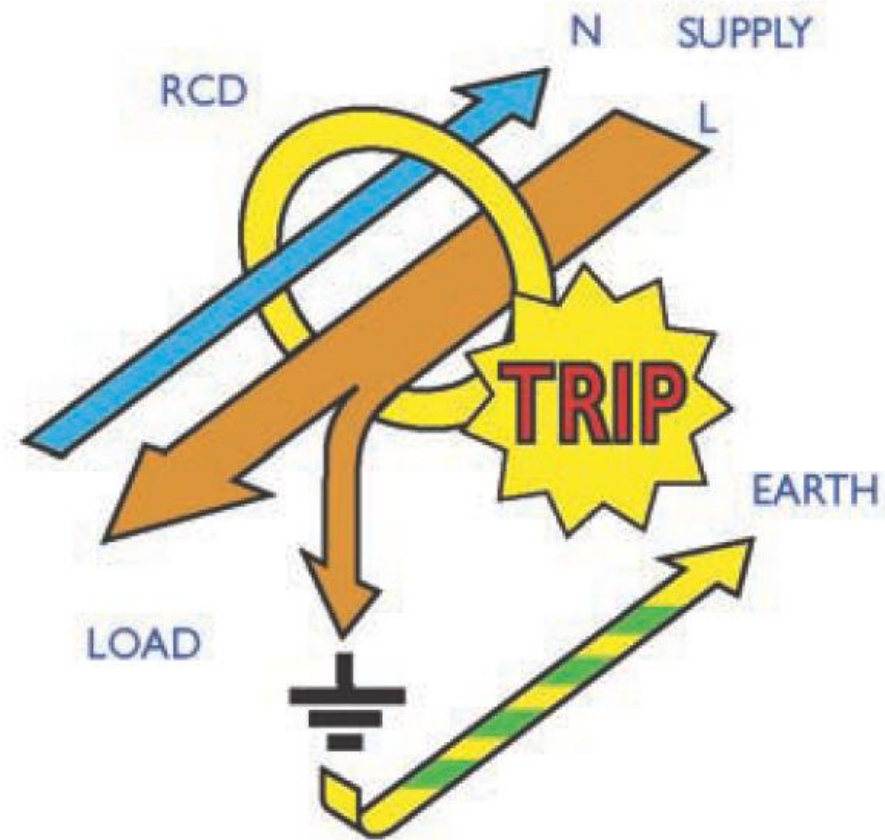
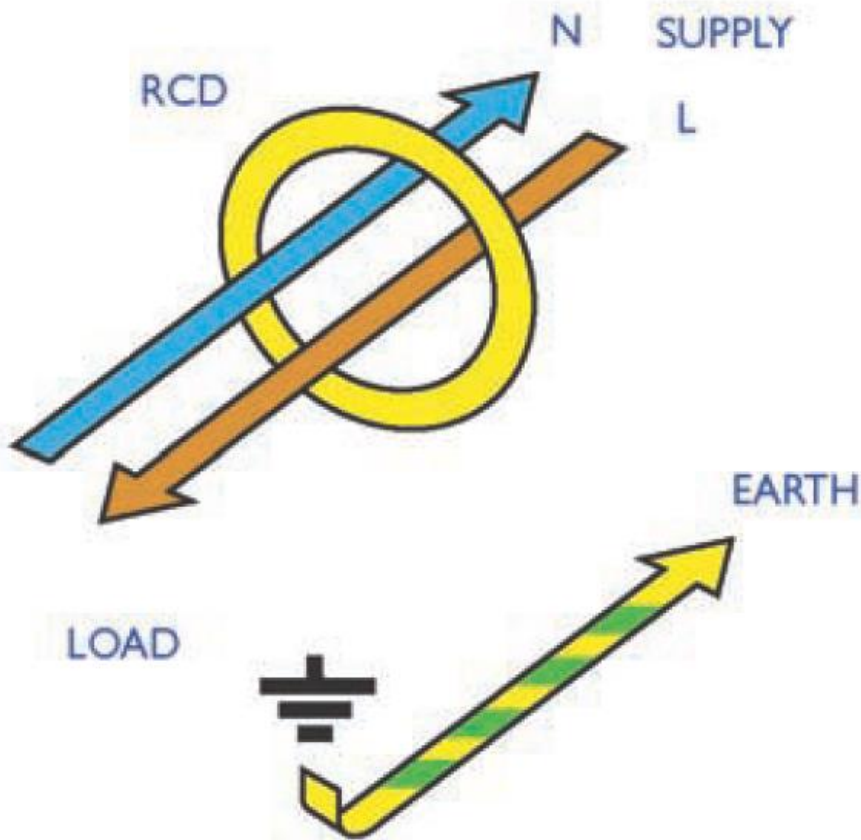
Isolation Failure



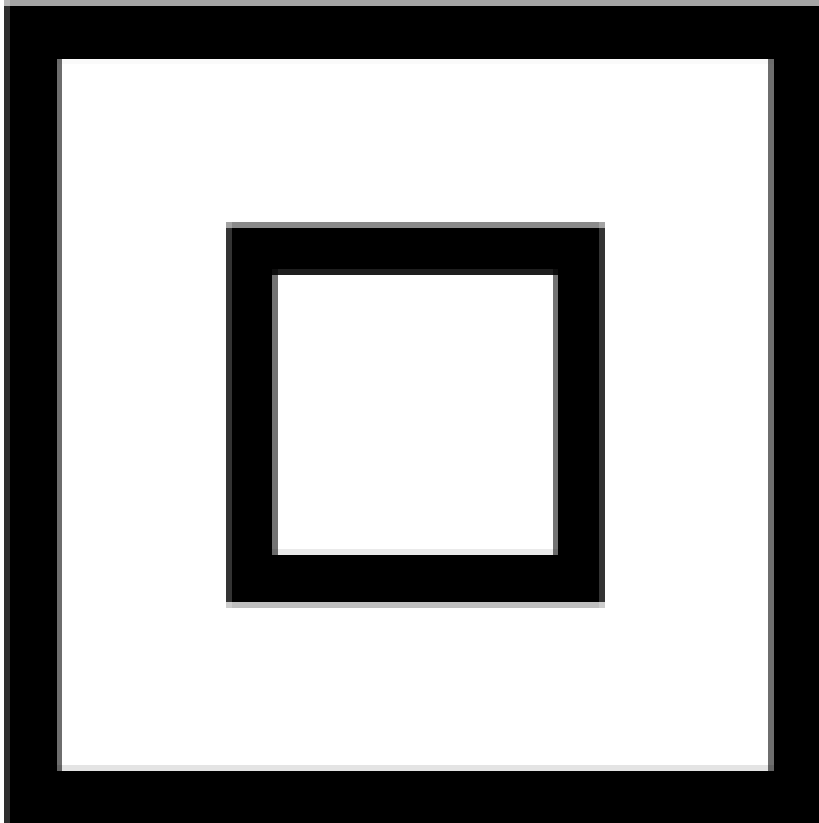
Mini Circuit Breaker (MCB)



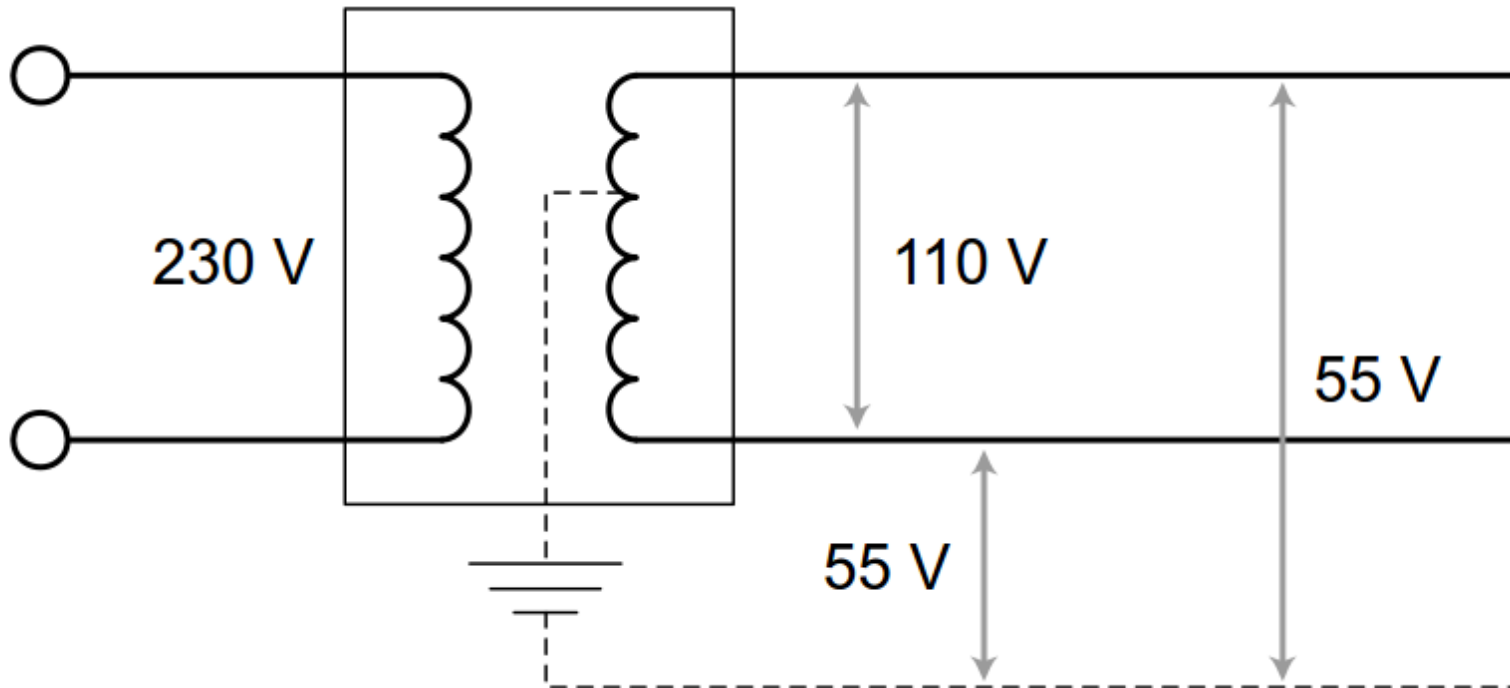
Residual Current Device (RCD)



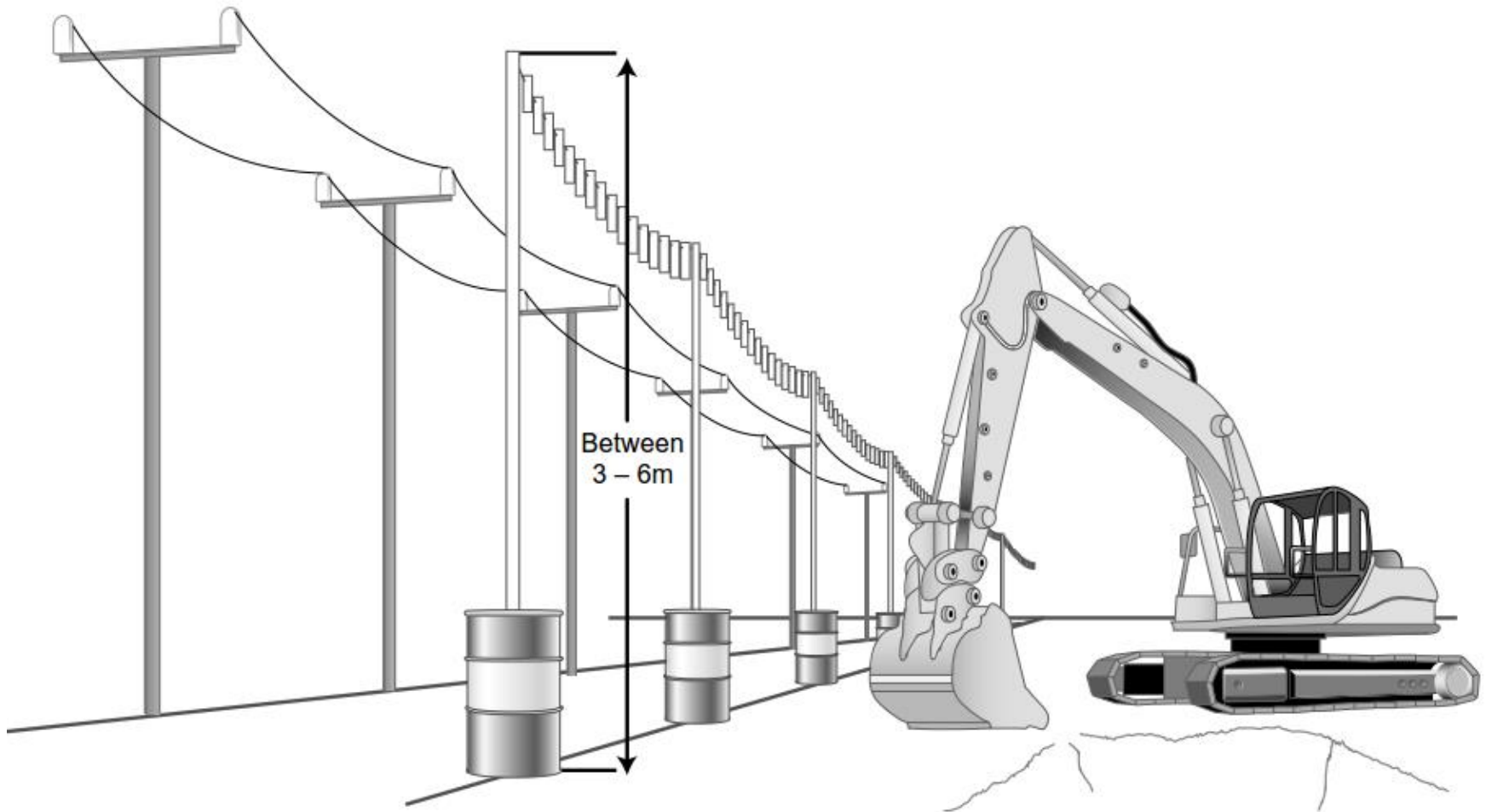
Double Insulation



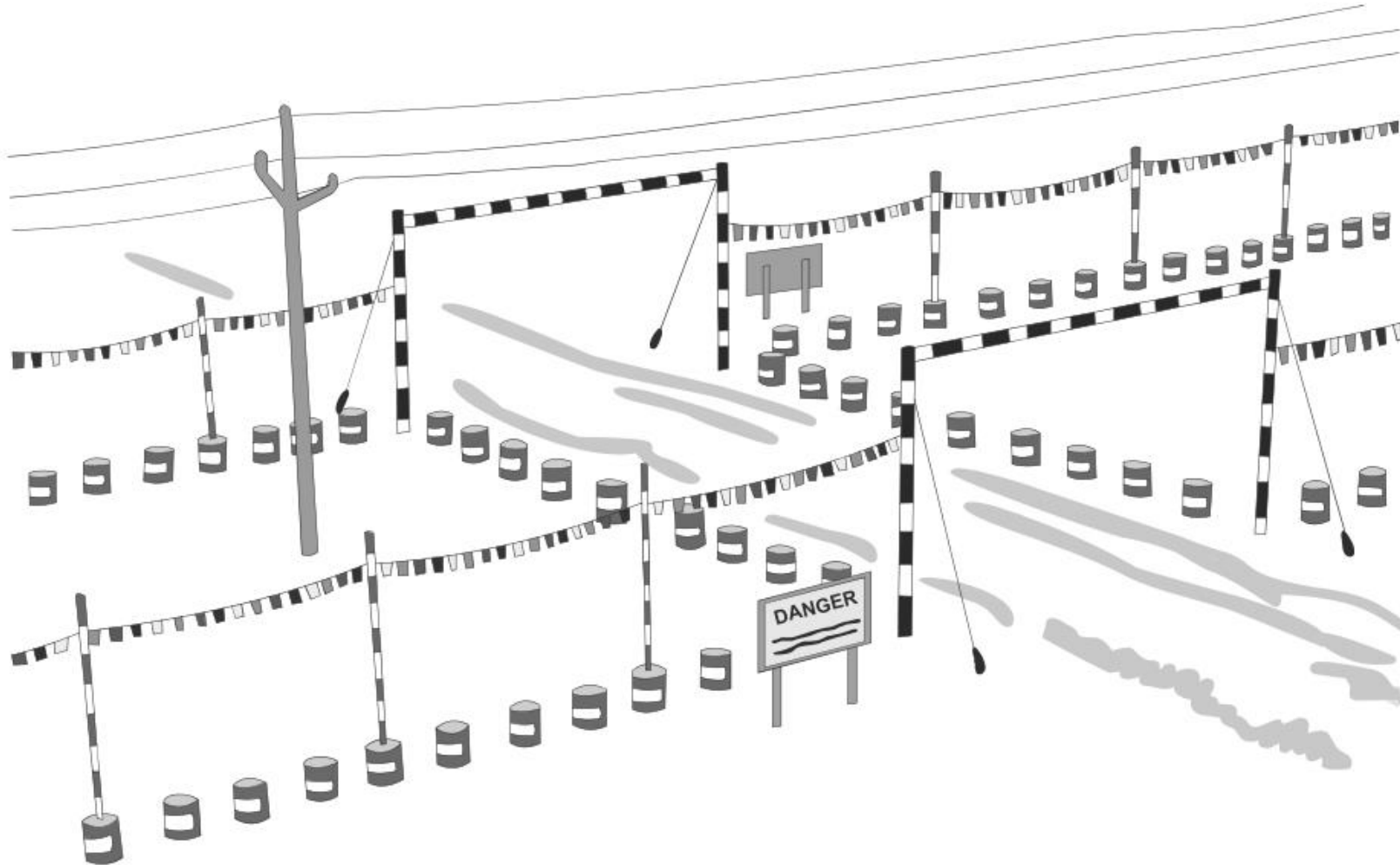
Reduced Voltage

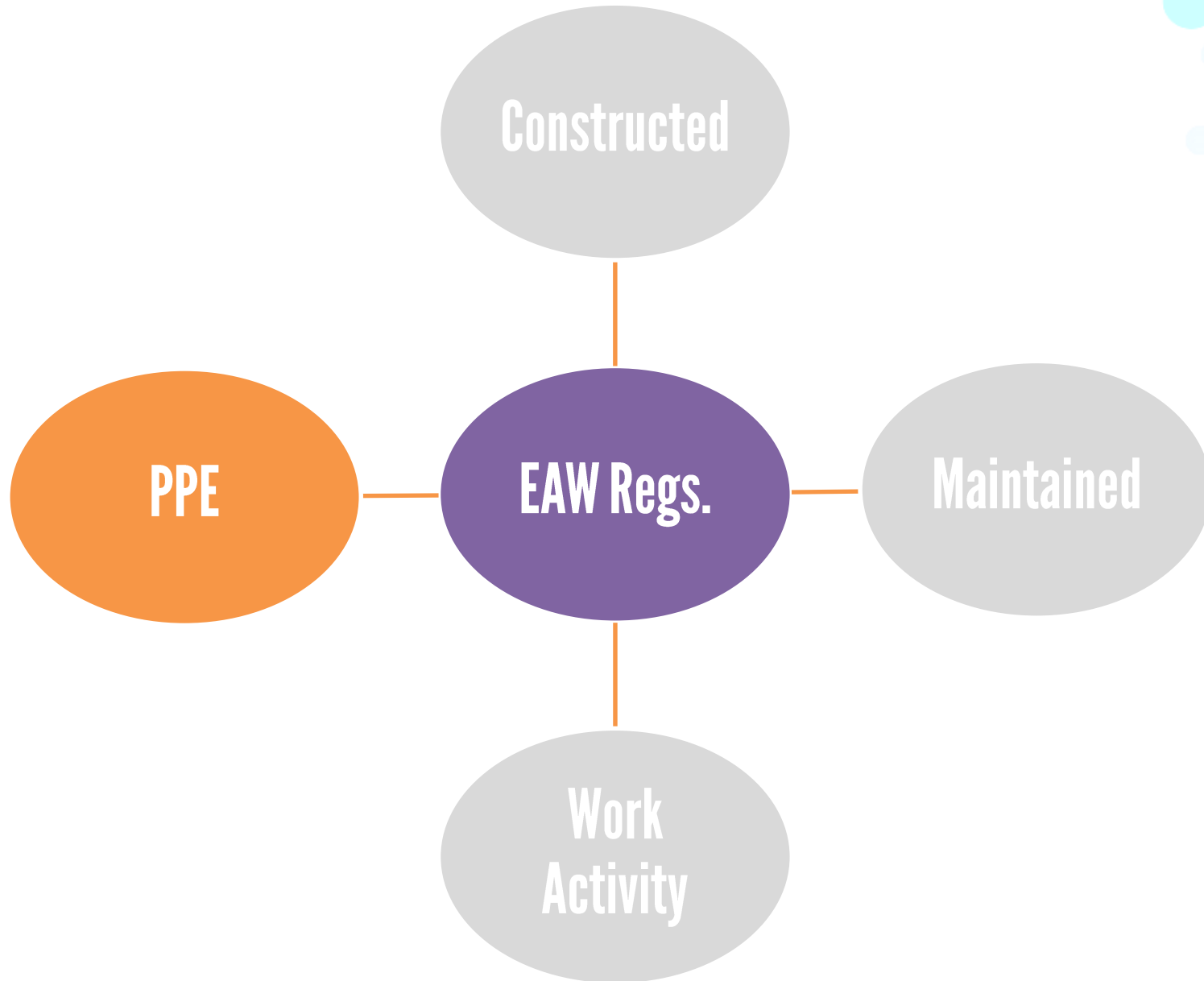


No Plant or Work

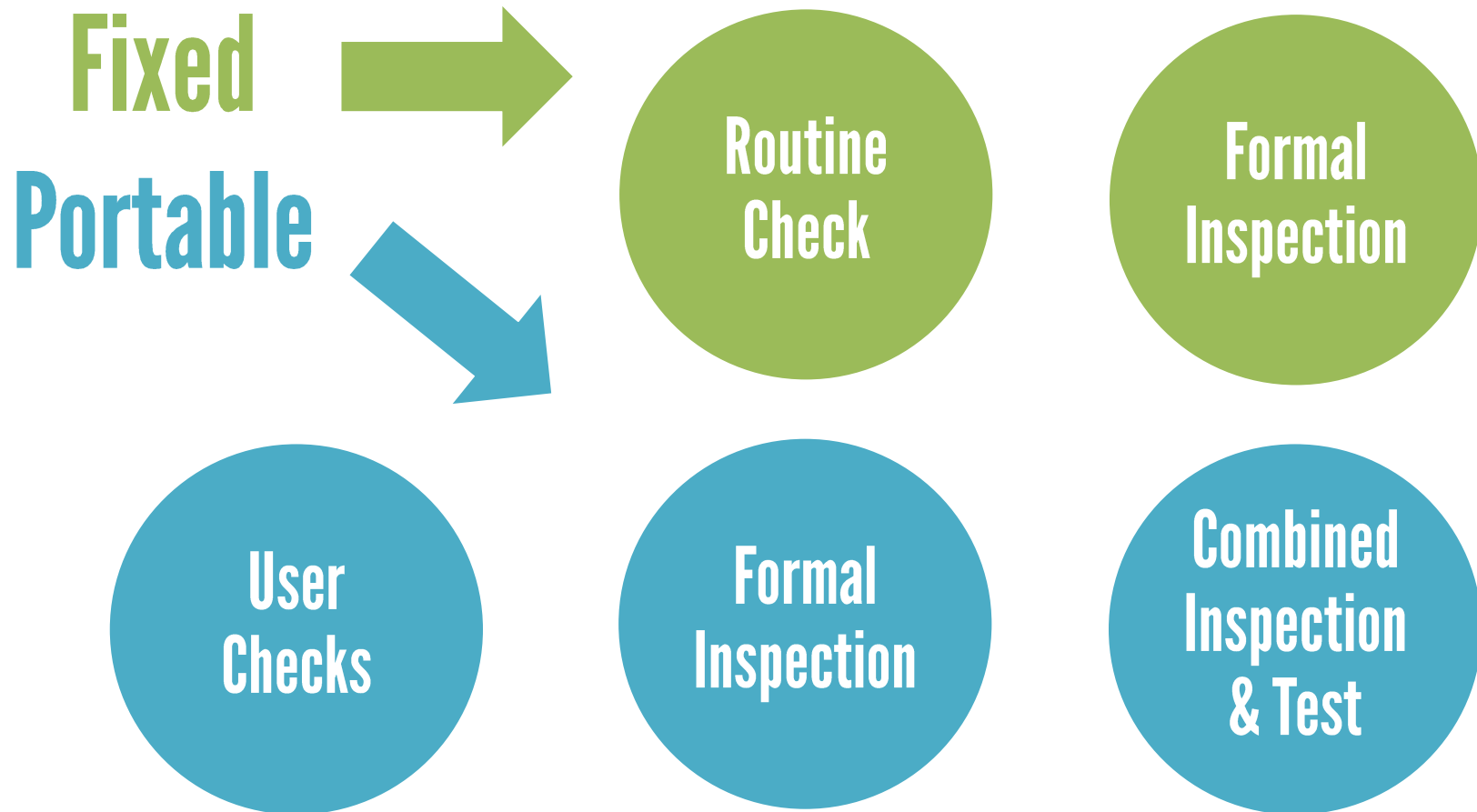


Plant Only

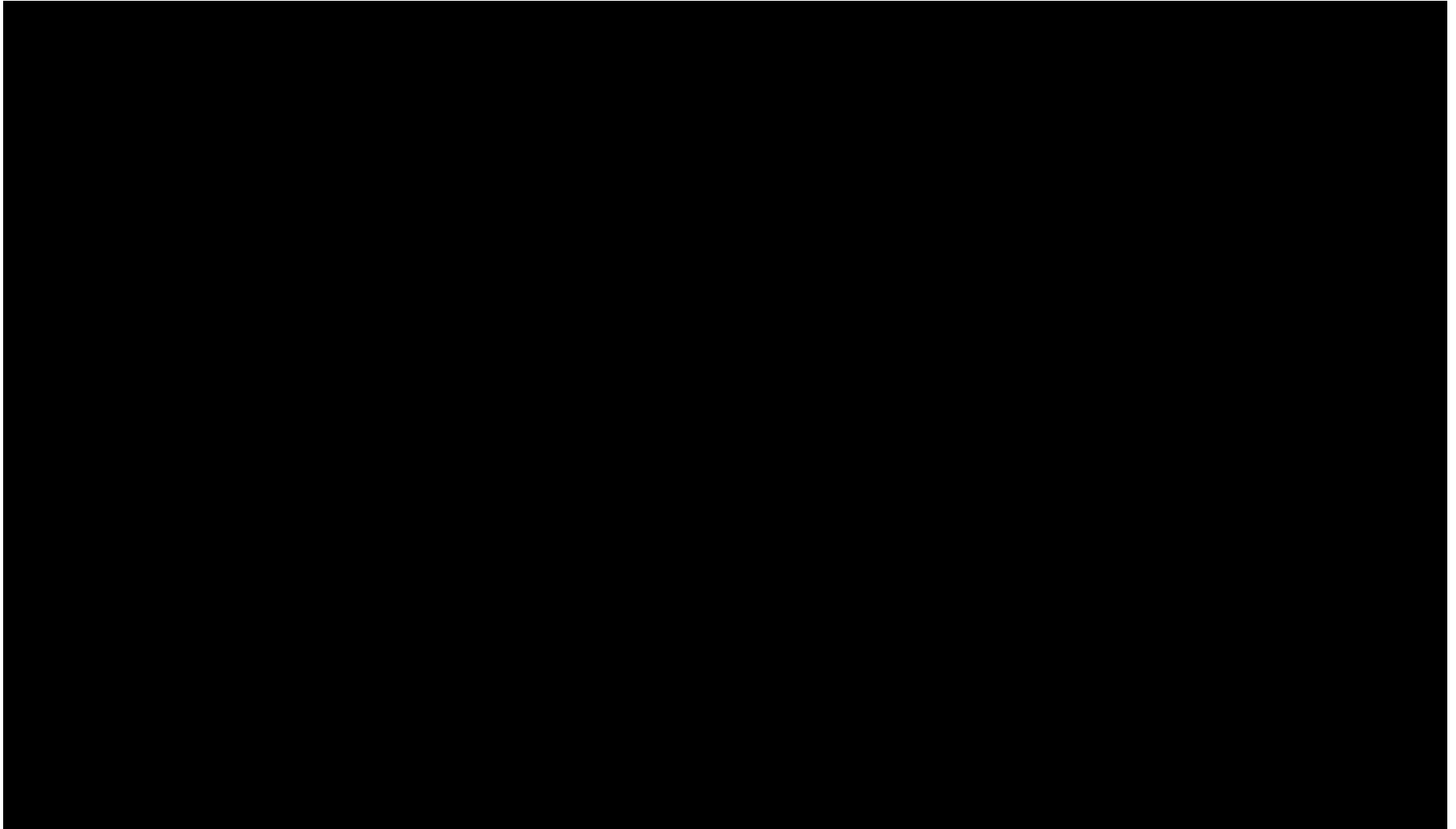




Inspection and Testing

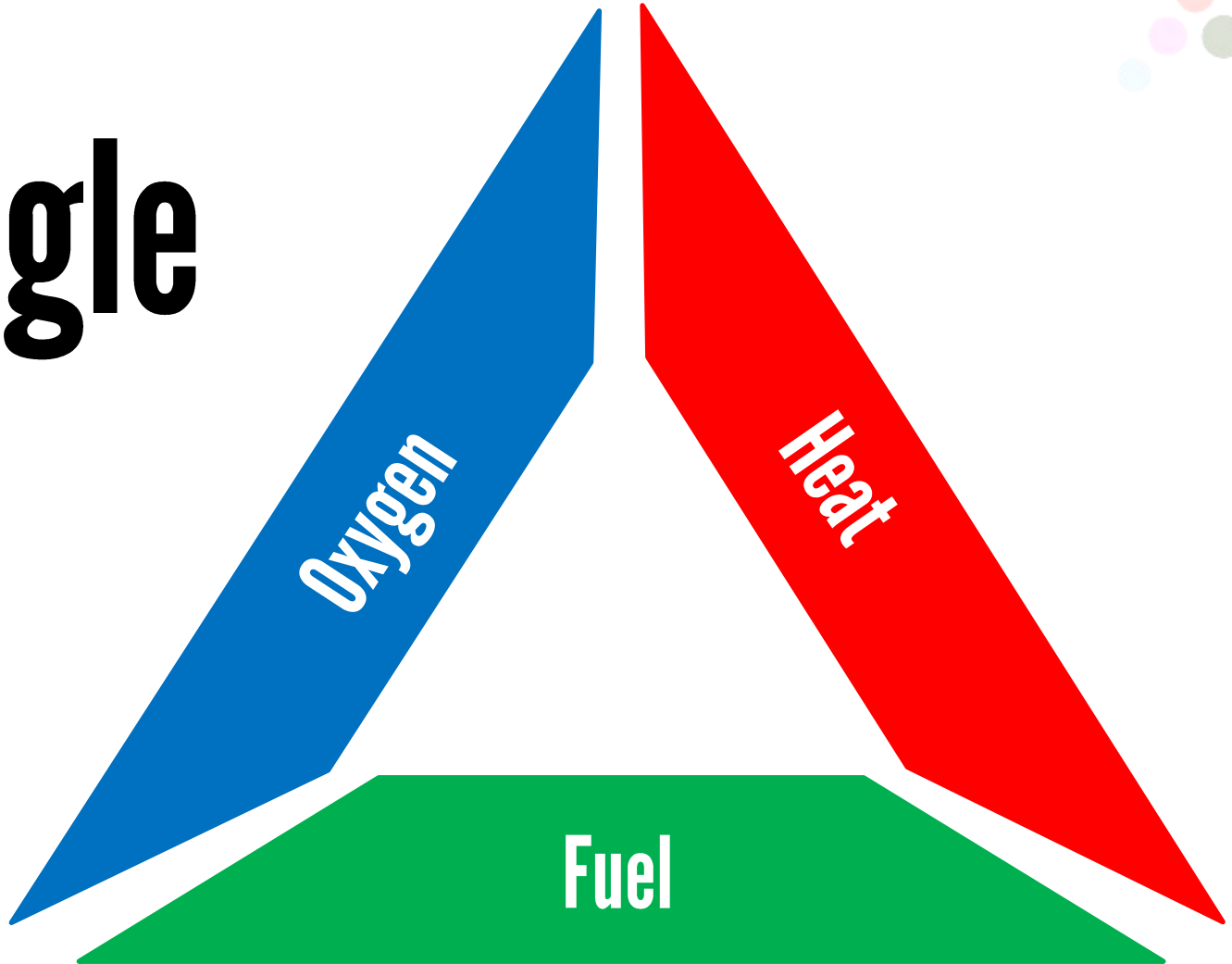


High Voltage Cable Inspection

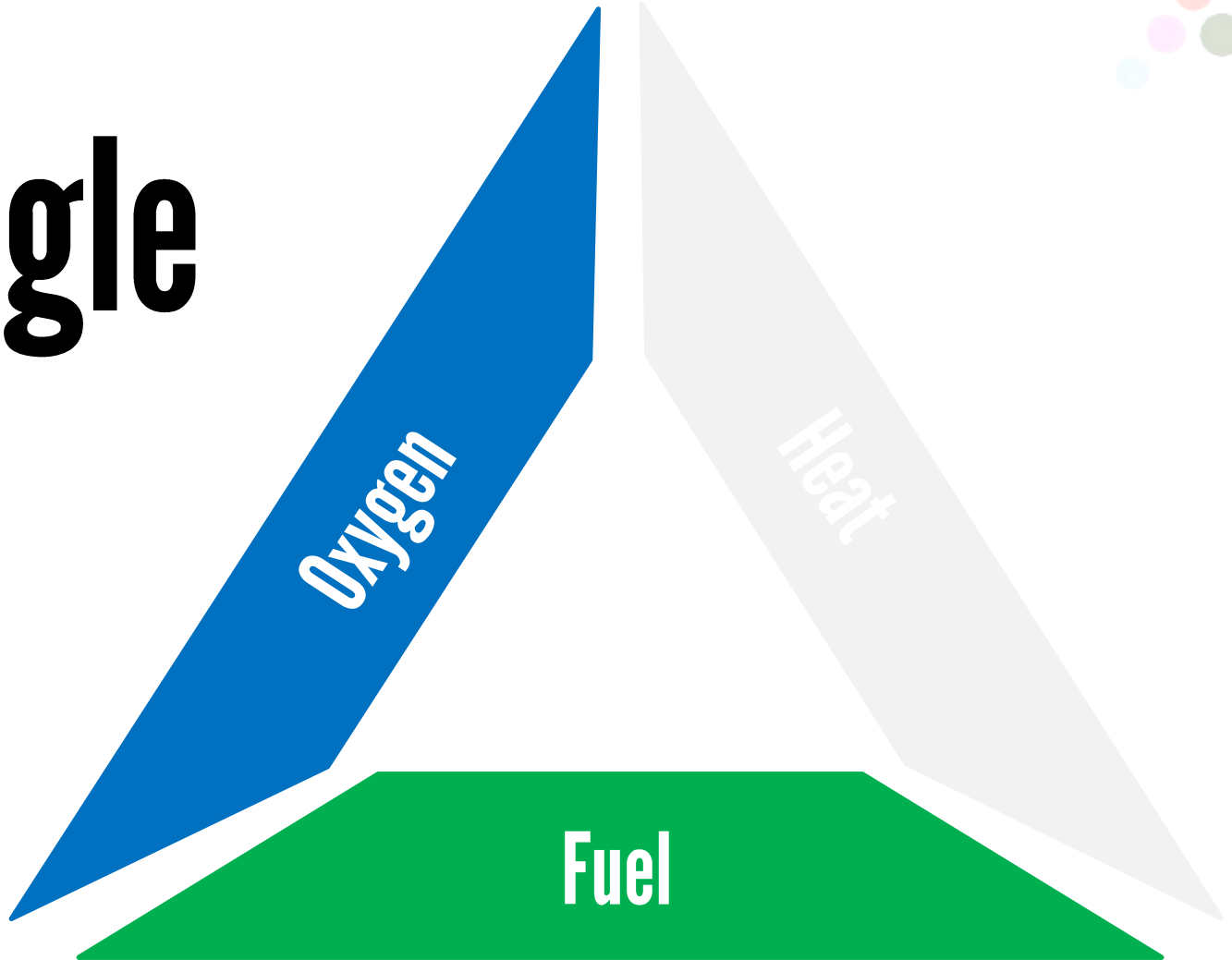


Fire

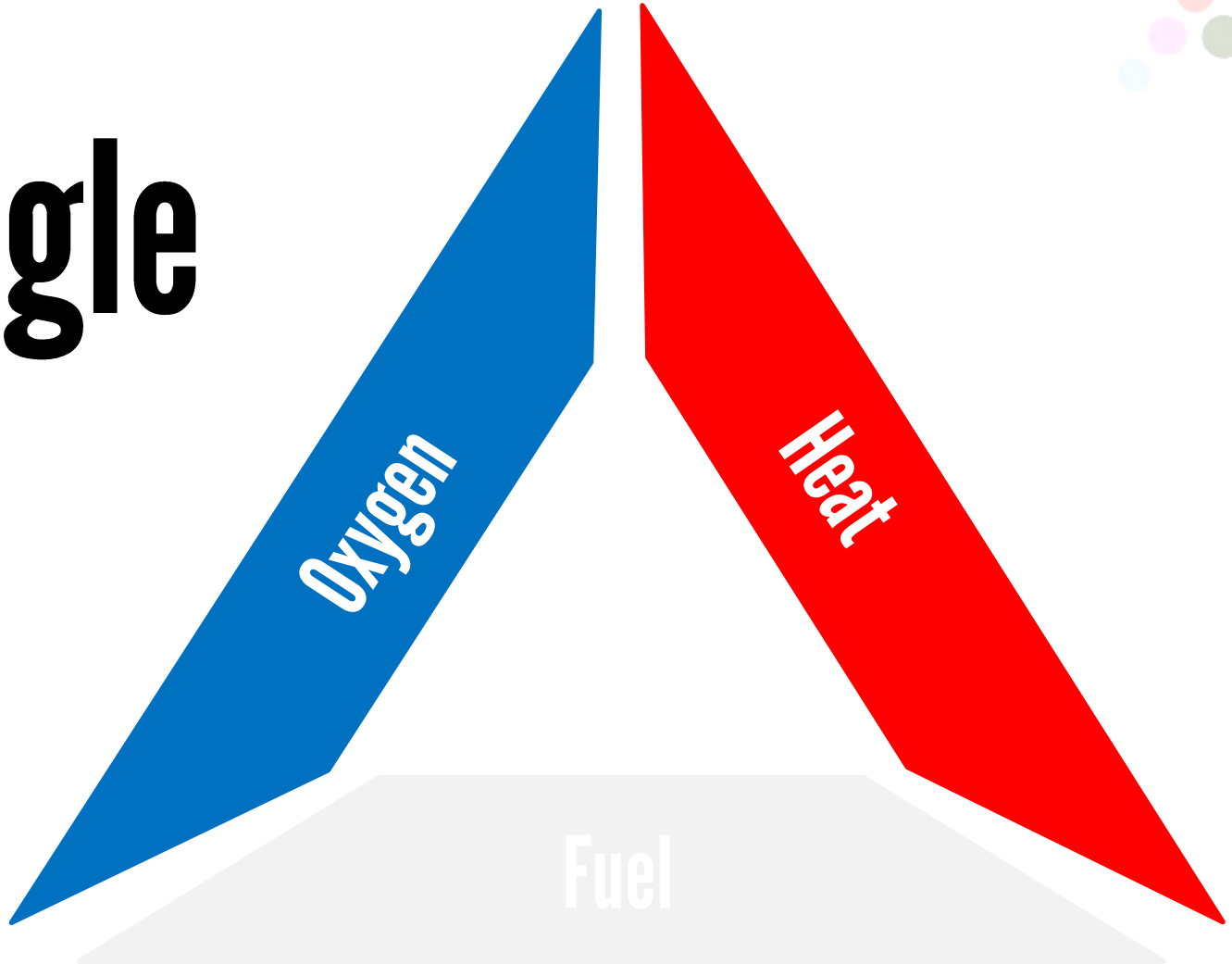
Fire Triangle



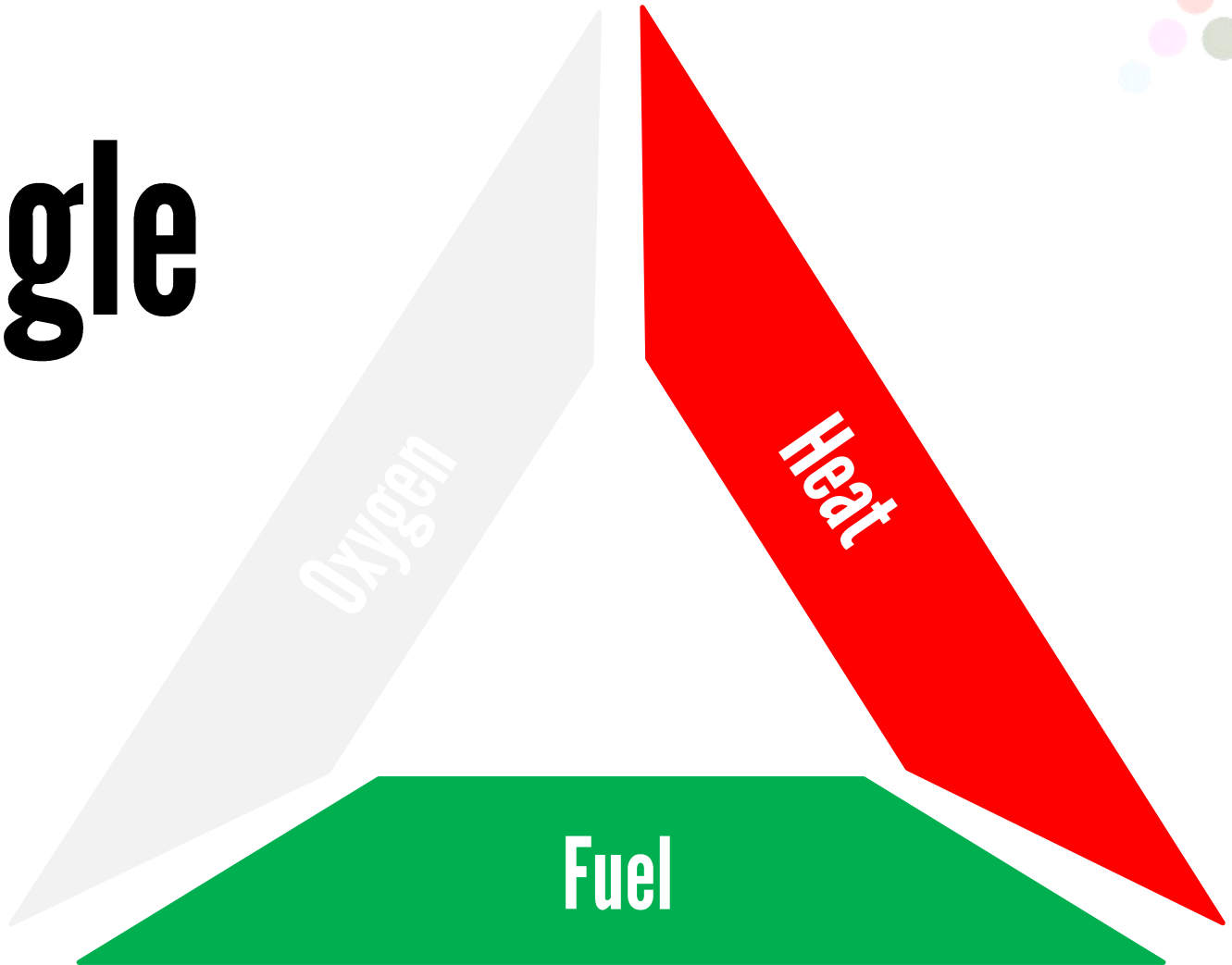
Fire Triangle

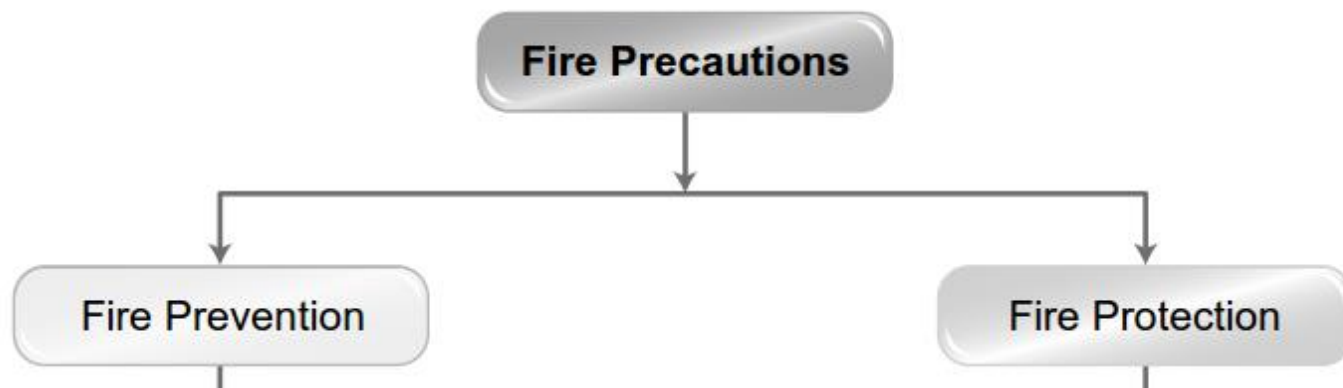


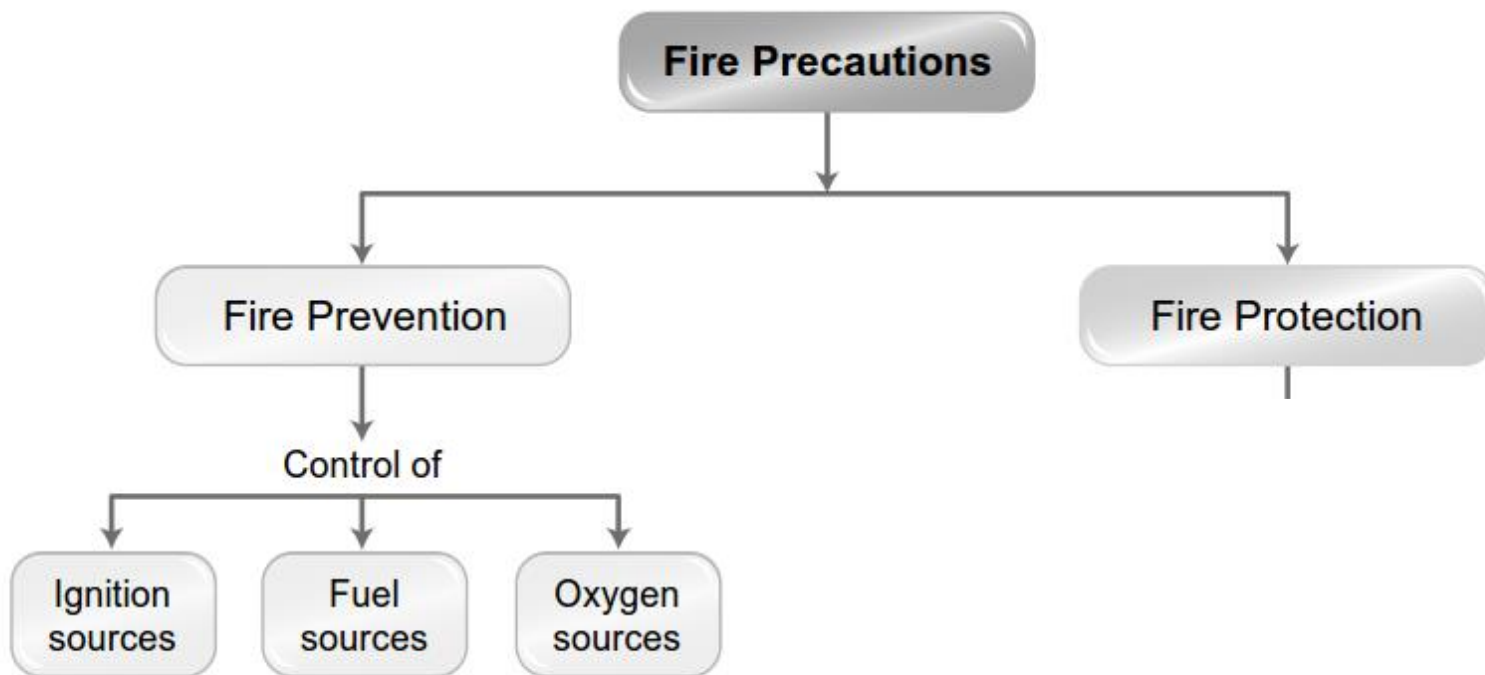
Fire Triangle



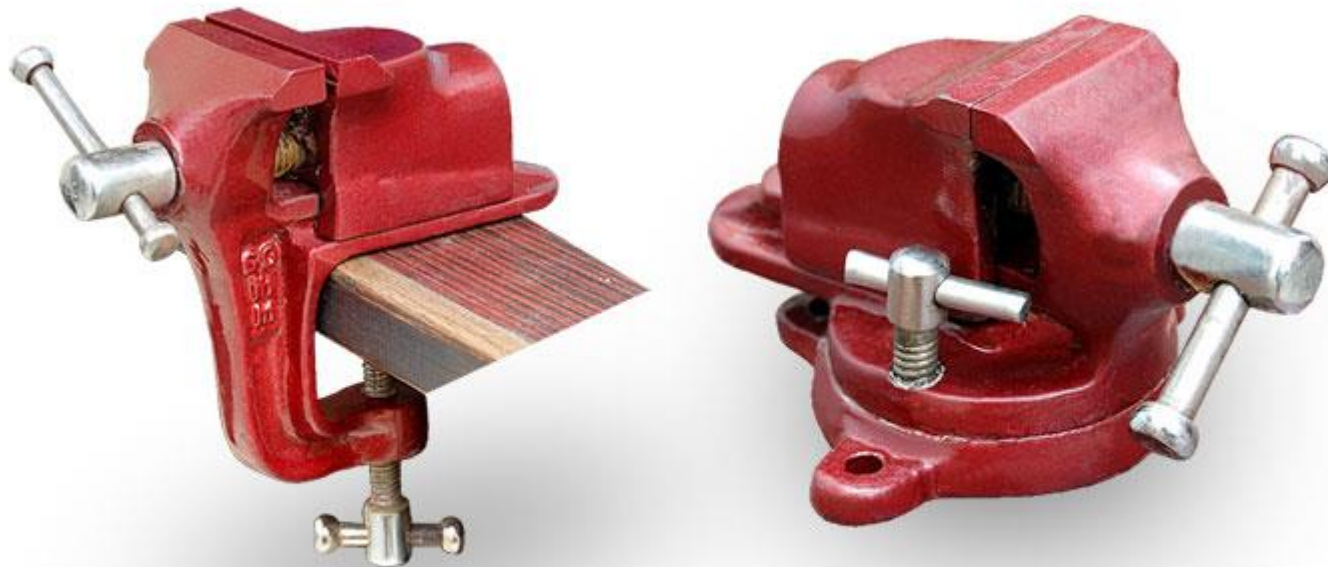
Fire Triangle

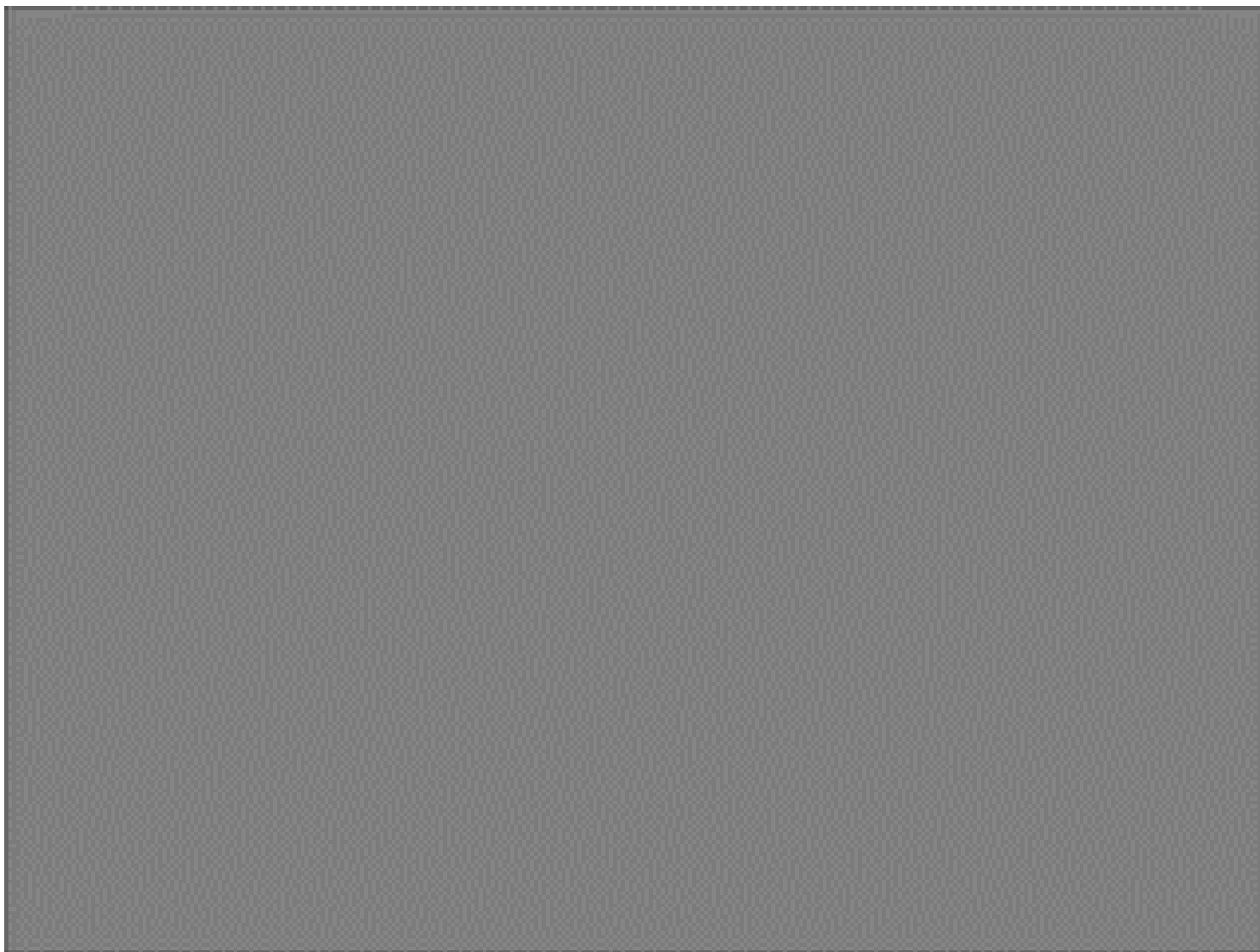


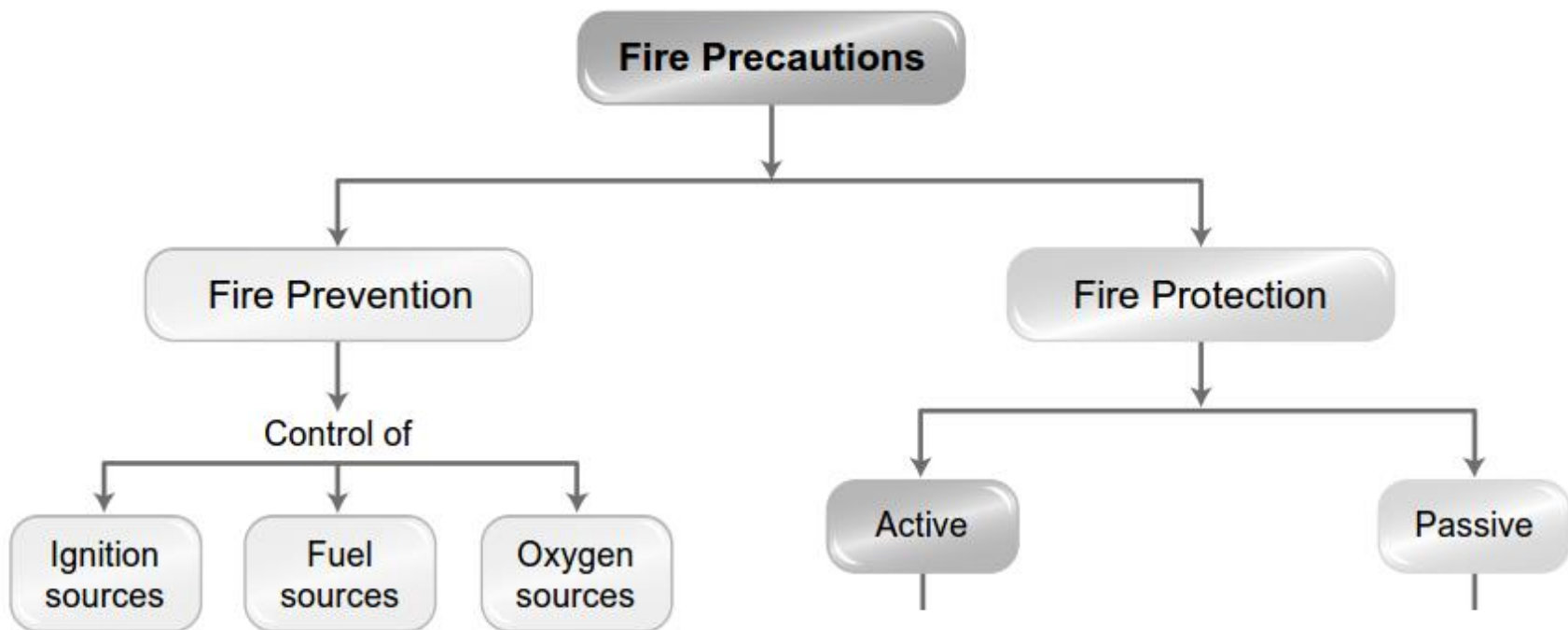


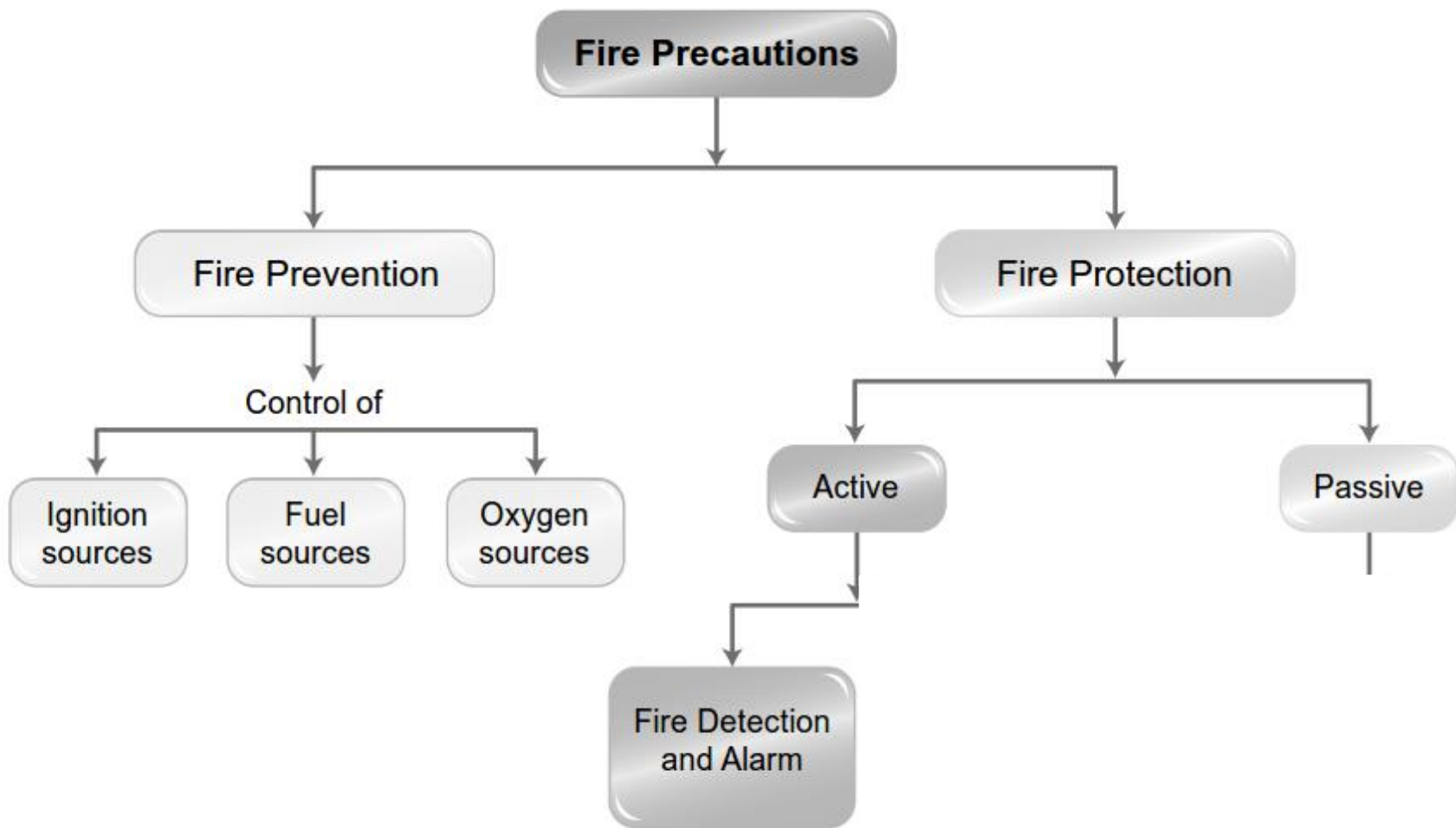


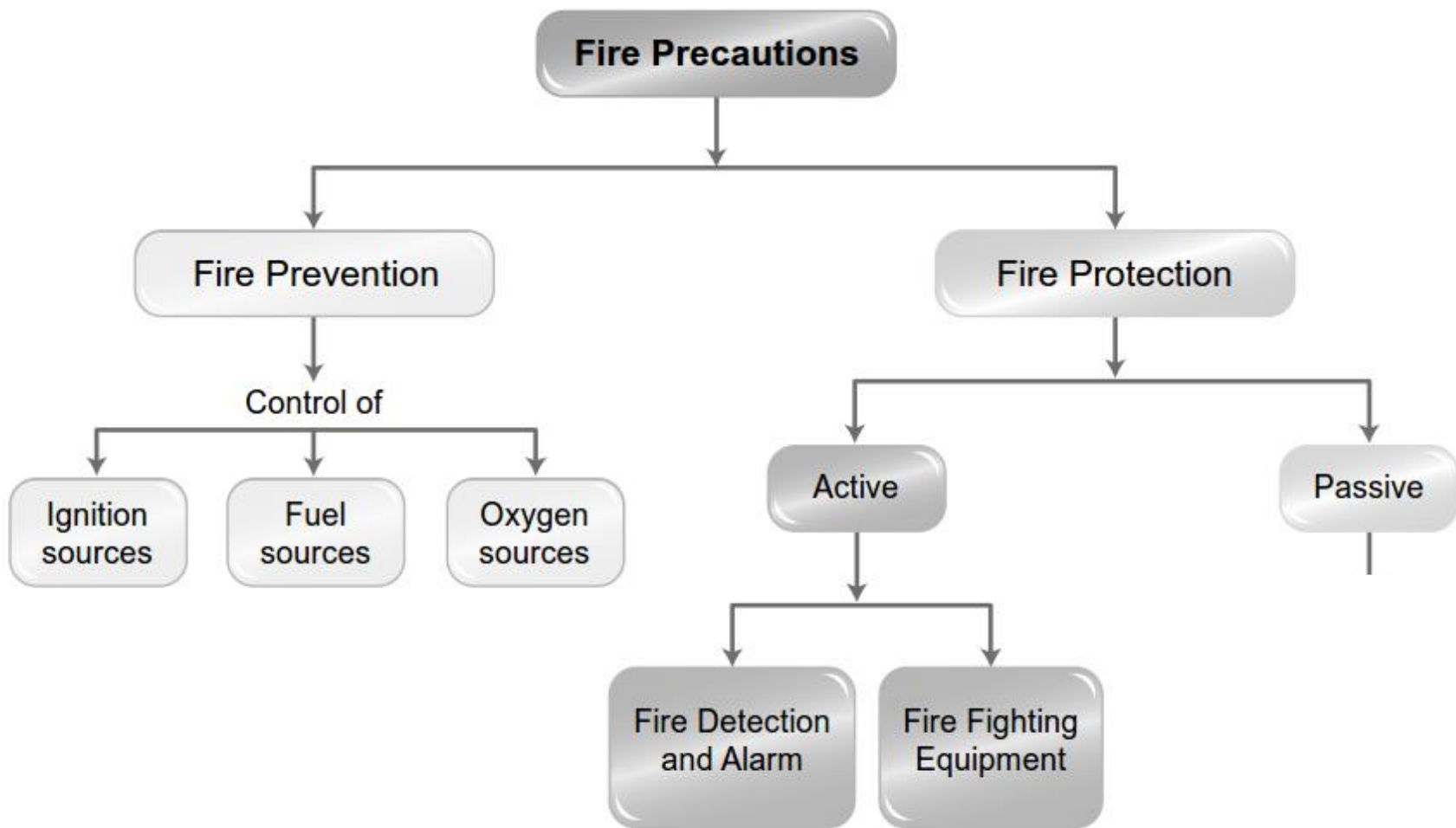
Control of Fuel Sources











KNOW YOUR FIRE EXTINGUISHER COLOUR CODE

Cylinder Colour Coding and Contents

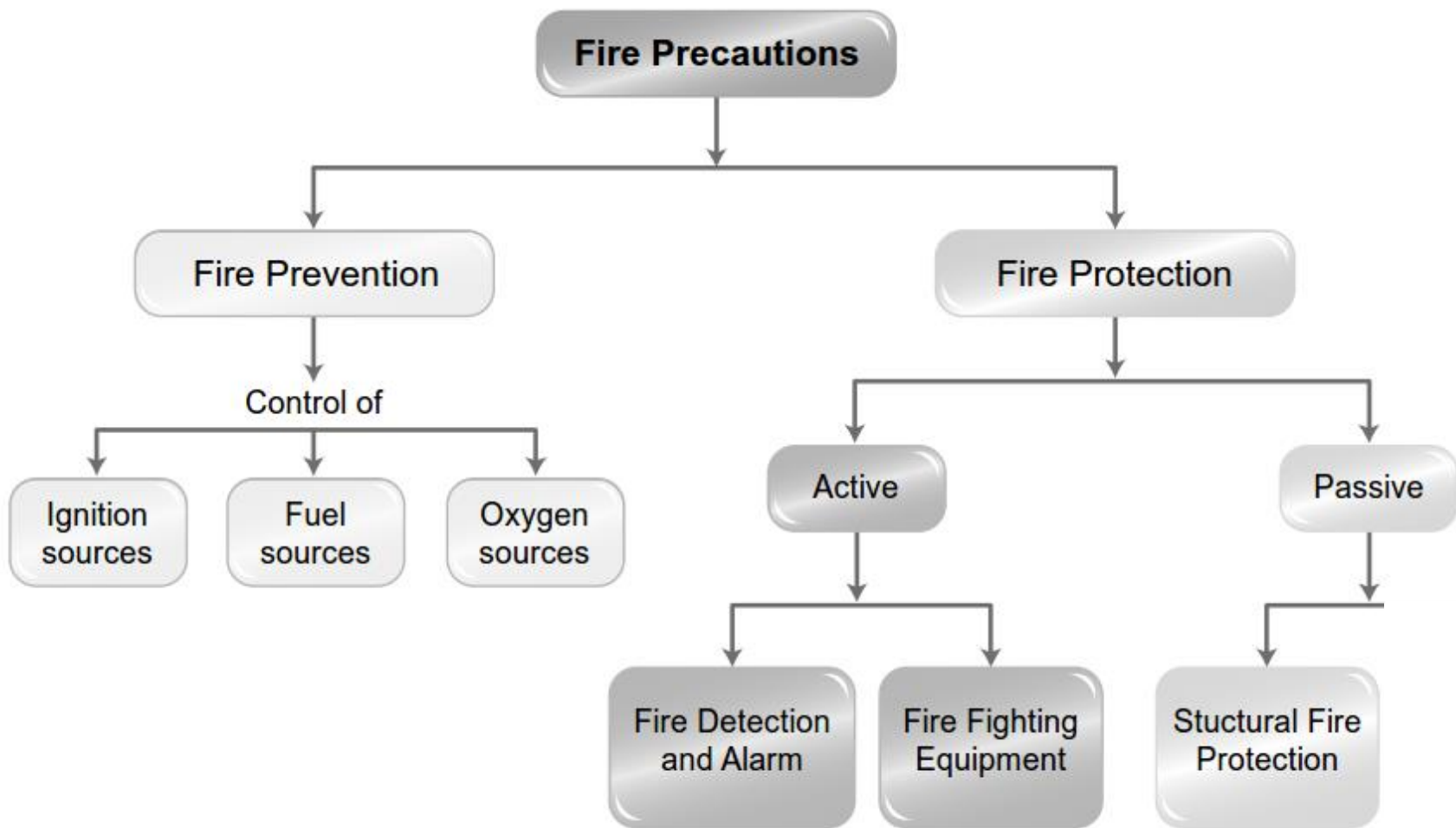
Classification of
Fire Risk

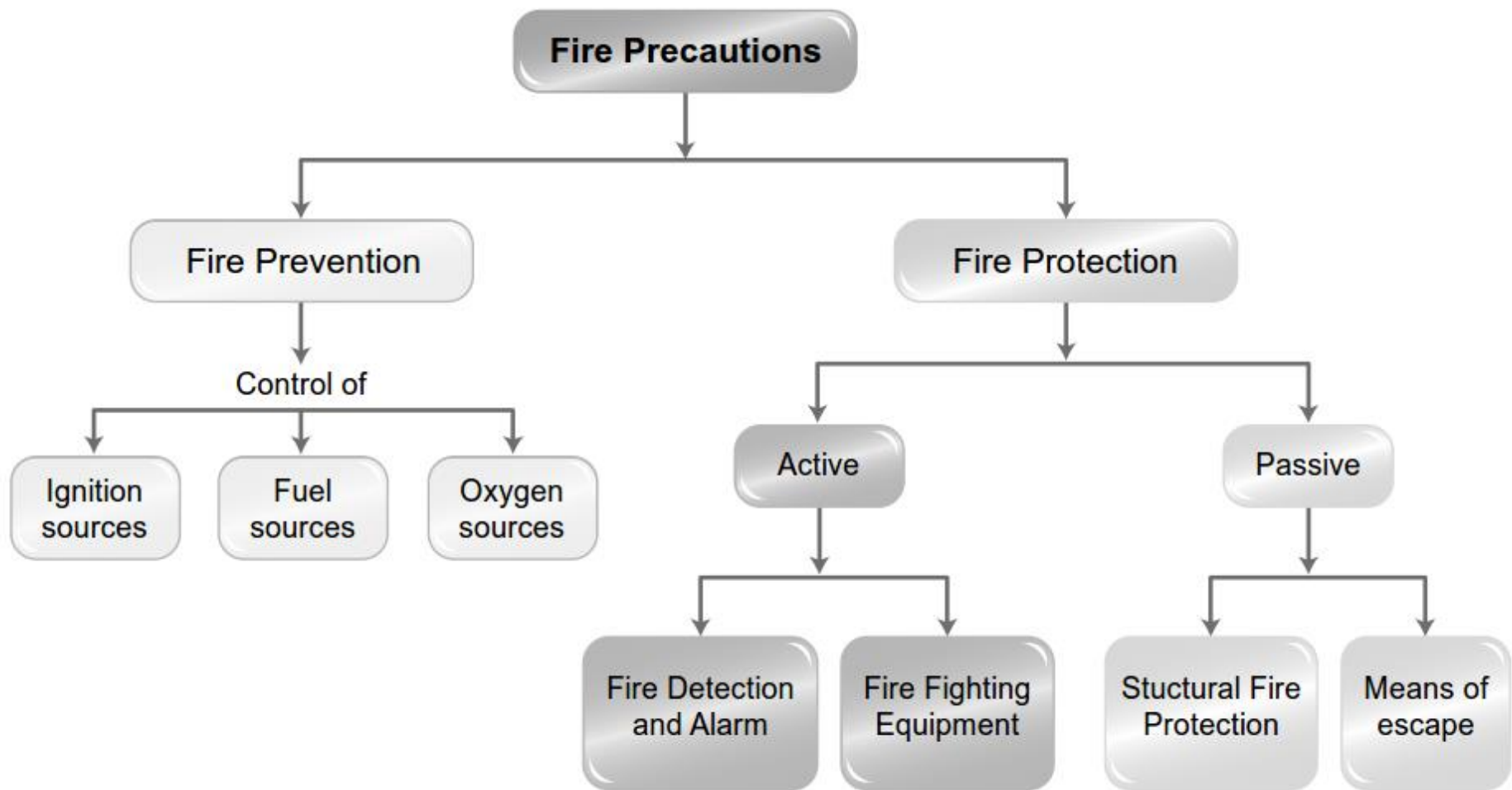


Classification of Fire Risk	Water (Red)	Foam (Yellow)	CO2 (Black)	Dry Powder (Blue)	Multipurpose Liquid (Green)
A Paper, Wood, Textile and Fabric	✓	✓		✓	✓
B Flammable Liquids		✓	✓	✓	✓
C Flammable Gases				✓	✓
Electrical Hazards			✓	✓	✓
Vehicle Protection		✓		✓	✓

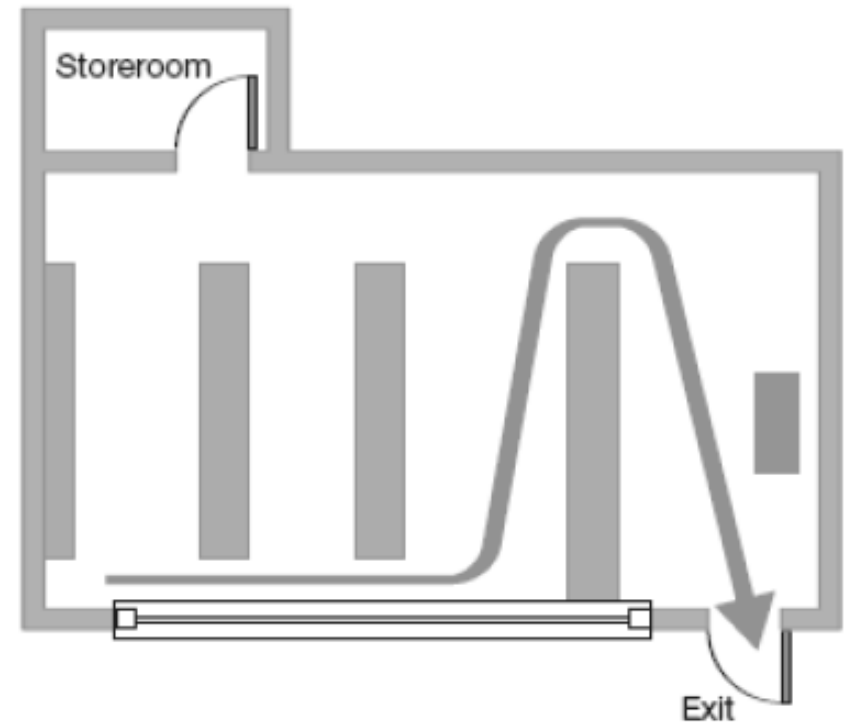
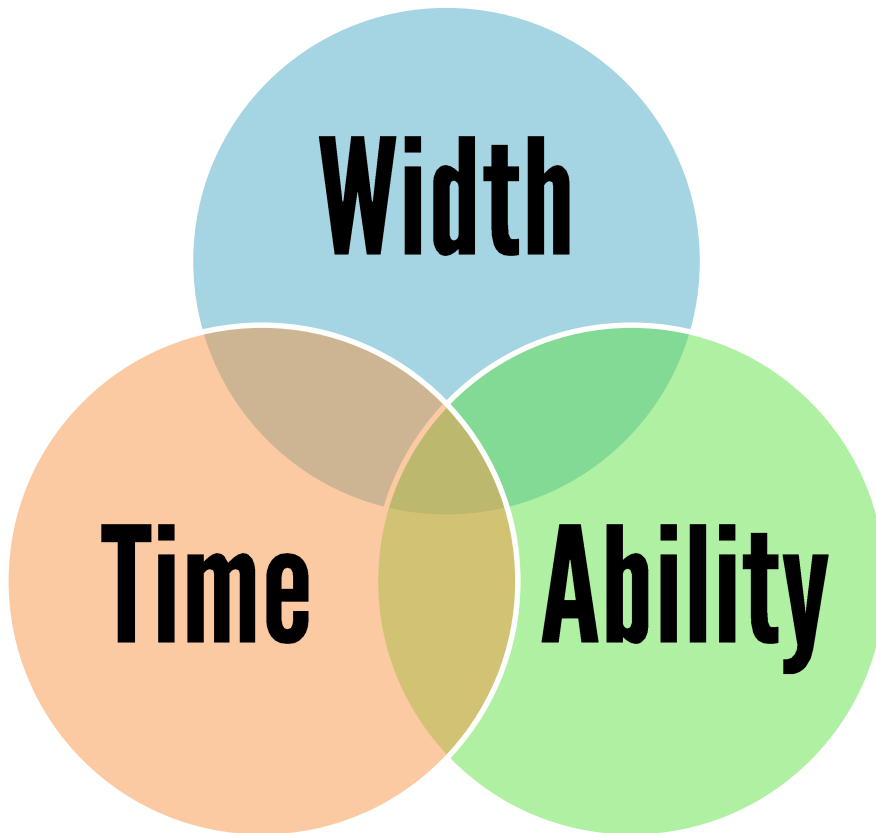
COLOUR CODING IN ACCORDANCE WITH BS 5423: 1987-SPECIFICATION FOR PORTABLE FIRE EXTINGUISHERS
FLAMMABLE GAS FIRES MUST BE EXTINGUISHED BY THE EMERGENCY SERVICES ONLY





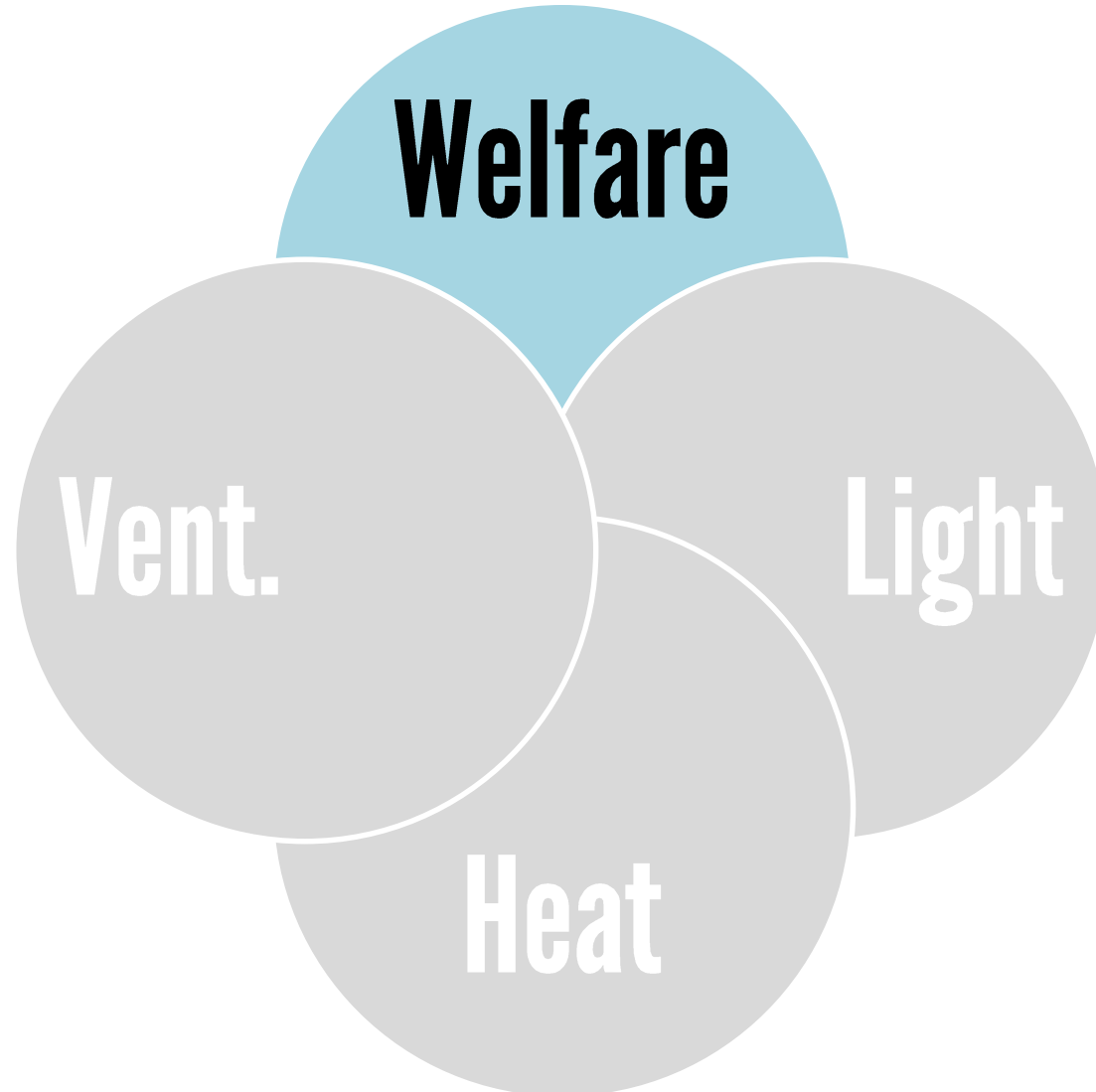


Escape Routes



Work Environment

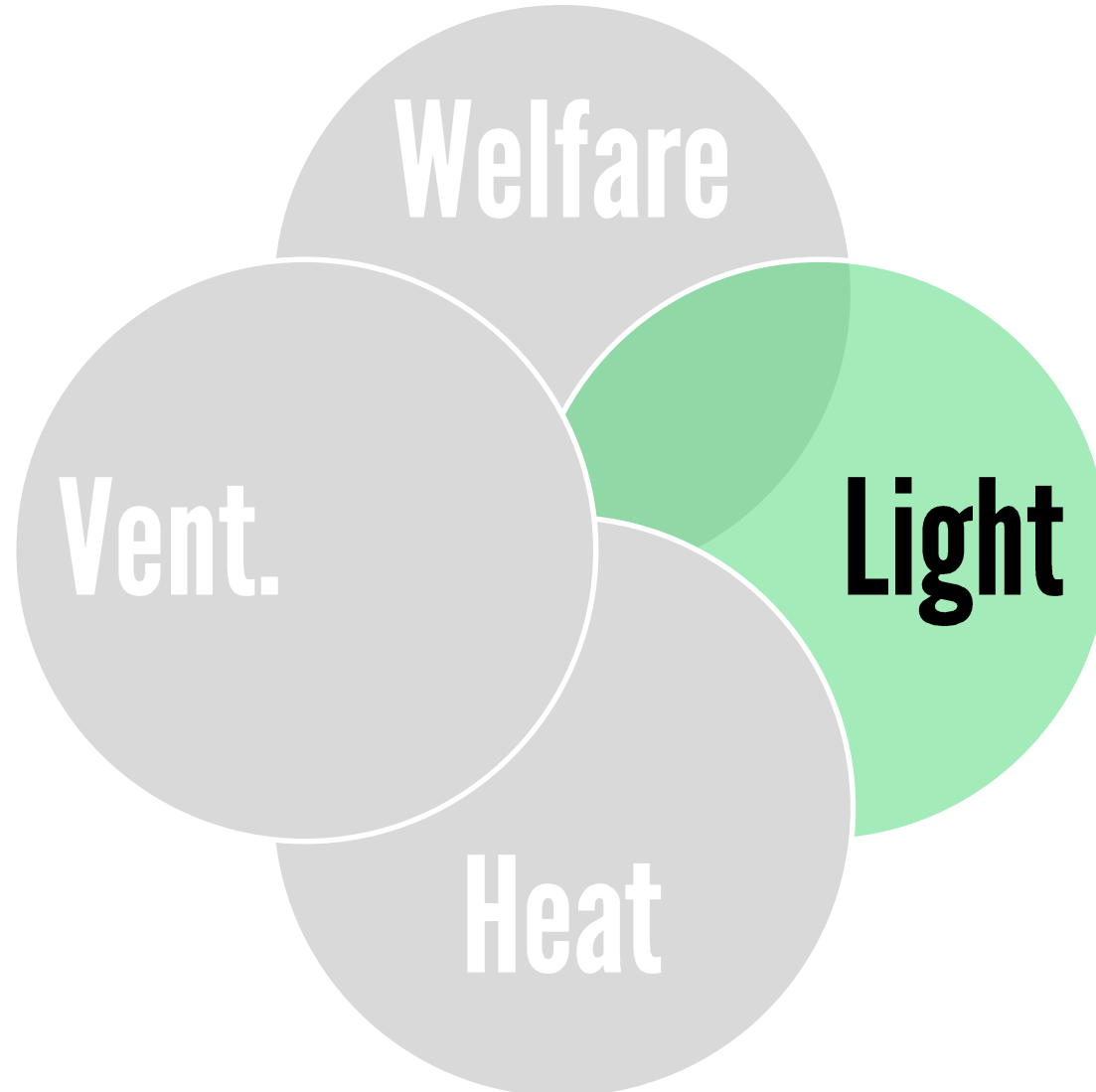
Welfare Facilities



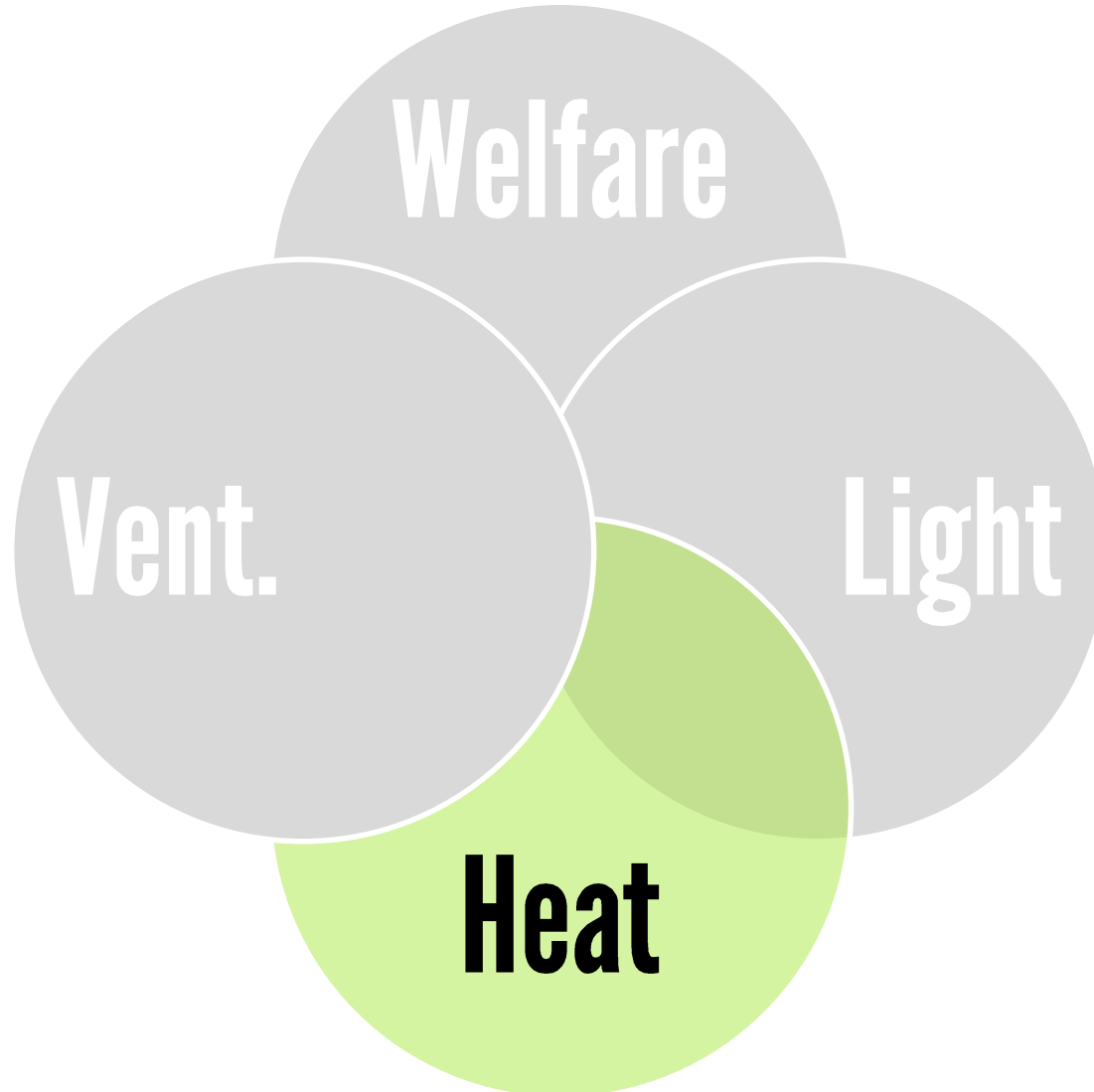


Welfare Facilities?

Welfare Facilities



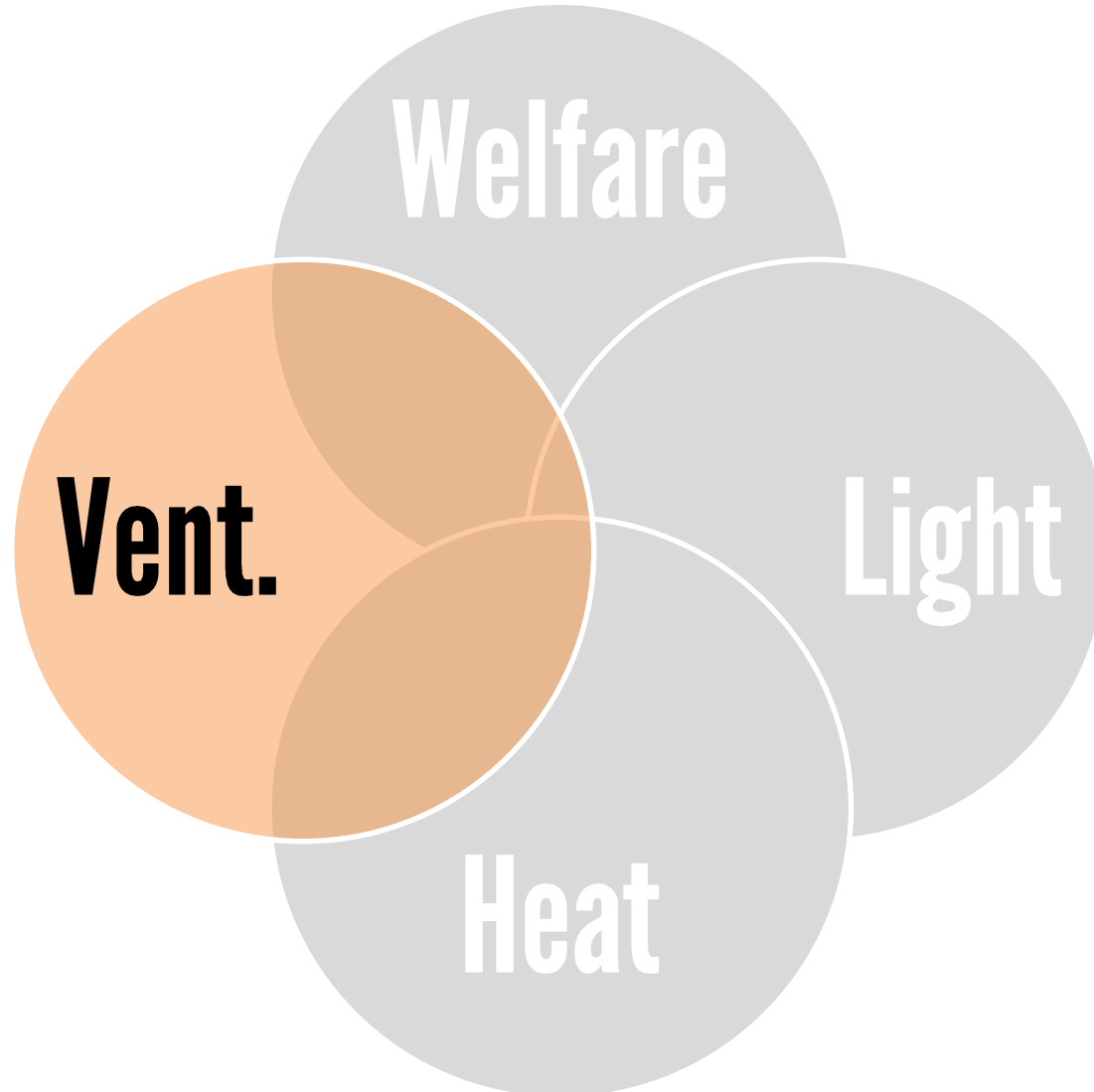
Welfare Facilities



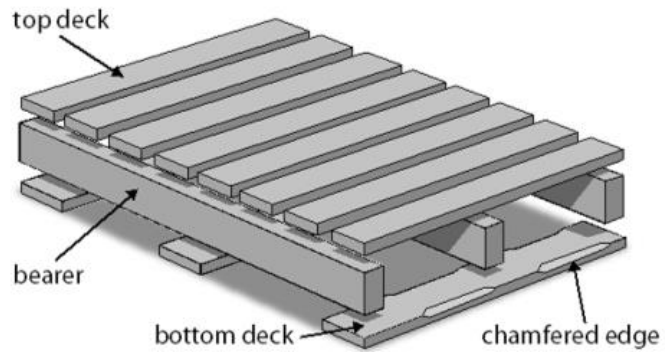


Workplace Temperature

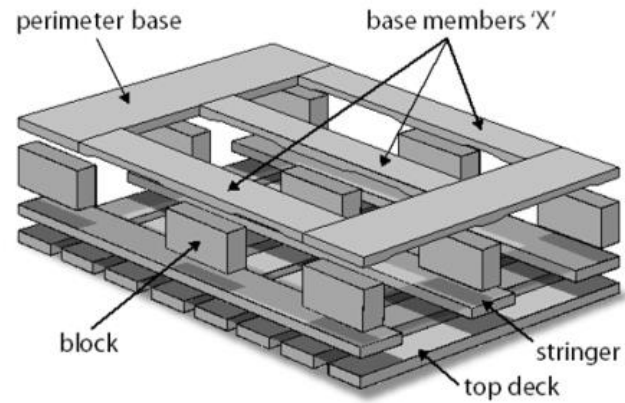
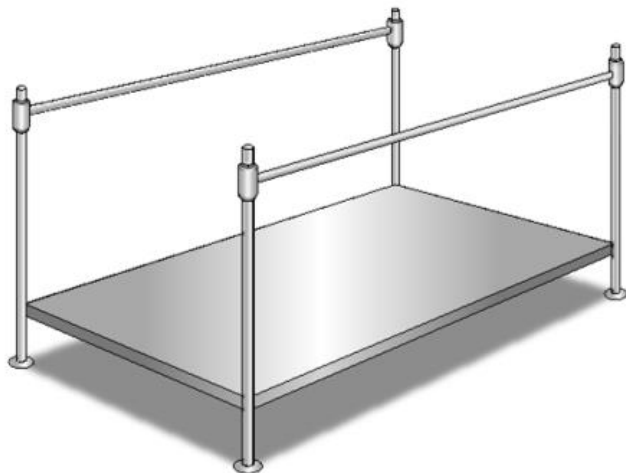
Welfare Facilities



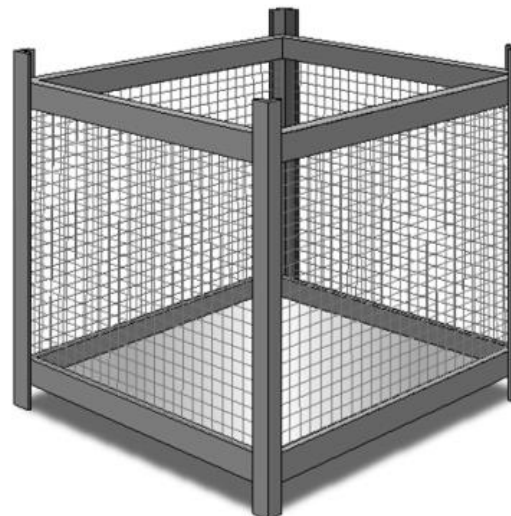
Pallets



Post pallet



Box pallet



Racking Systems



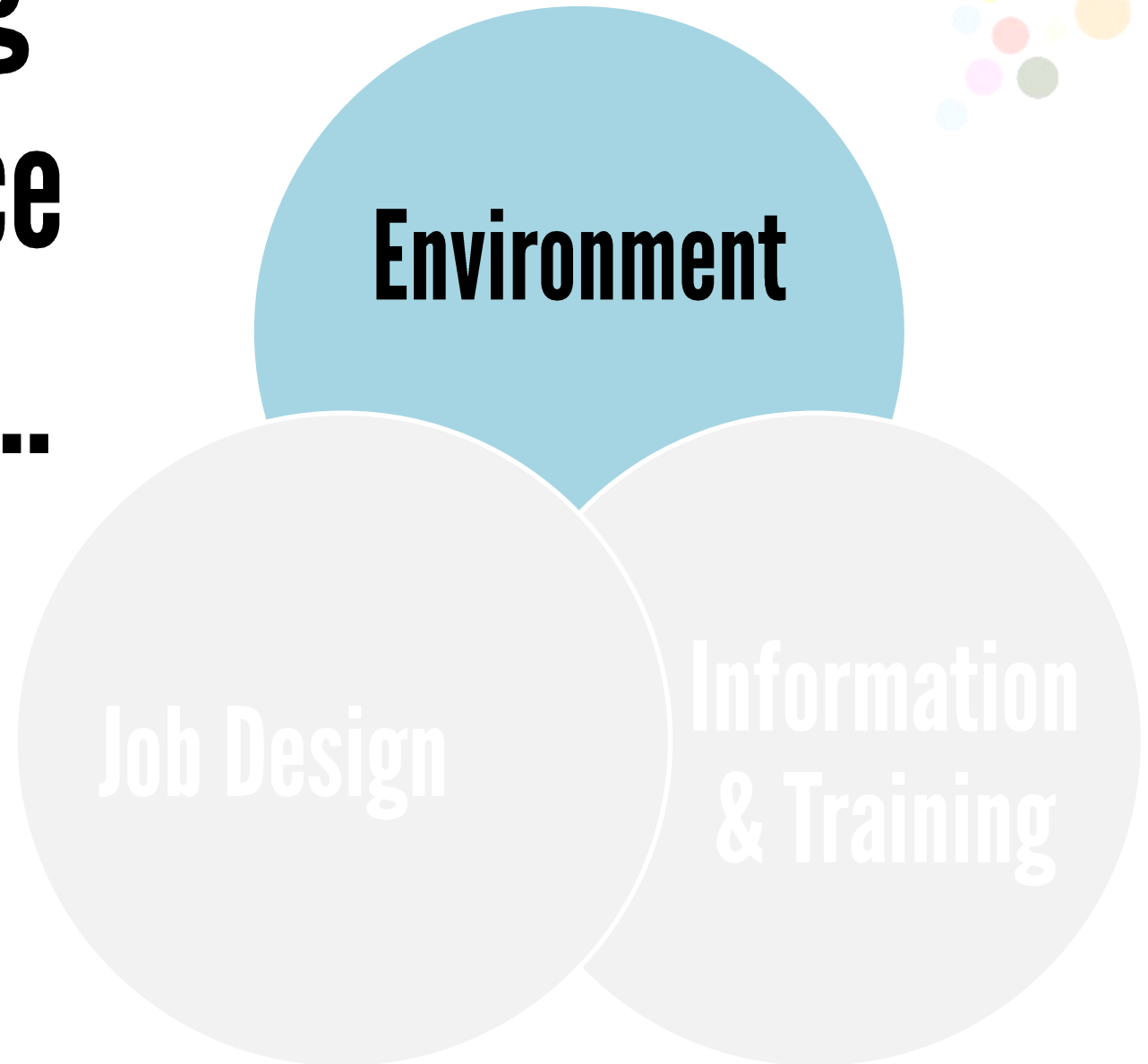
Racking Systems



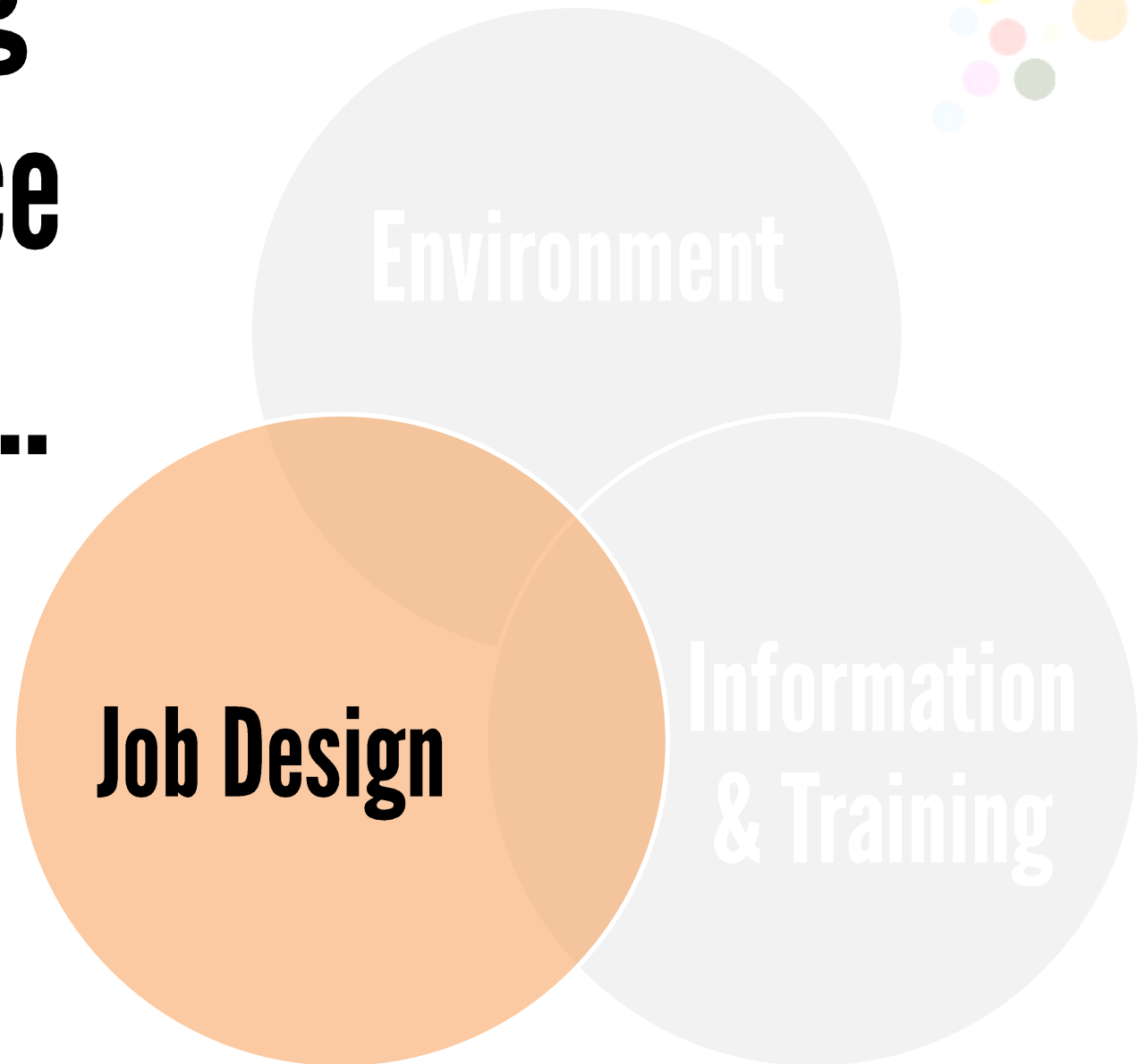




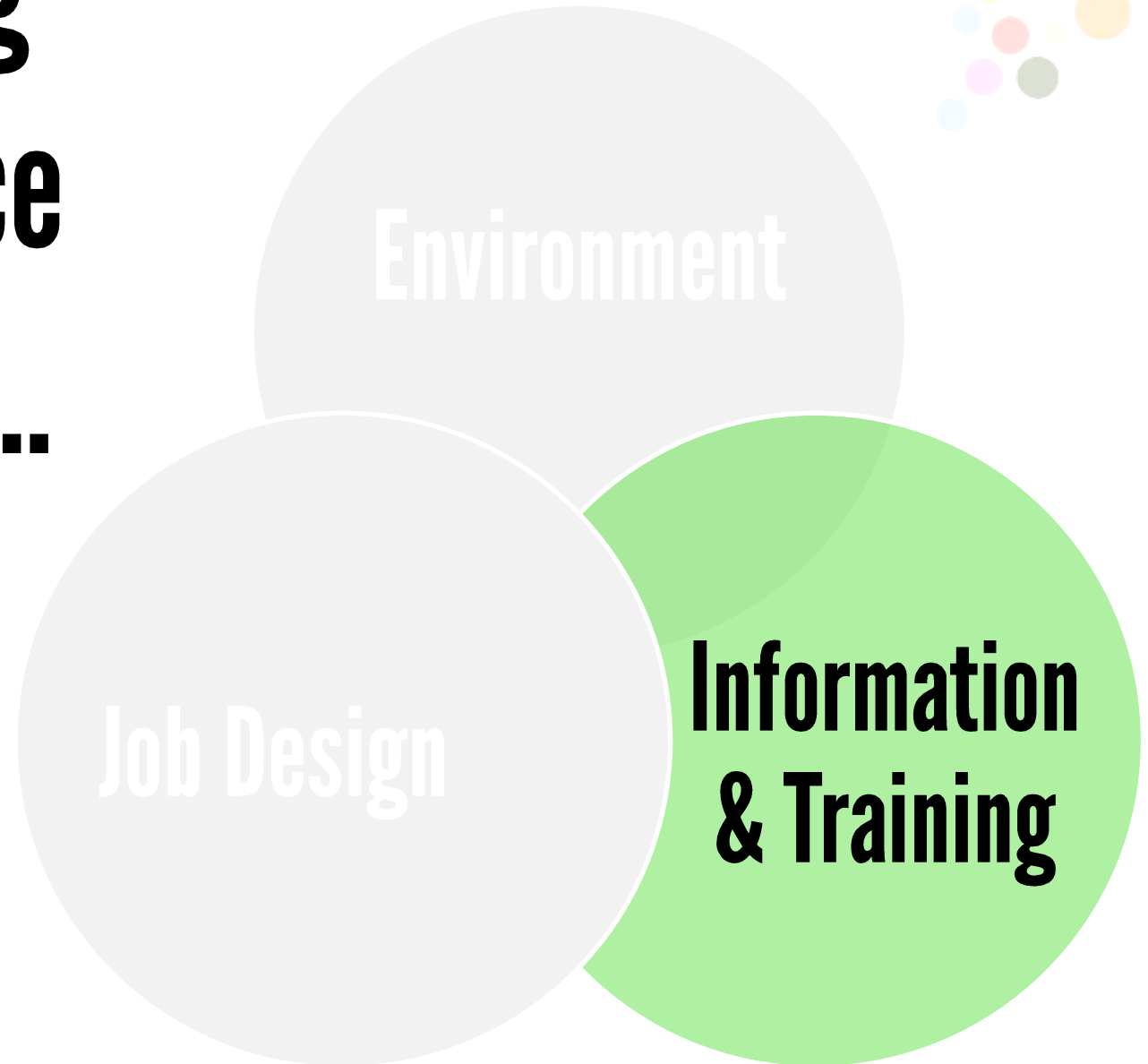
Managing Workplace Violence...



Managing Workplace Violence...



Managing Workplace Violence...



Housekeeping

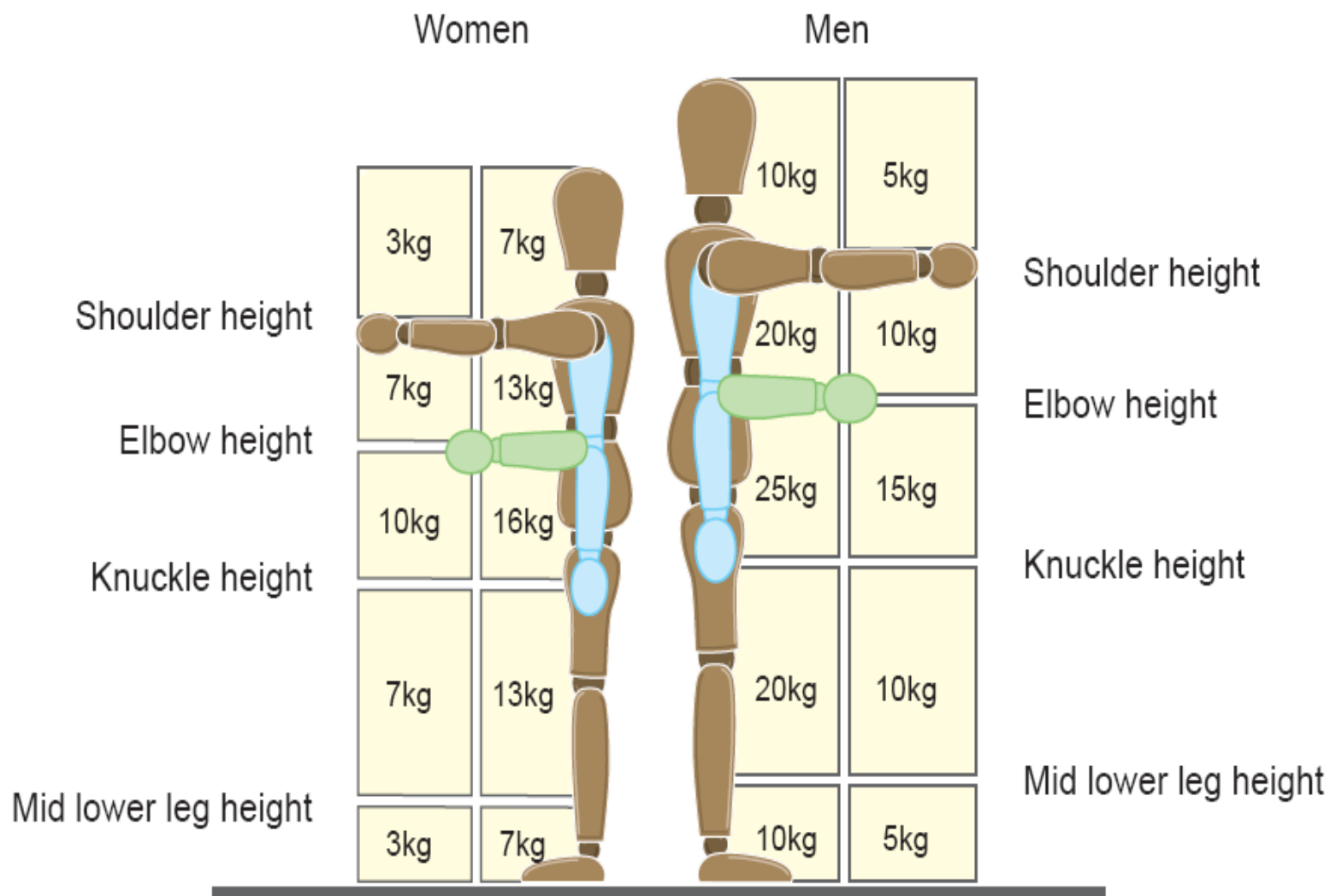


Manual Handling

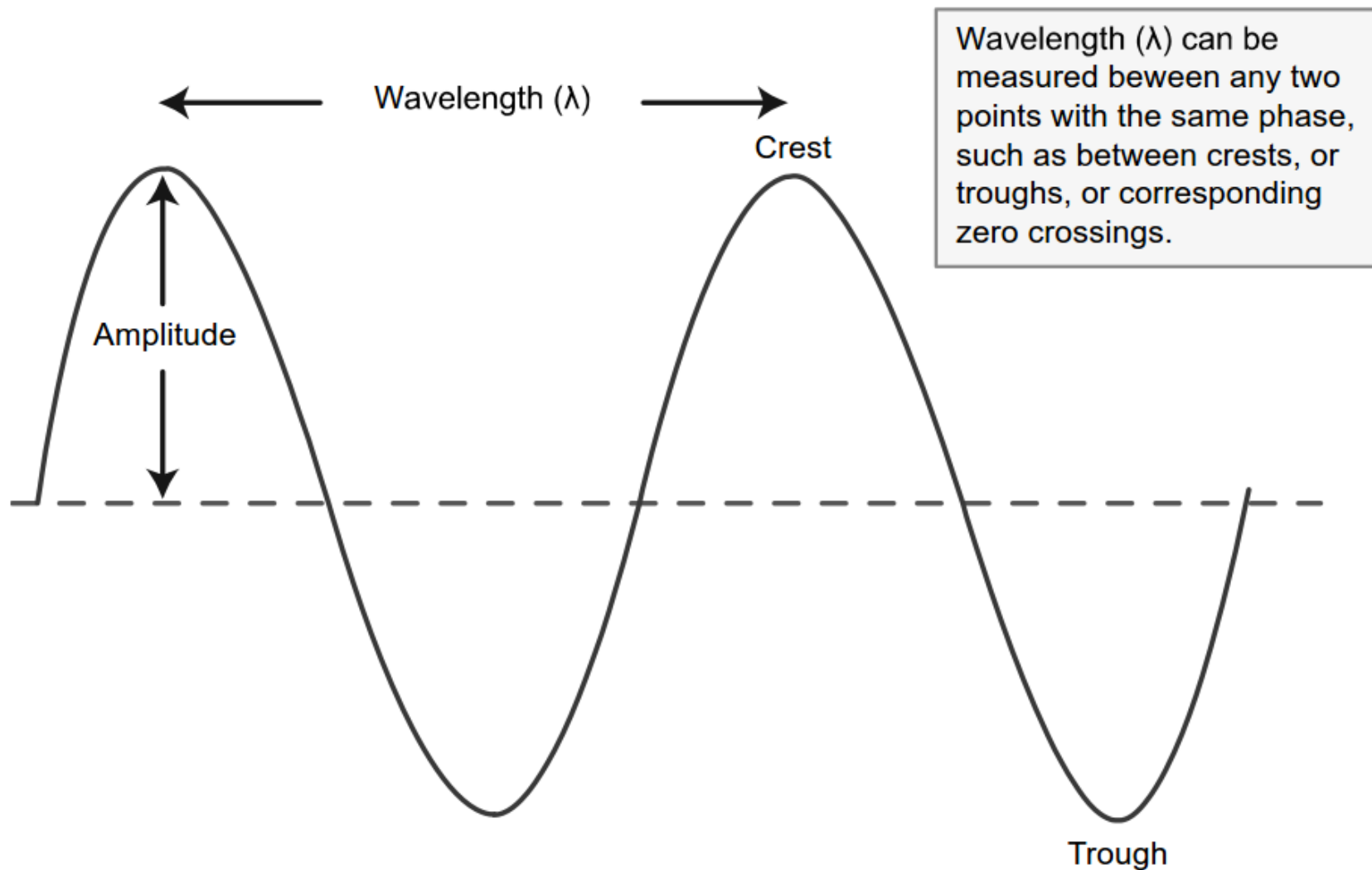
Manual Handling



TILE



Noise



Frequency Filters



A

Weighting

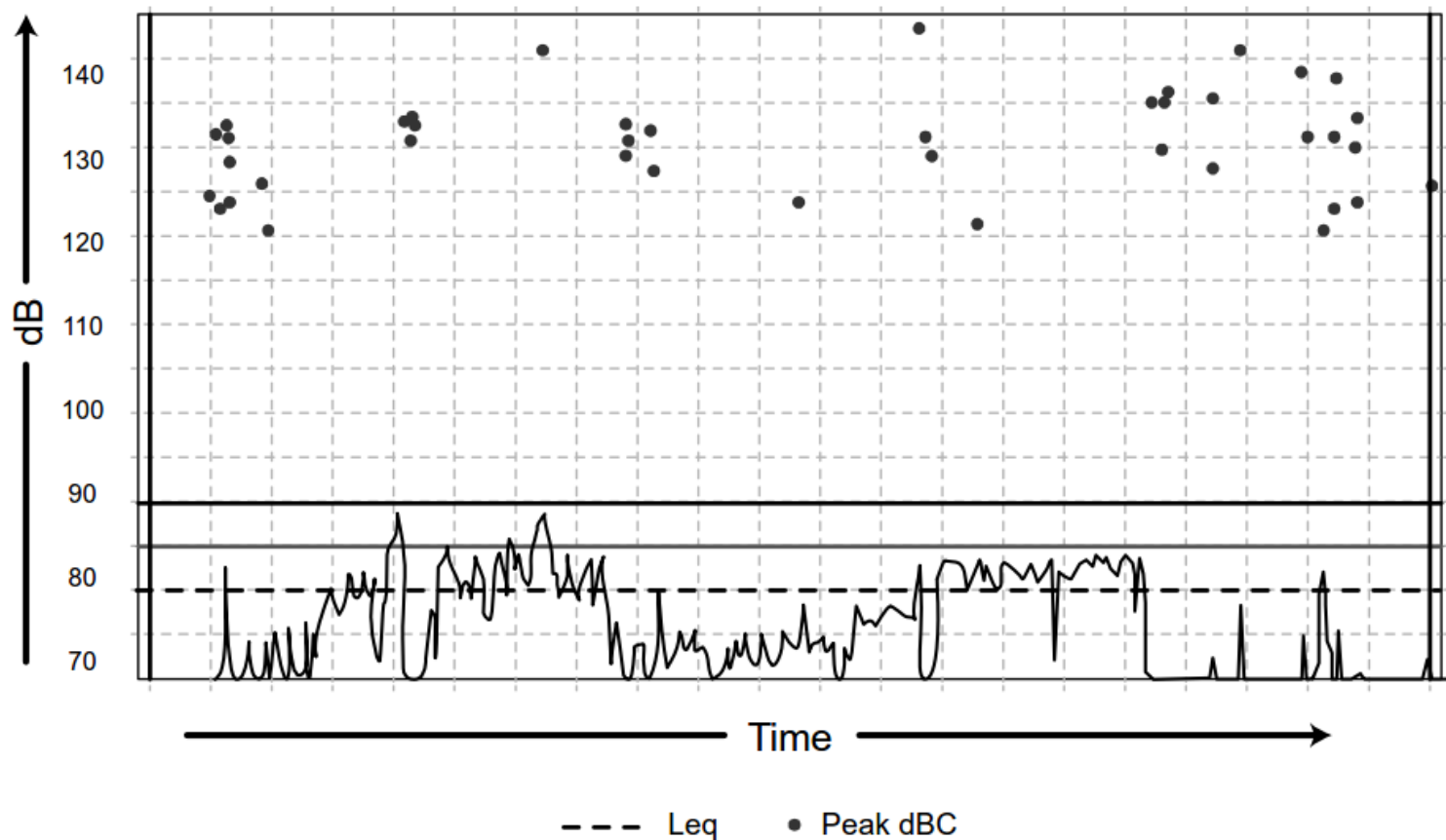


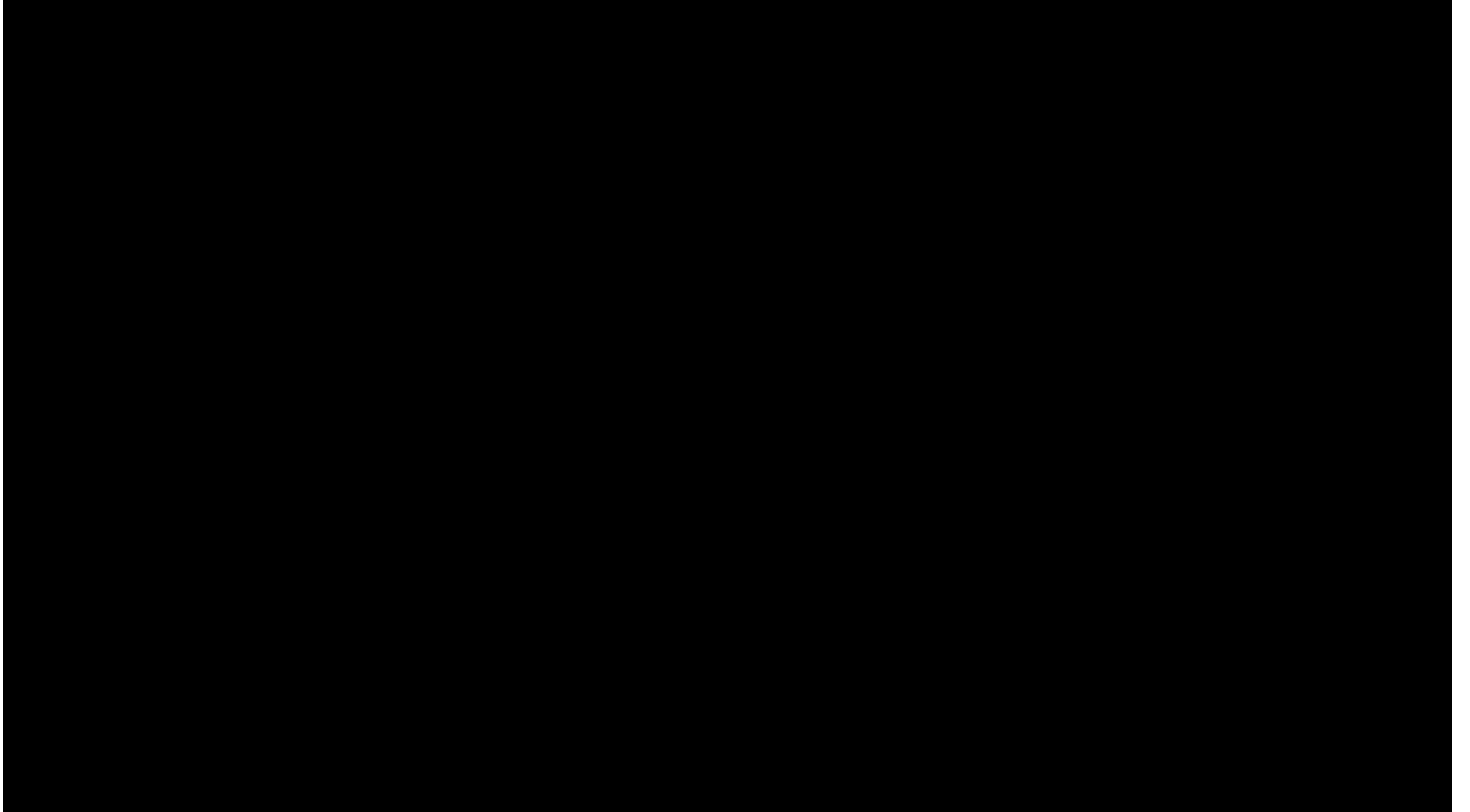
C

Weighting



LEPd (Daily personal noise exposure)





Noise Action Levels



80dB

85dB

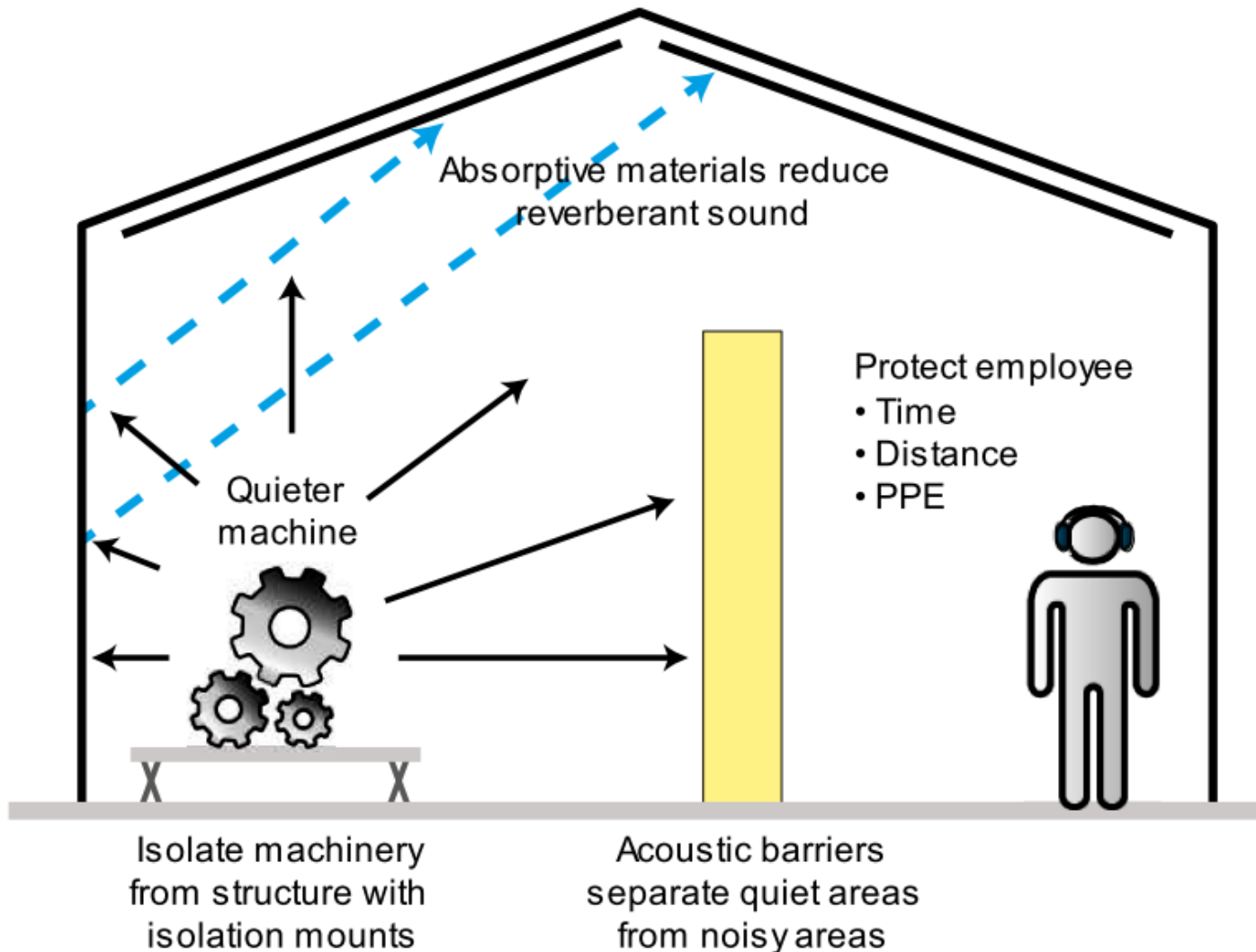
87dB

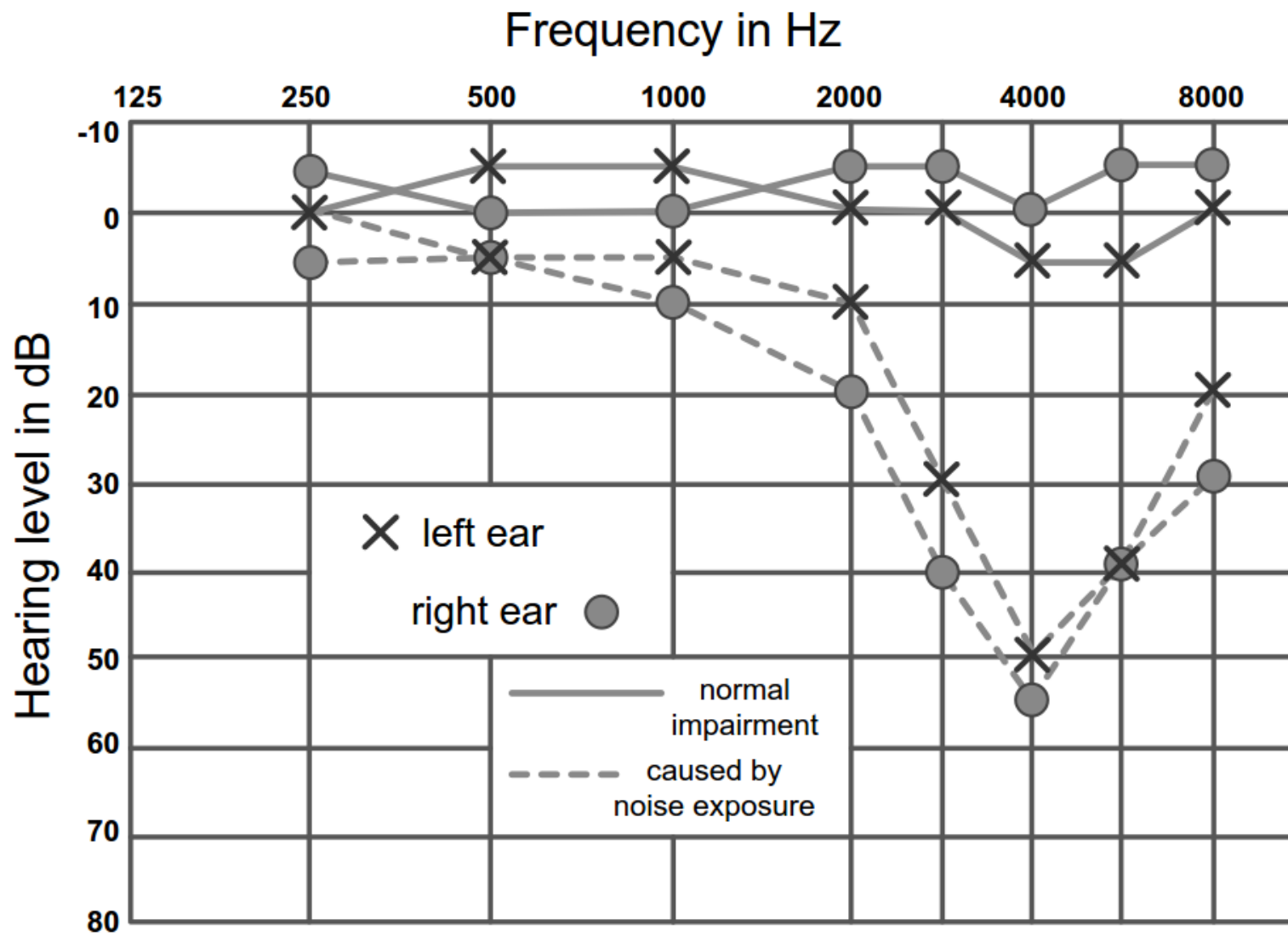
135dB

137dB

140dB

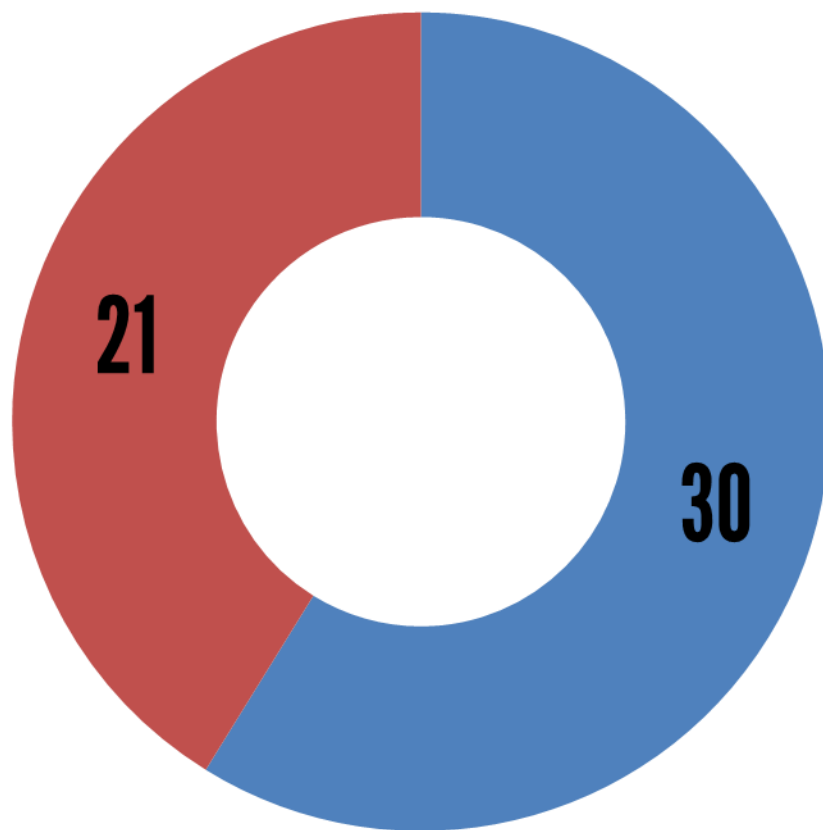
Controls





Stress

Stress Days Lost



■ Stress

■ General

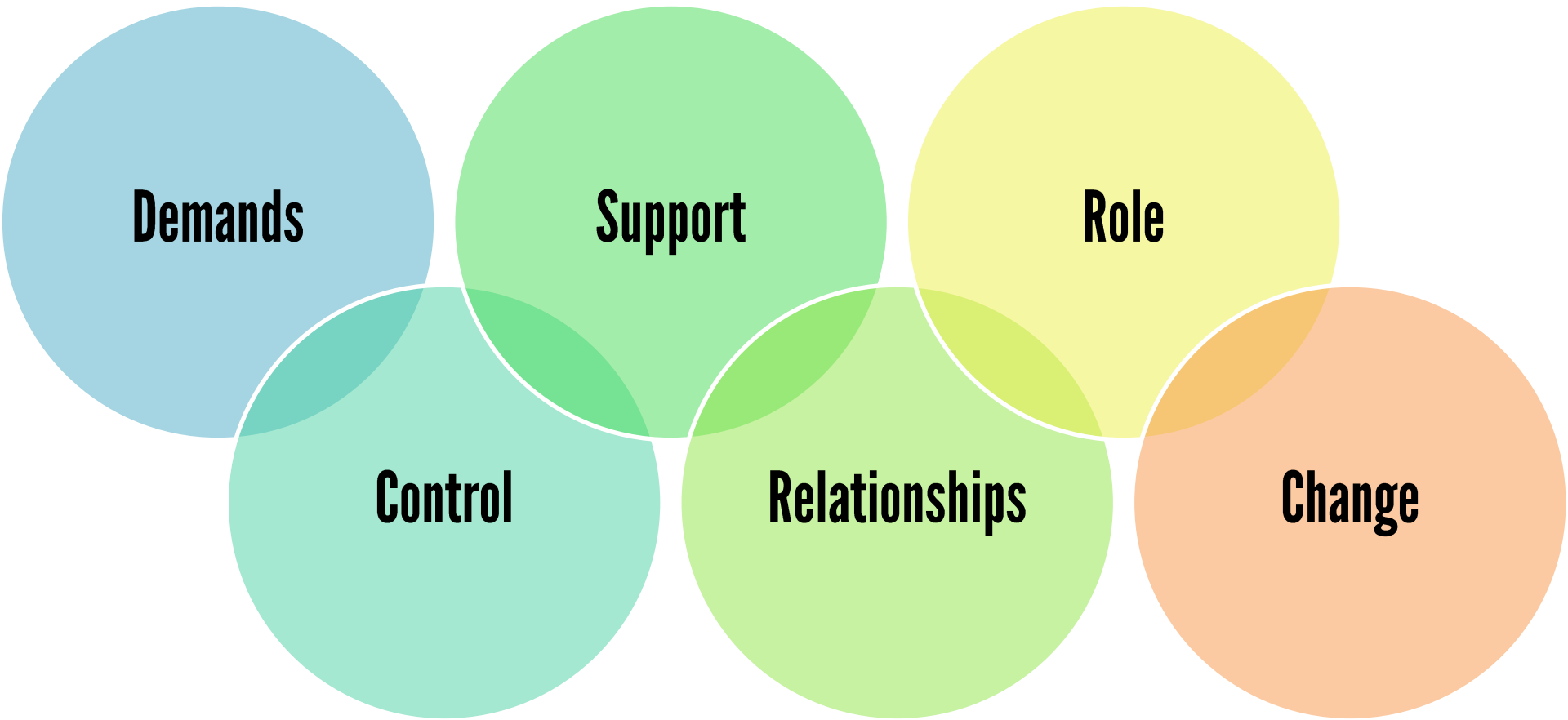
Physical

Psychological

Behavioural



Management Standards



Walker v Northumberland County Council (1995)

Facts



Mr. Walker was an area social services officer, managing four teams of social workers. In 1986, he had a nervous breakdown because of the stress and pressure of work and was absent for three months.

His superiors agreed that assistance would be provided on his return. Little help was provided and on his return to work he had the additional pressure of clearing the backlog of work caused by his absence.

Six months later Mr. Walker suffered a second breakdown and was retired permanently in 1988.

Walker v Northumberland County Council (1995)

Facts



Mr. Walker was an area social services officer, managing four teams of social workers. In 1986, he had a nervous breakdown because of the stress and pressure of work and was absent for three months.

His superiors agreed that assistance would be provided on his return. Little help was provided and on his return to work he had the additional pressure of clearing the backlog of work caused by his absence.

Six months later Mr. Walker suffered a second breakdown and was retired permanently in 1988.

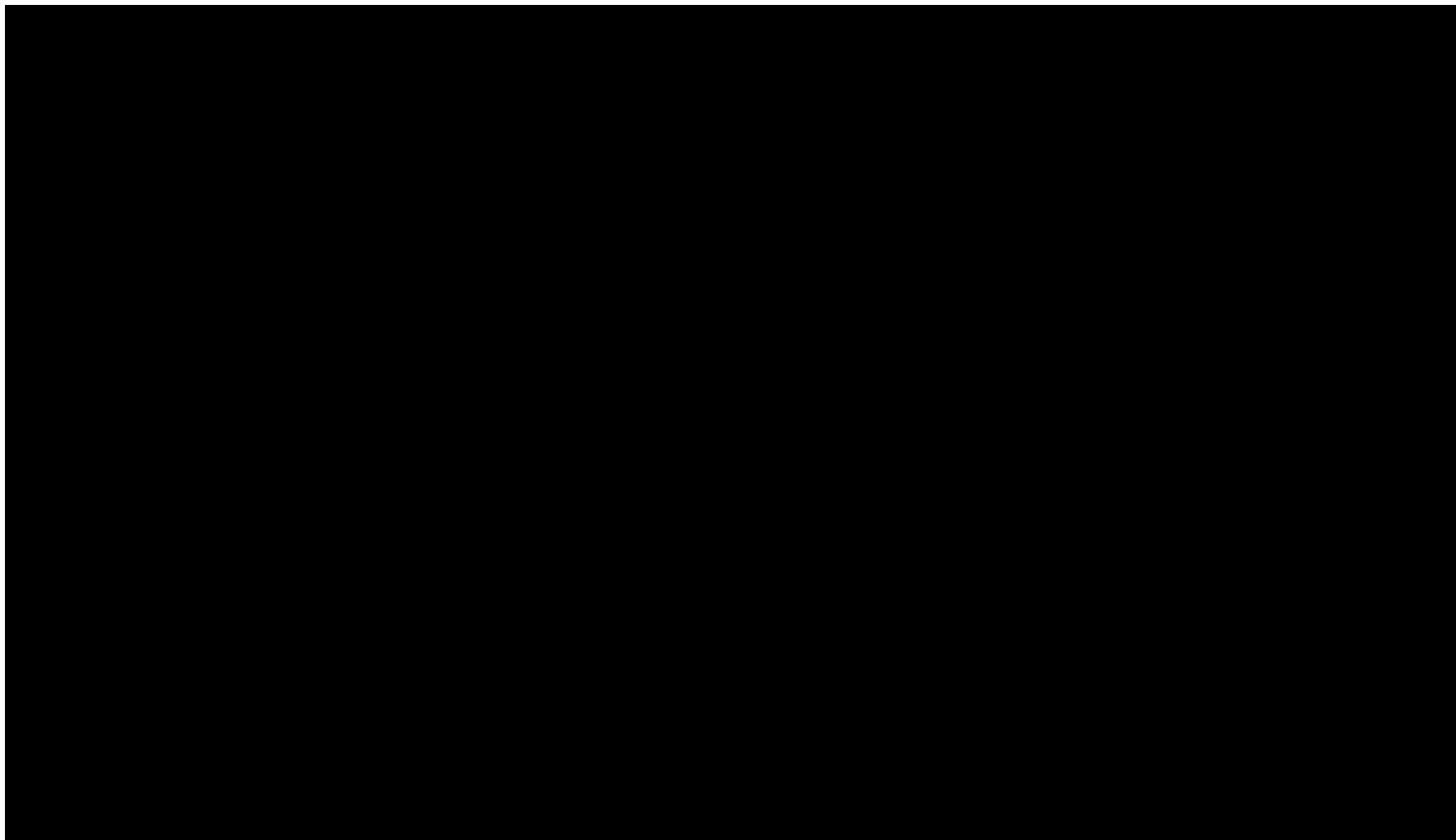
Decision

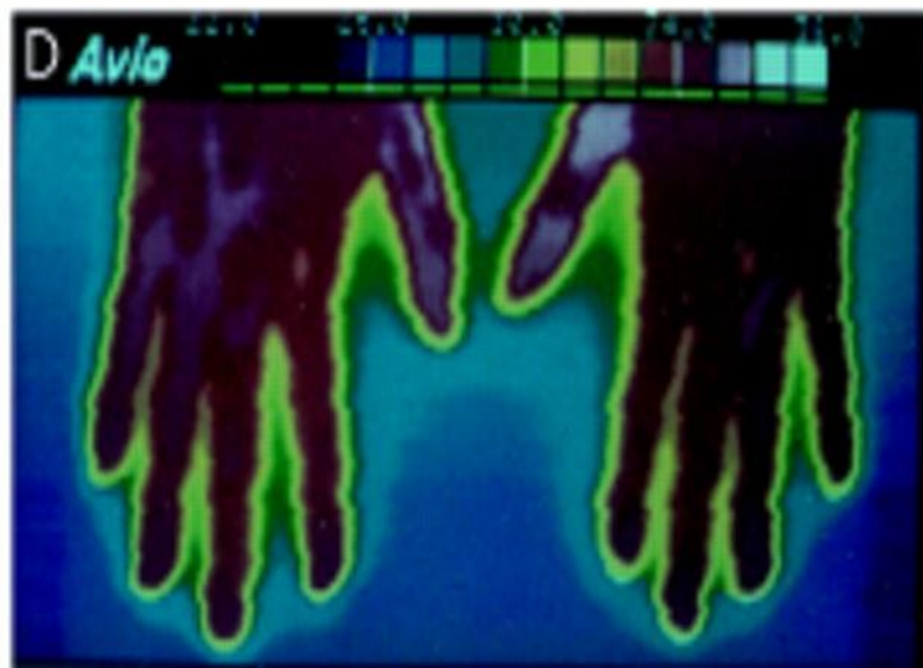
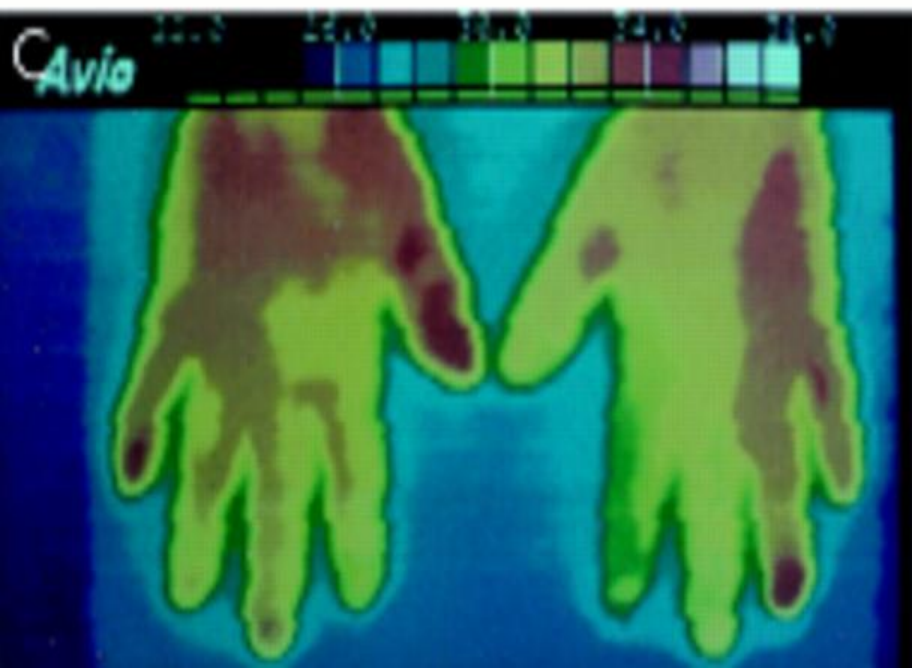
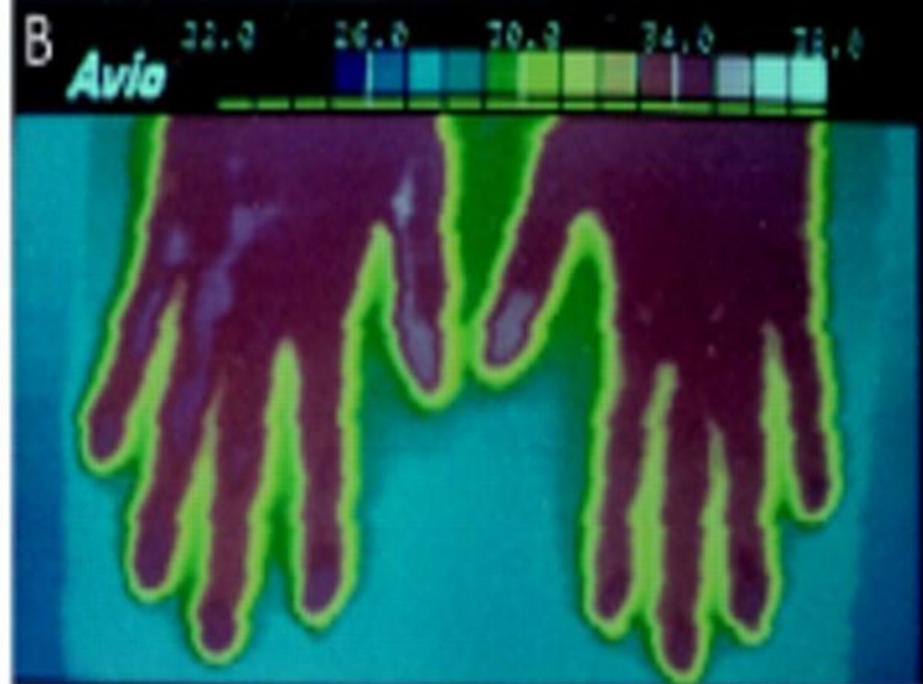
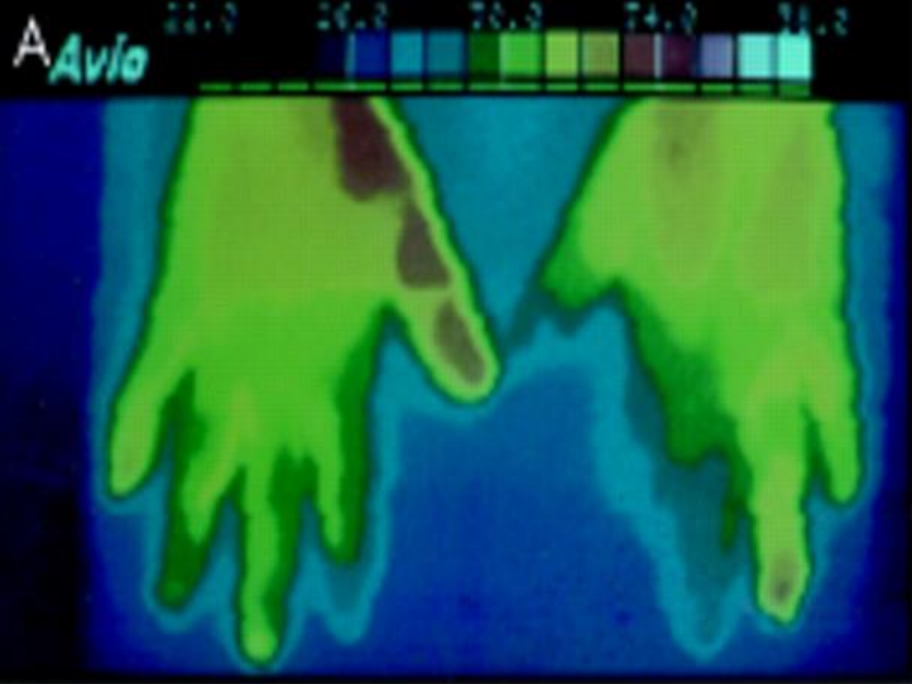


Walker v Northumberland County Council (1995) confirmed that ordinary principles of tortious liability apply and the employer's duty of care extends to protection against psychiatric as well as physical injury.

In 1995 Walker accepted an out of court settlement for £175,000.

Vibration





Vibration Action Levels



WBVS

0.5m/s²

1.15m/s²

HAVS

2.5m/s²

5.0m/s²



Vibration magnitude m/s ²	40	800									
	30	450	900								
	25	315	625	1250							
	20	200	400	800							
	19	180	360	720	1450						
	18	160	325	650	1300						
	17	145	290	580	1150						
	16	130	255	510	1000						
	15	115	225	450	900	1350					
	14	98	195	390	785	1200					
	13	85	170	340	675	1000	1350				
	12	72	145	290	575	865	1150	1450			
	11	61	120	240	485	725	970	1200	1450		
	10	50	100	200	400	600	800	1000	1200		
	9	41	81	160	325	485	650	810	970	1300	
	8	32	64	130	255	385	510	640	770	1000	1200
	7	25	49	98	195	295	390	490	590	785	865
	6	18	36	72	145	215	290	360	430	575	720
	5.5	15	30	61	120	180	240	305	365	485	605
	5	13	25	50	100	150	200	250	300	400	500
	4.5	10	20	41	81	120	160	205	245	325	405
	4	8	16	32	64	96	130	160	190	255	320
	3.5	6	12	25	49	74	98	125	145	195	245
	3	5	9	18	36	54	72	90	110	145	180
	2.5	3	6	13	25	38	50	63	75	100	125
	2	2	4	8	16	24	32	40	48	64	80
	1.5	1	2	5	9	14	18	23	27	36	45
	1	1	1	2	4	6	8	10	12	16	20
		15 m	30 m	1 h	2 h	3 h	4 h	5 h	6 h	8 h	10 h
		Daily exposure time									

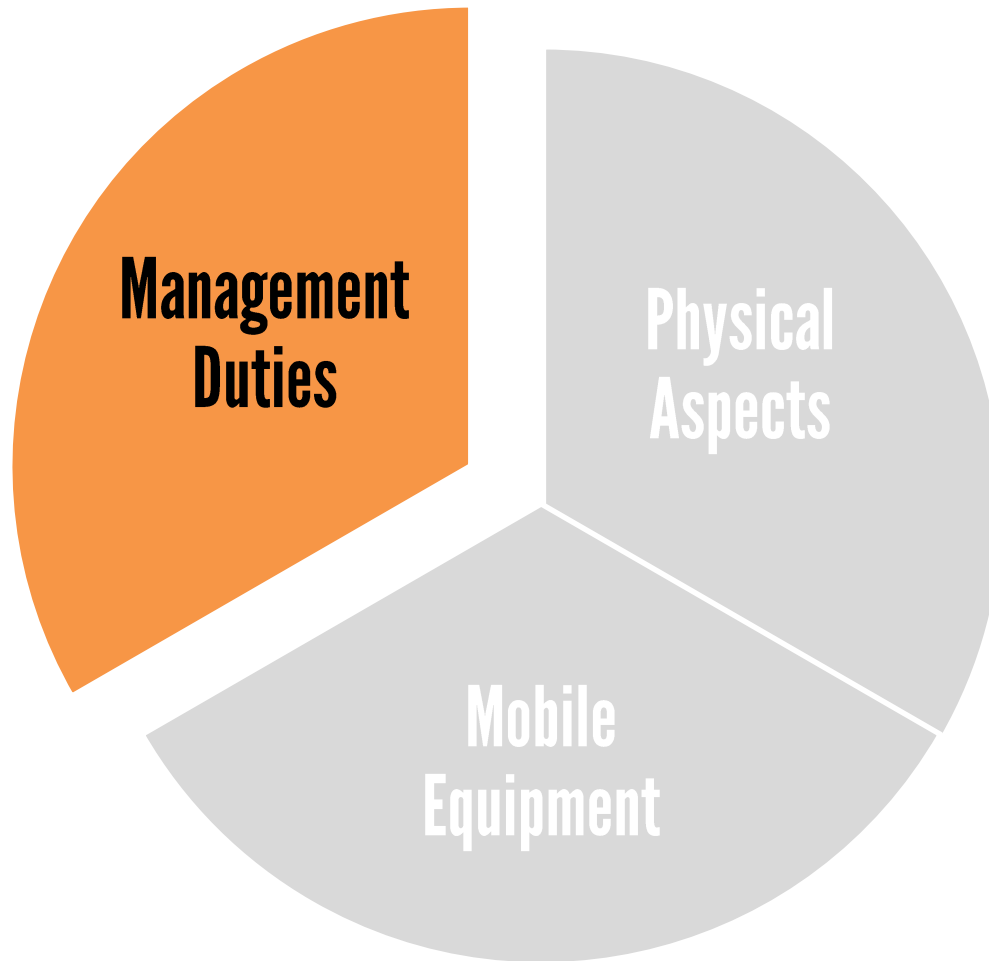
Above limit value
Likely to be above limit value
Above action value
Likely to be above action value
Below action value

Equipment & Machinery

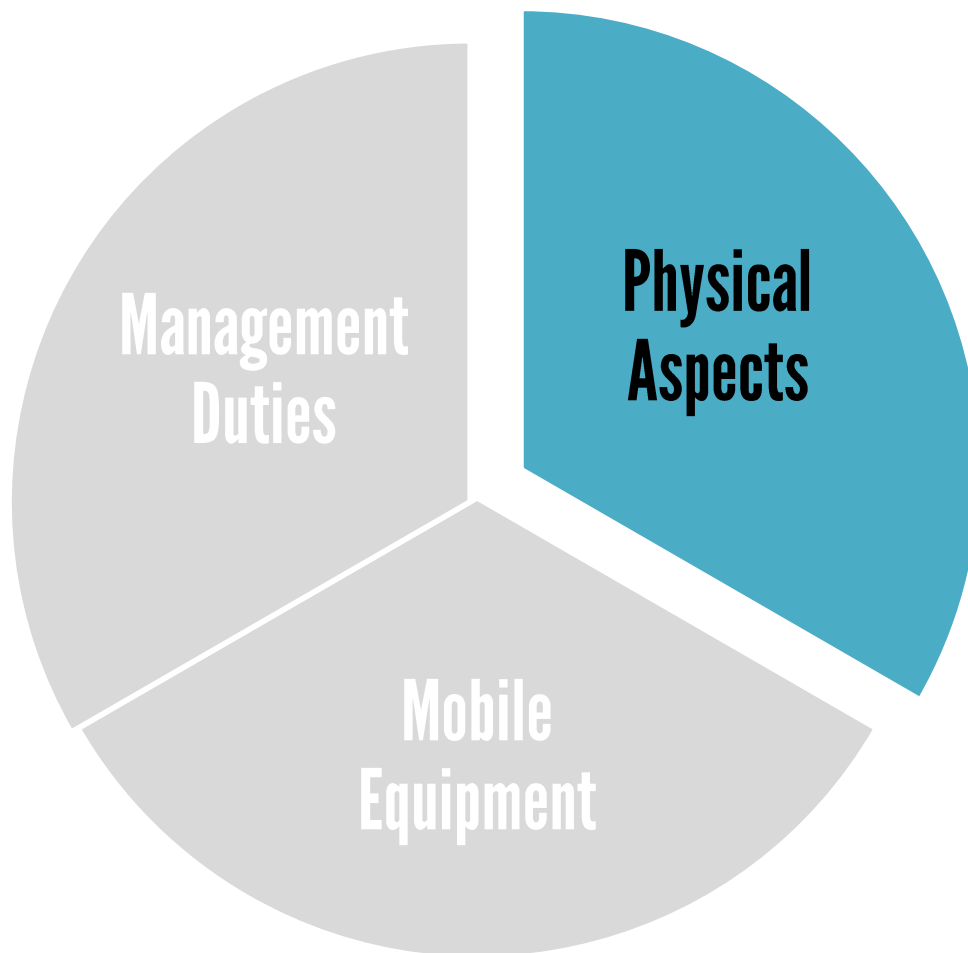
PUWER 1998



Part 1

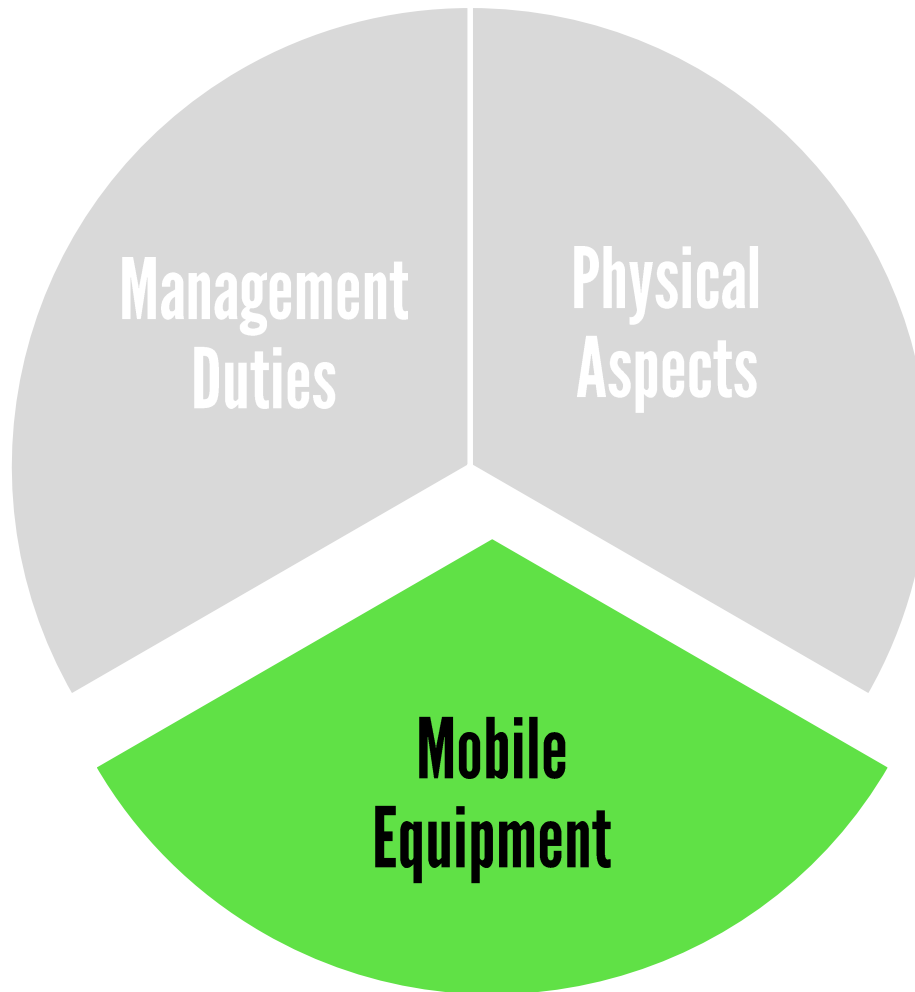


PUWER 1998



Part 2

PUWER 1998

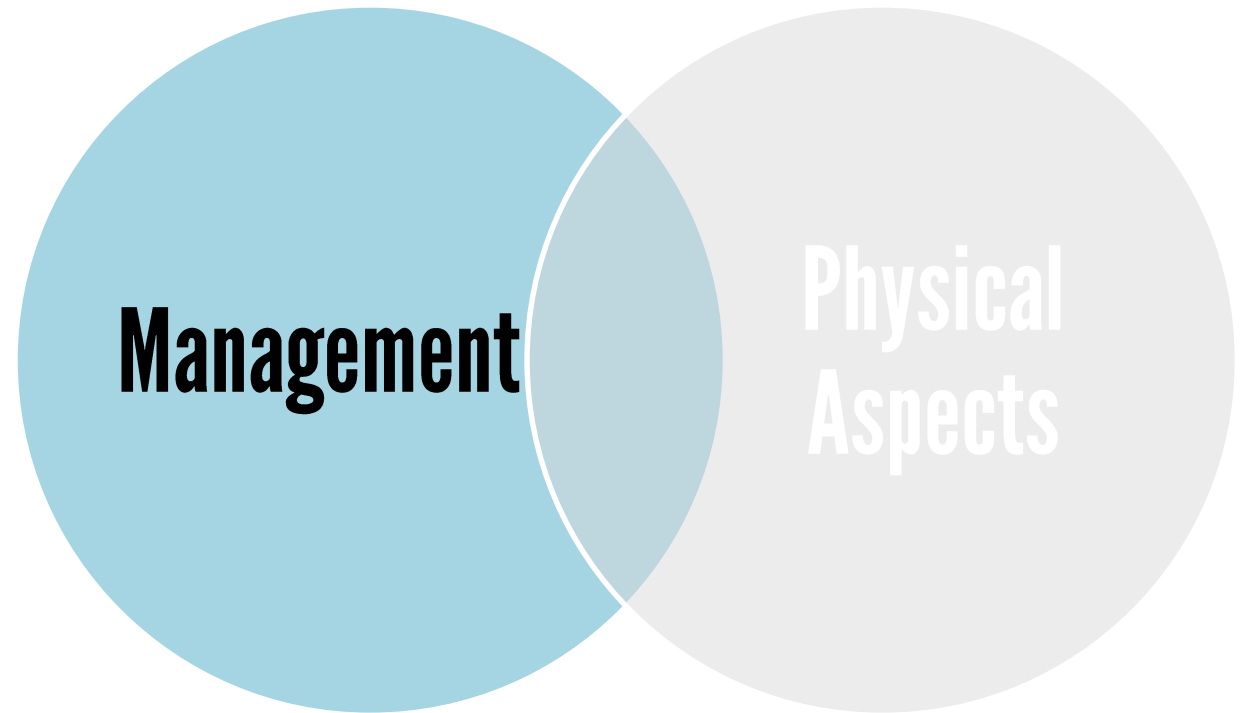


Part 3



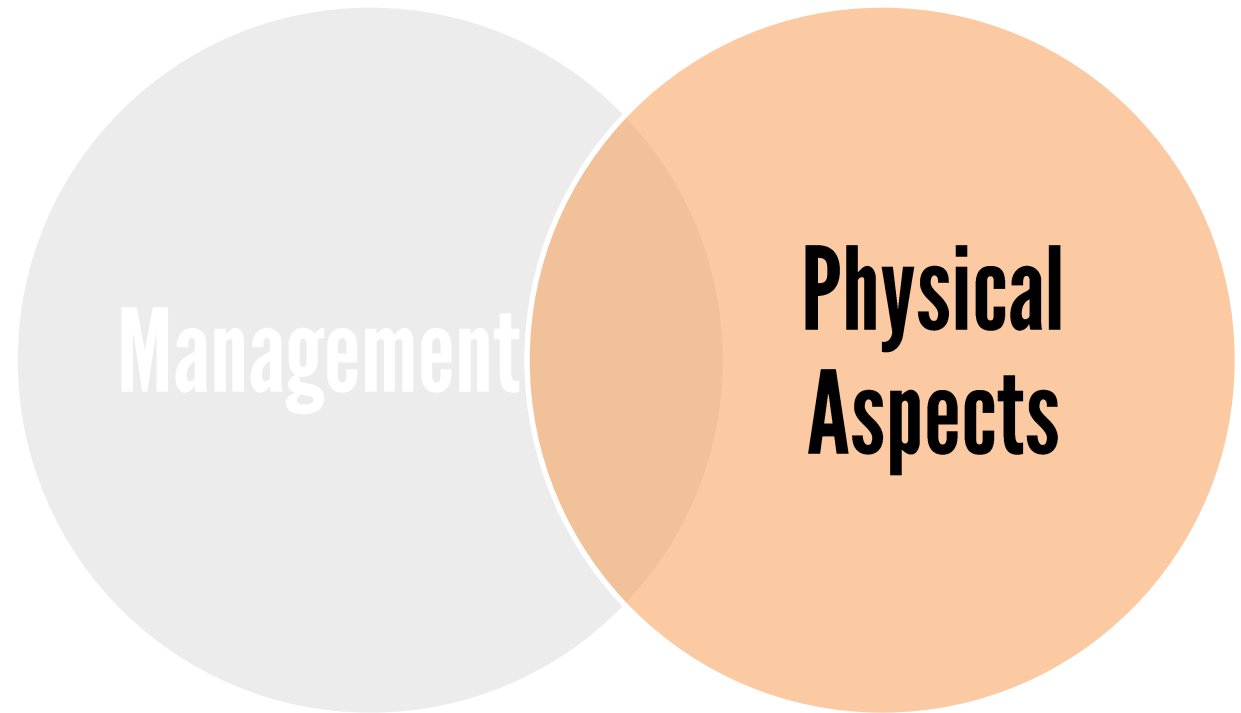


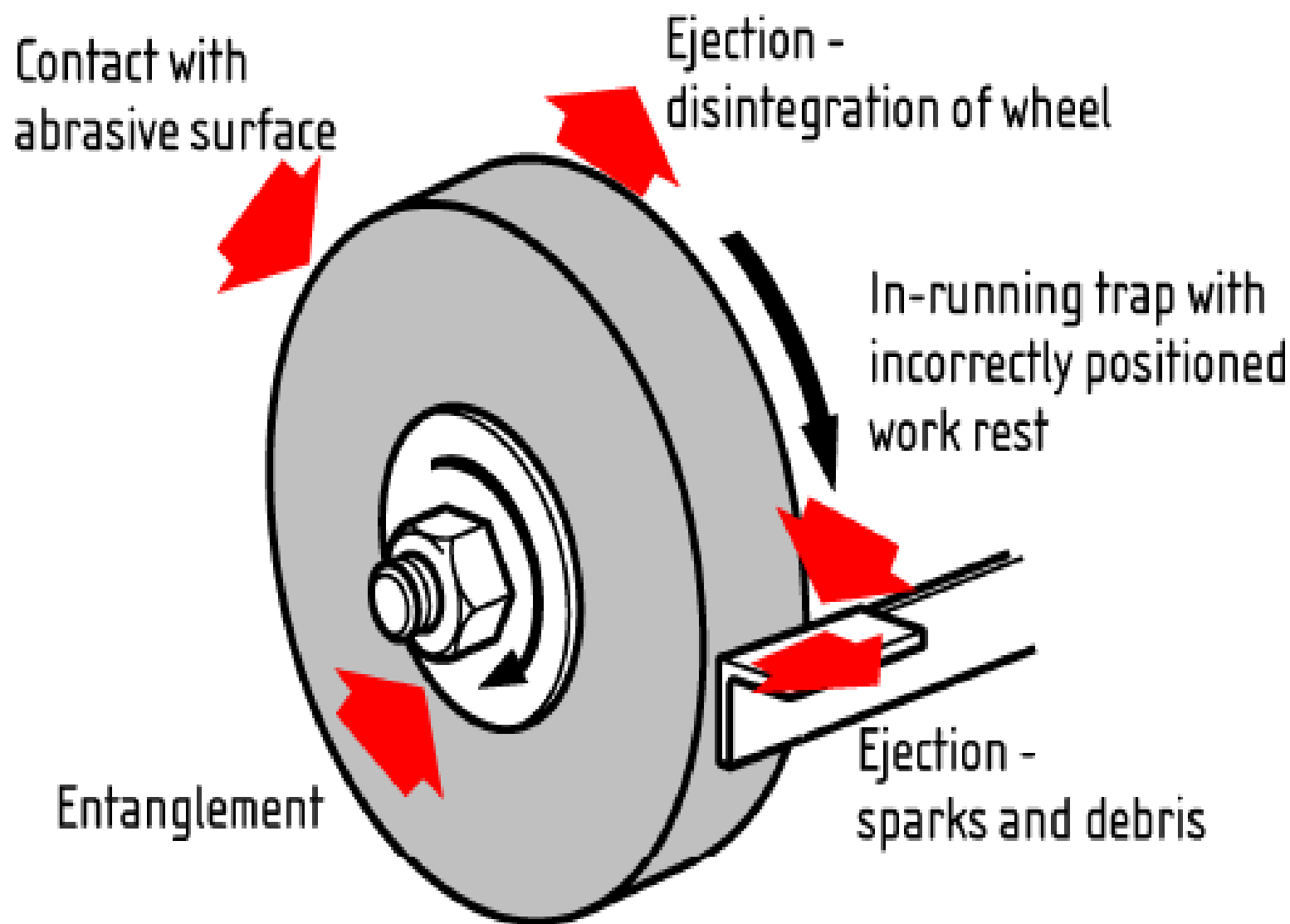
Selection
Inspection
Maintenance
ITIS





**Guarding
Controls
Stability
Markings
Lighting**





Contact with
abrasive surface

Ejection -
disintegration of wheel

In-running trap with
incorrectly positioned
work rest

Entanglement

Ejection -
sparks and debris

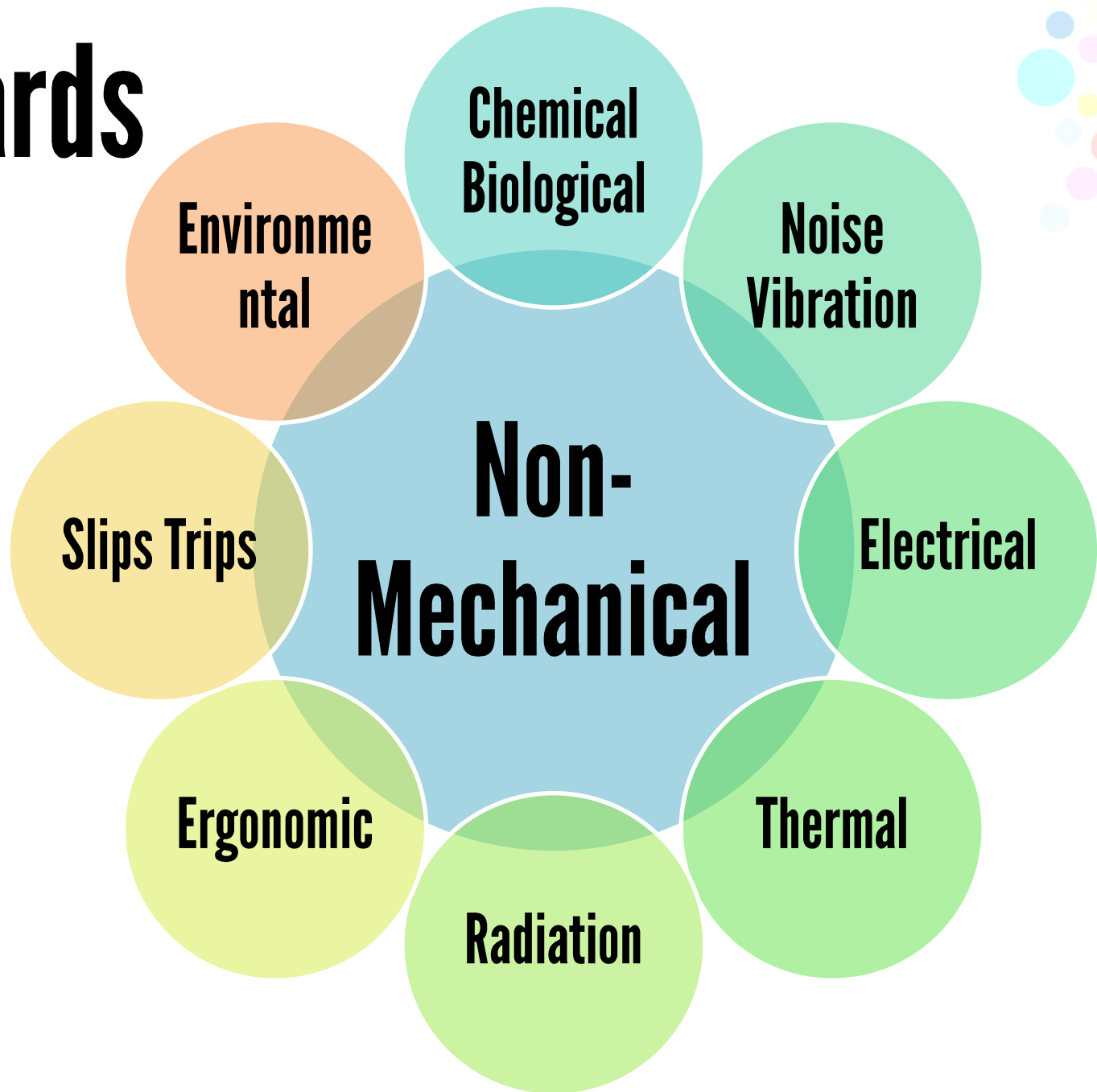
Work Equipment and Machinery

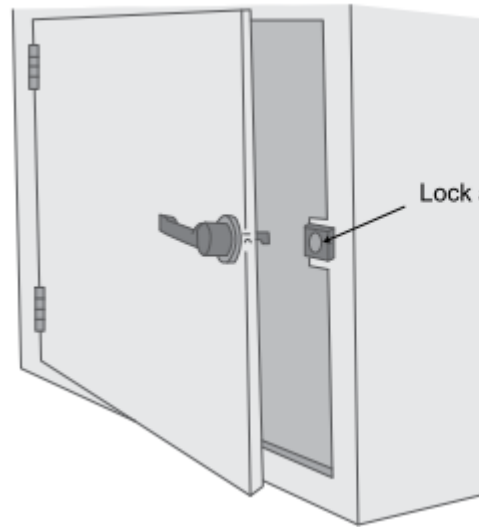
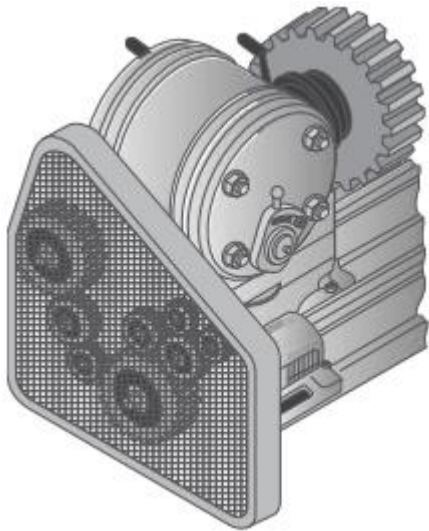


EnTICE



Hazards





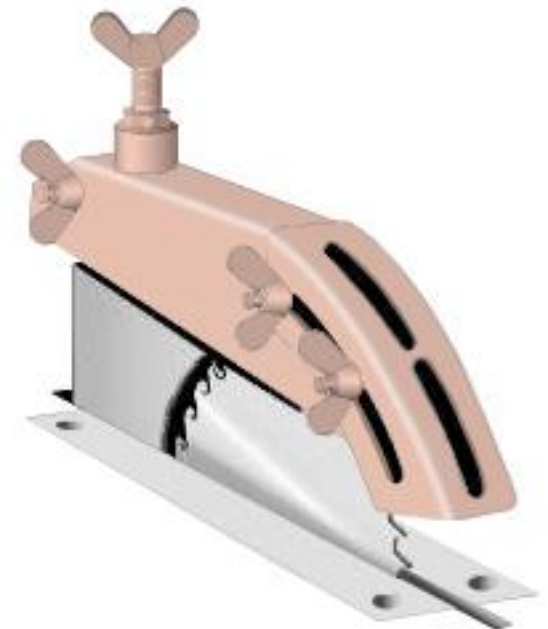
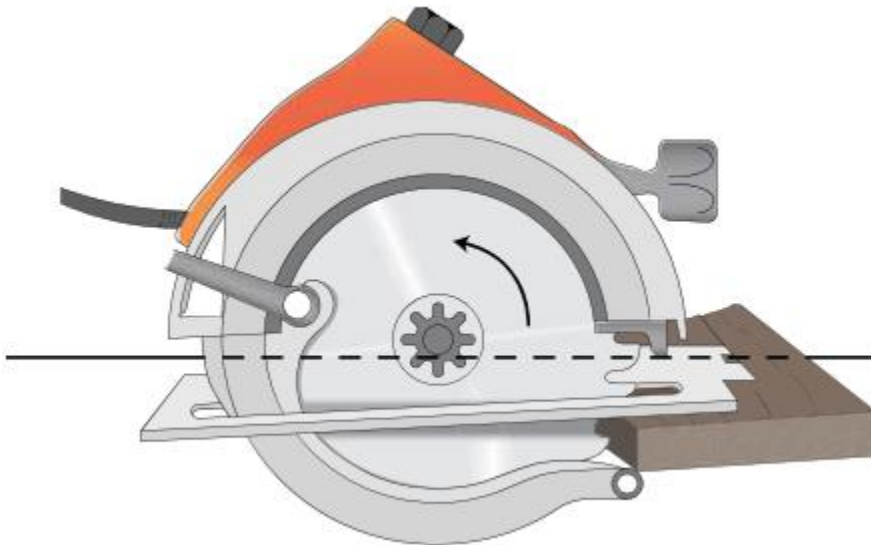
- Sequence of operation
1. Engage key in lock
 2. Turn to lock guard
 3. Further turn to switch on

Lock and switch

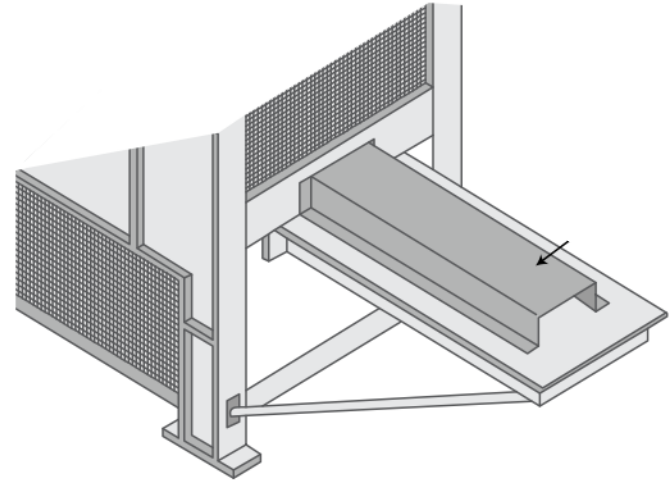
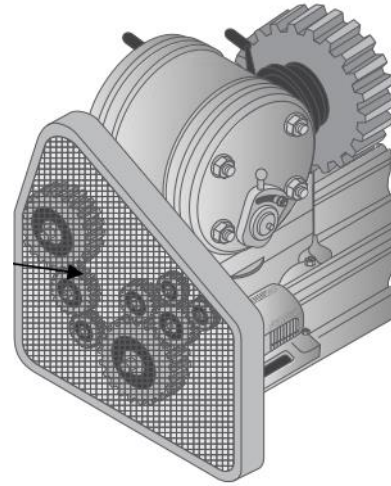
Switch

Lock

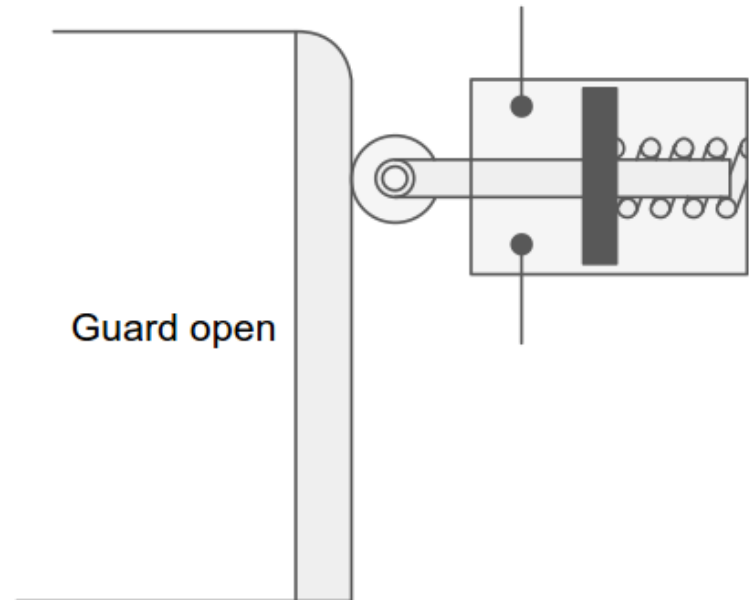
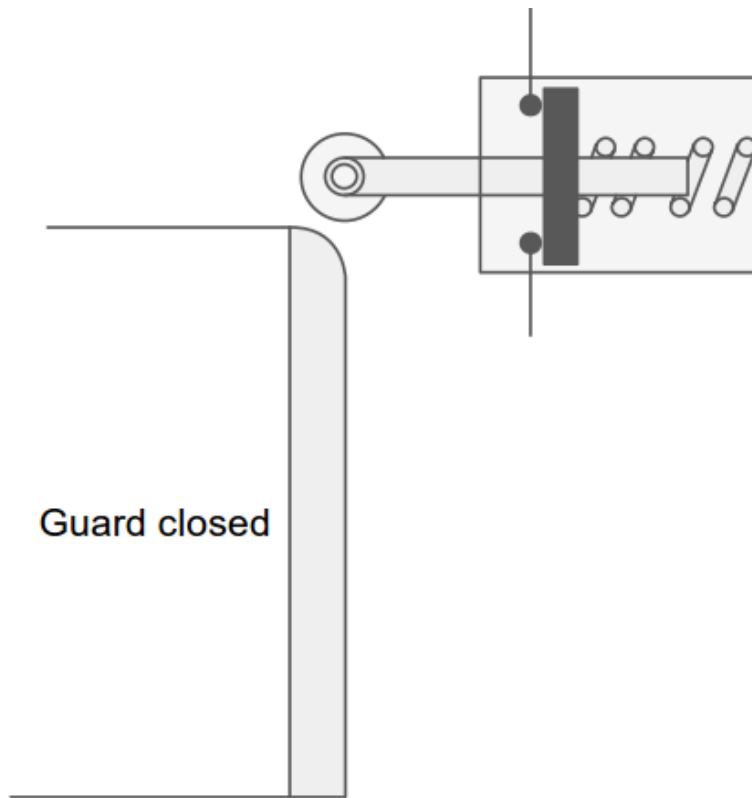
Handle containing key



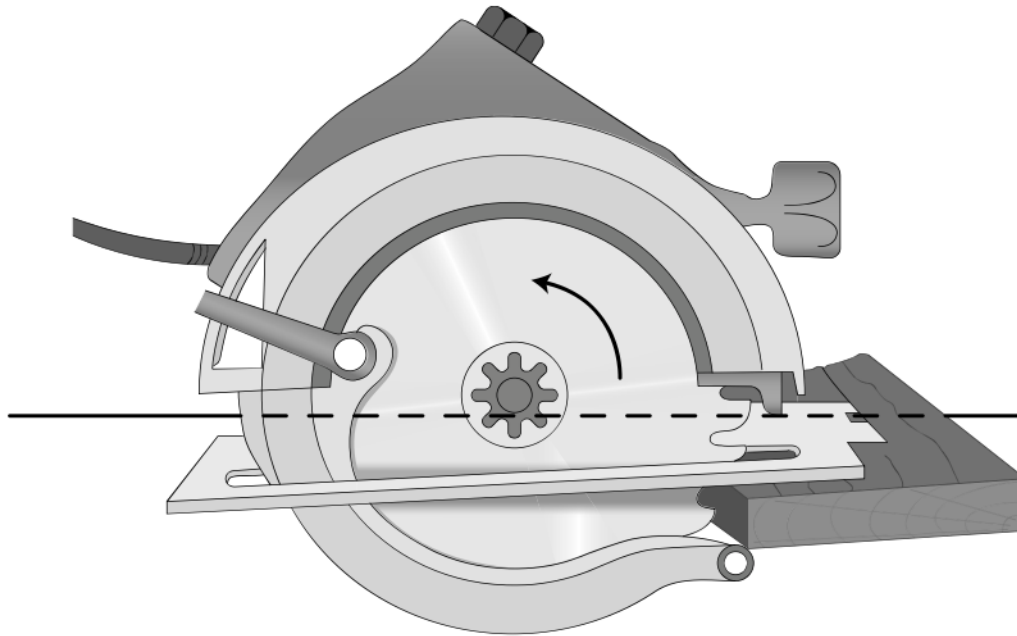
Fixed Guards



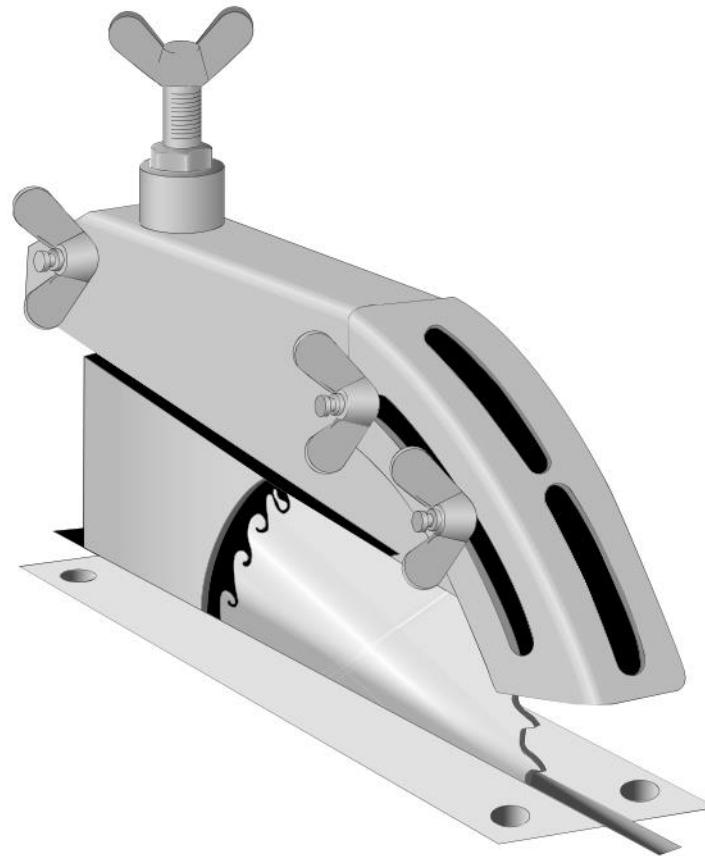
Interlocked Guards



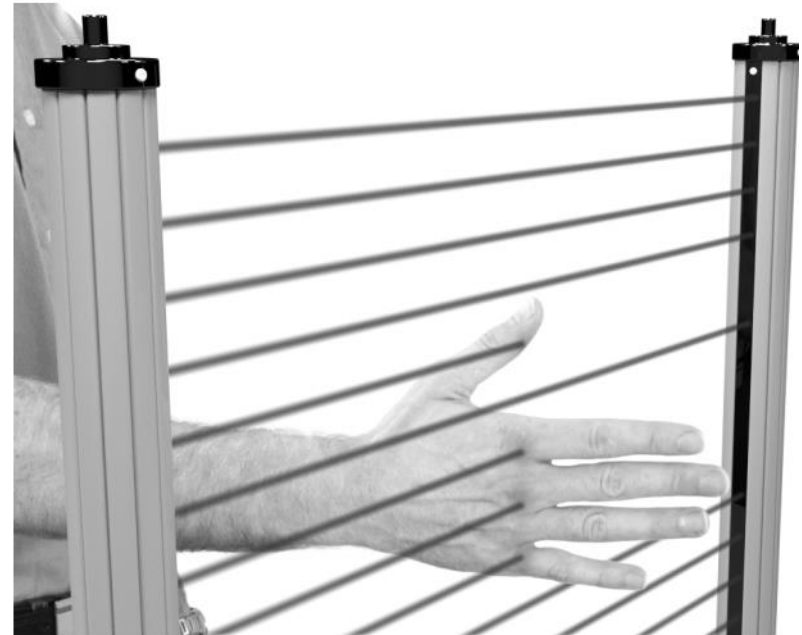
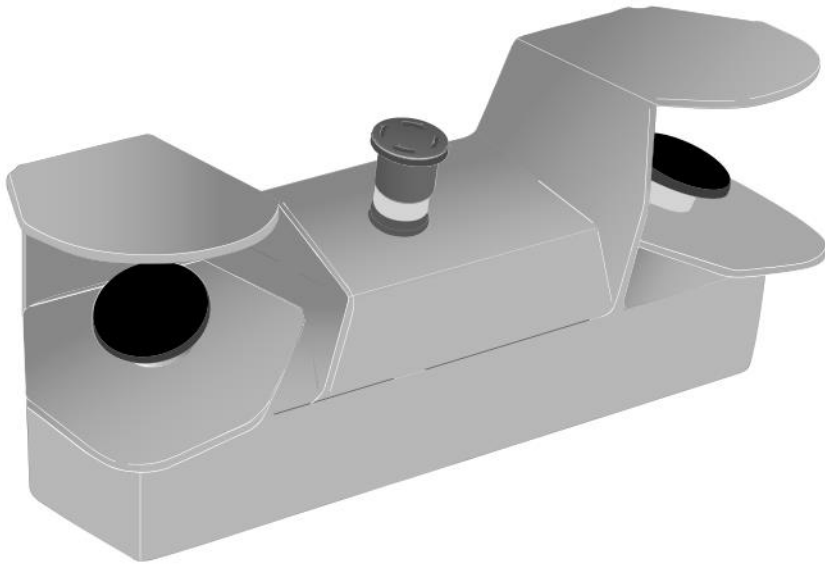
Self-adjusting Guards



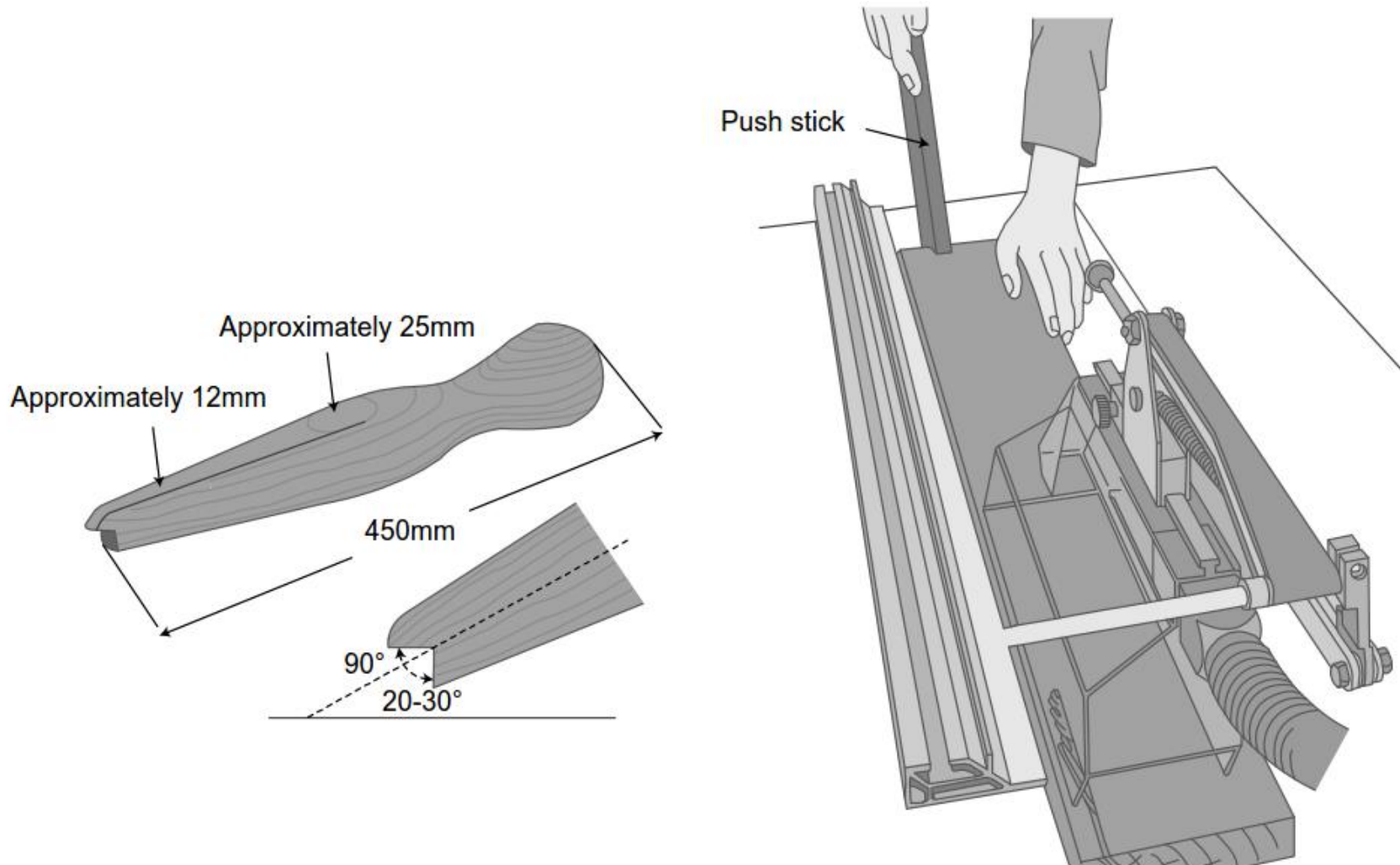
Adjustable Guards



Protection Devices



Protection Appliances



Specified Work Equipment – Hazards and Controls

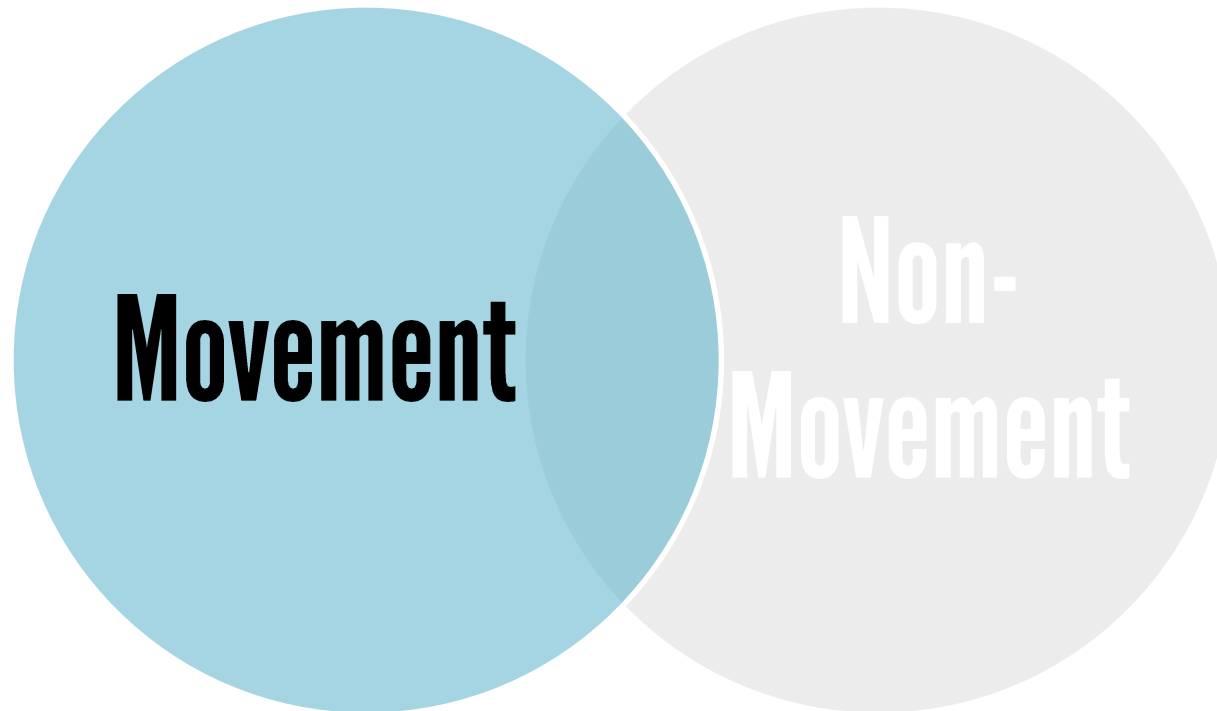


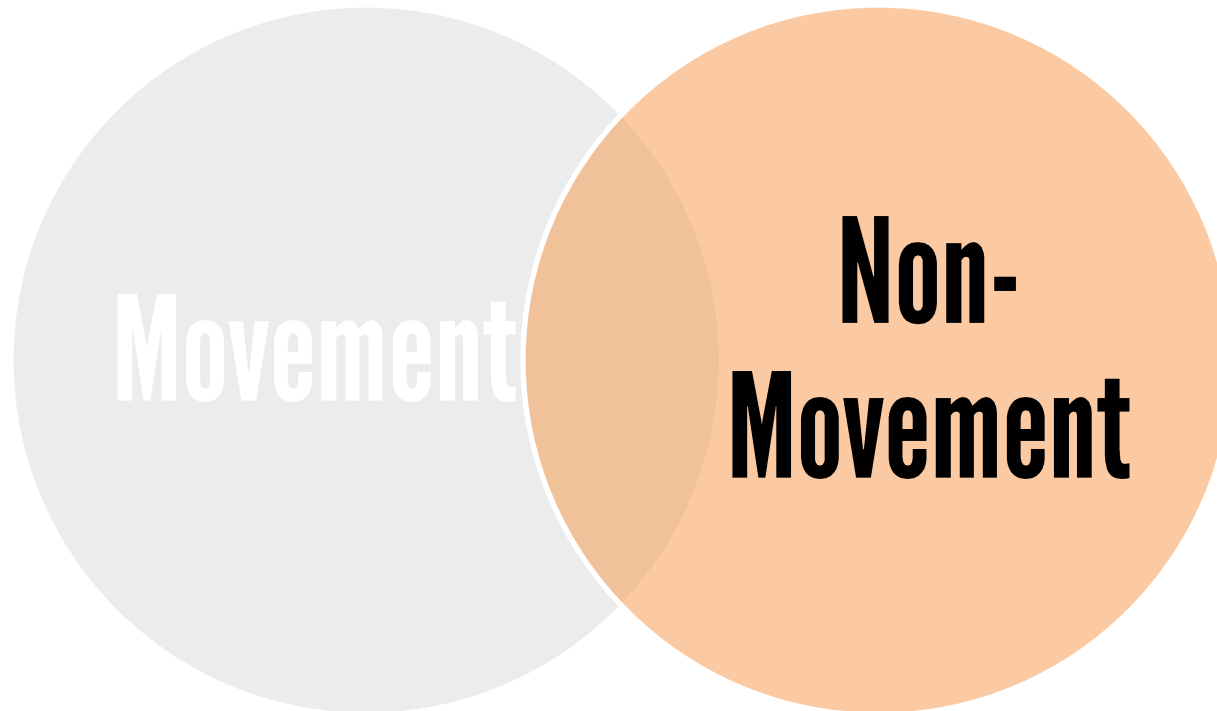
- **Hand tools – e.g. Knives**
- **Portable power tools - e.g. Portable drill**
- **Machinery – e.g. Paper shredder**
- **Equipment for working at height – e.g. Ladders**

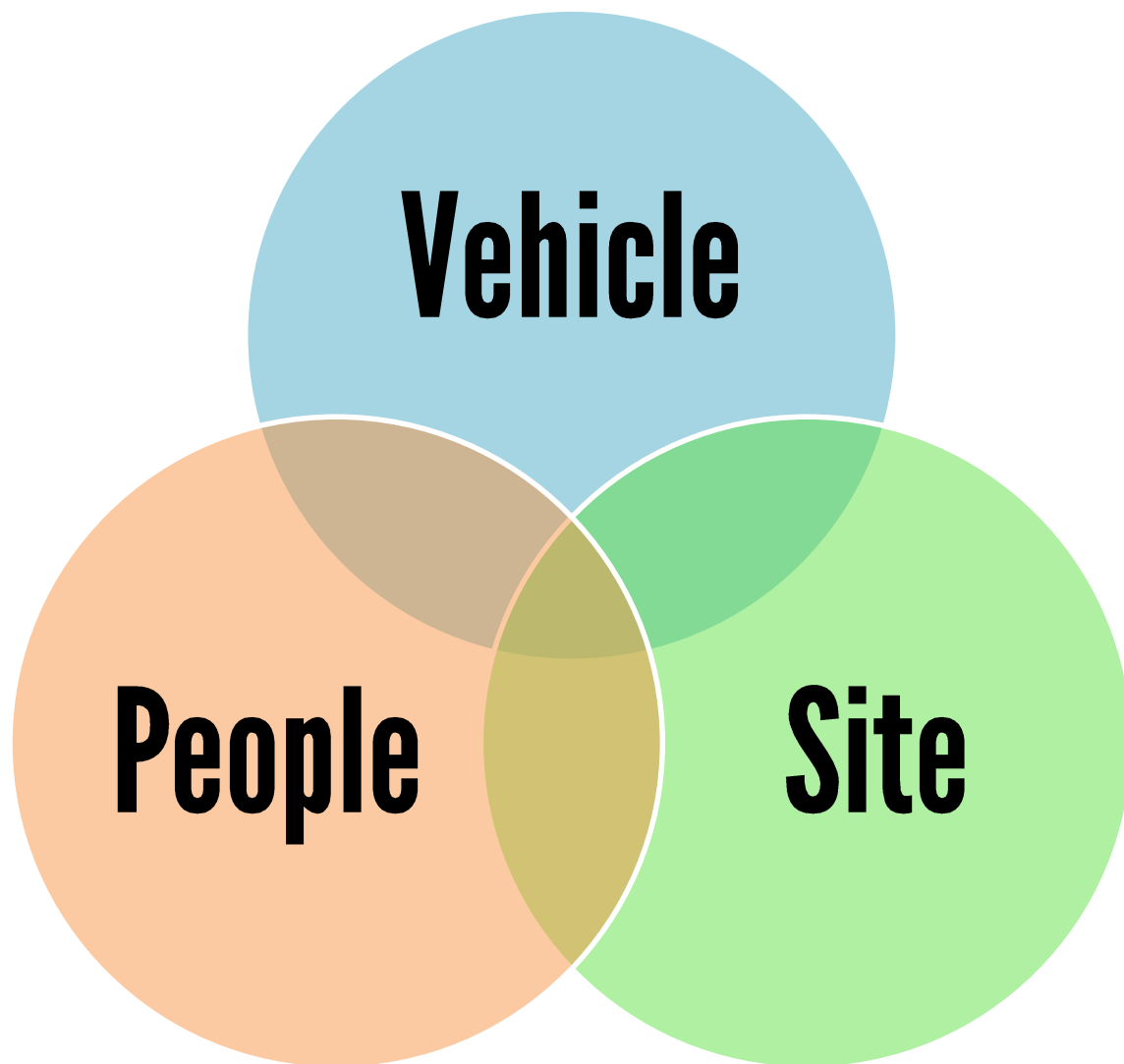
Transport

Workplace Transport











Vehicle

People

Site







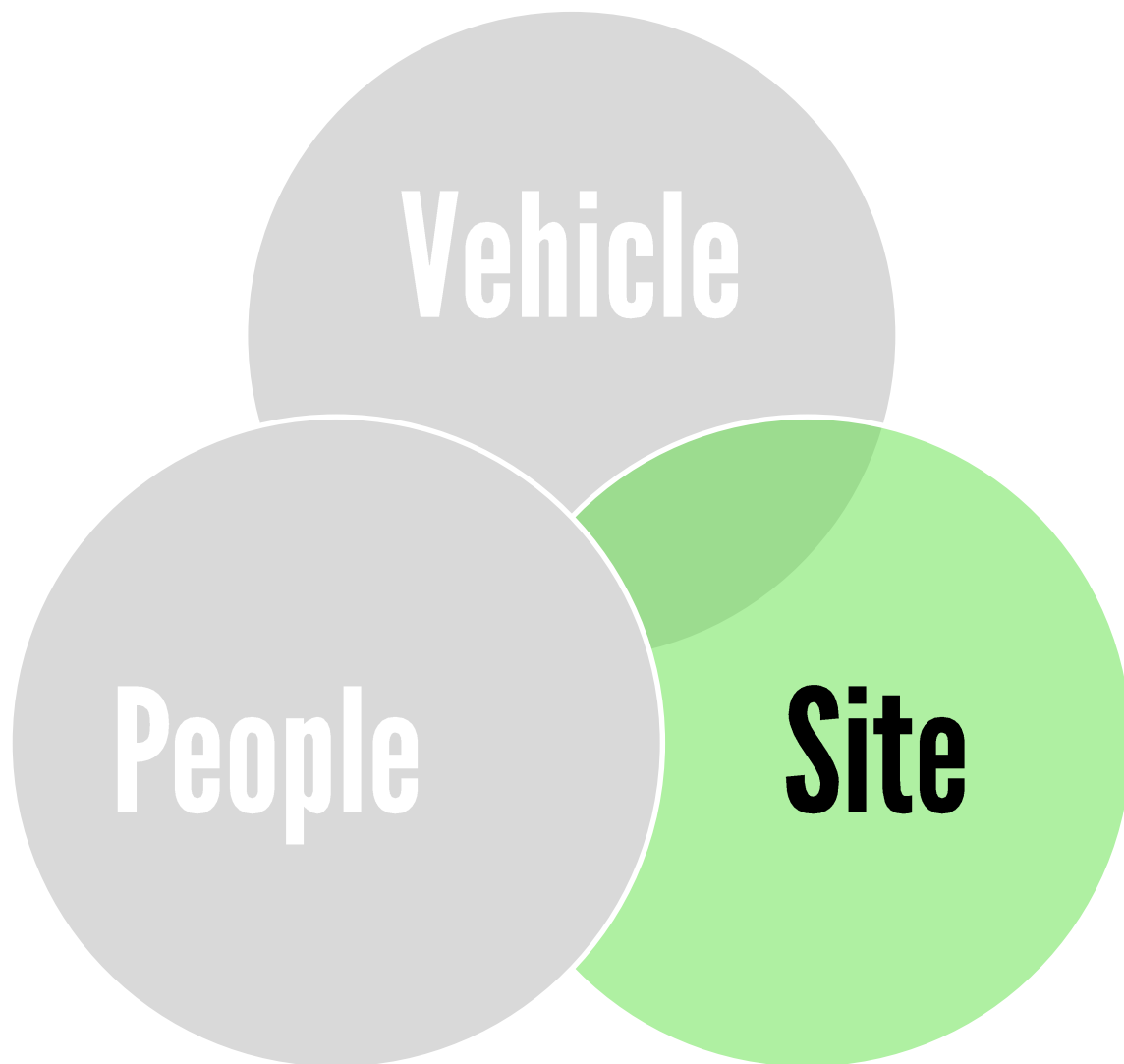




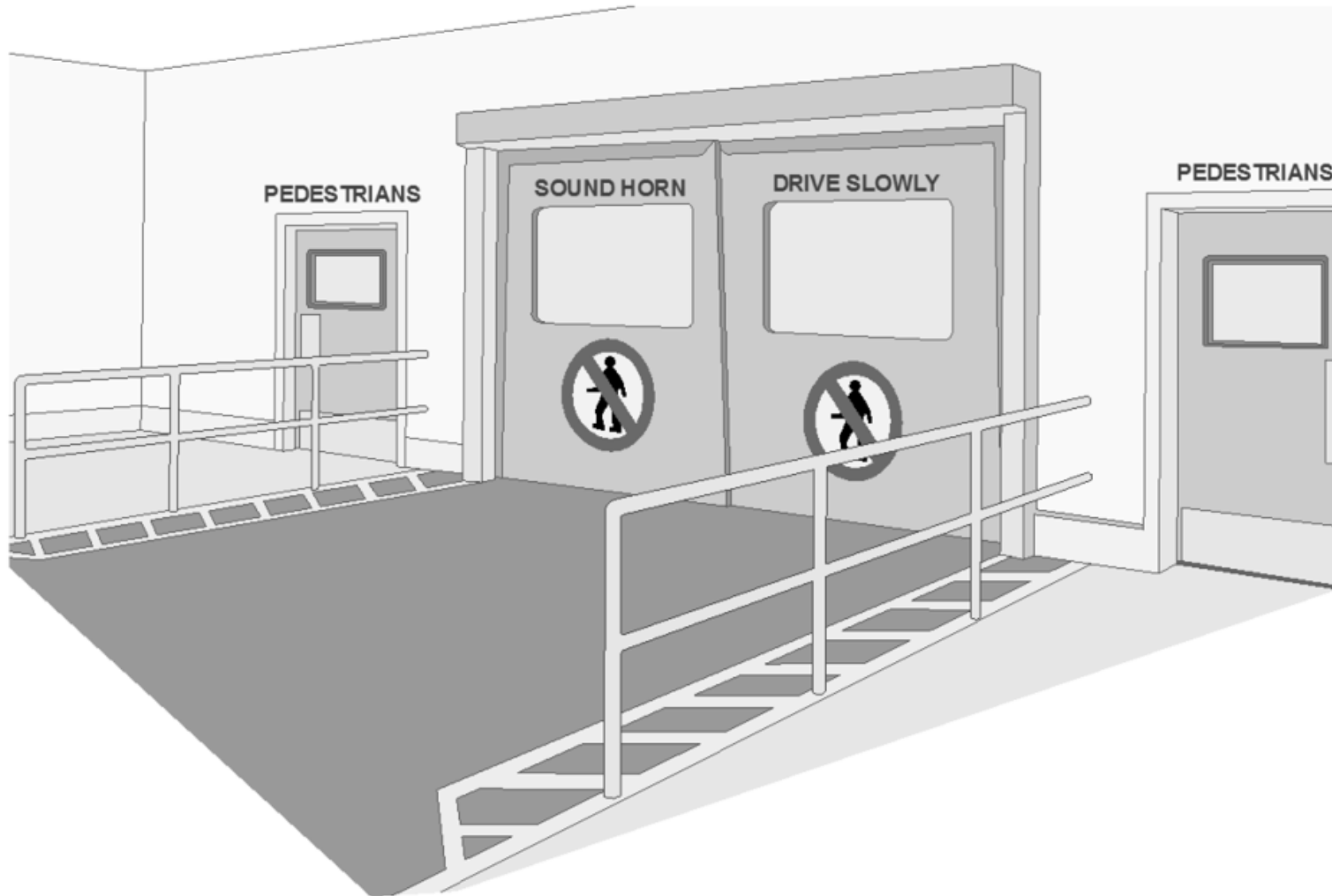






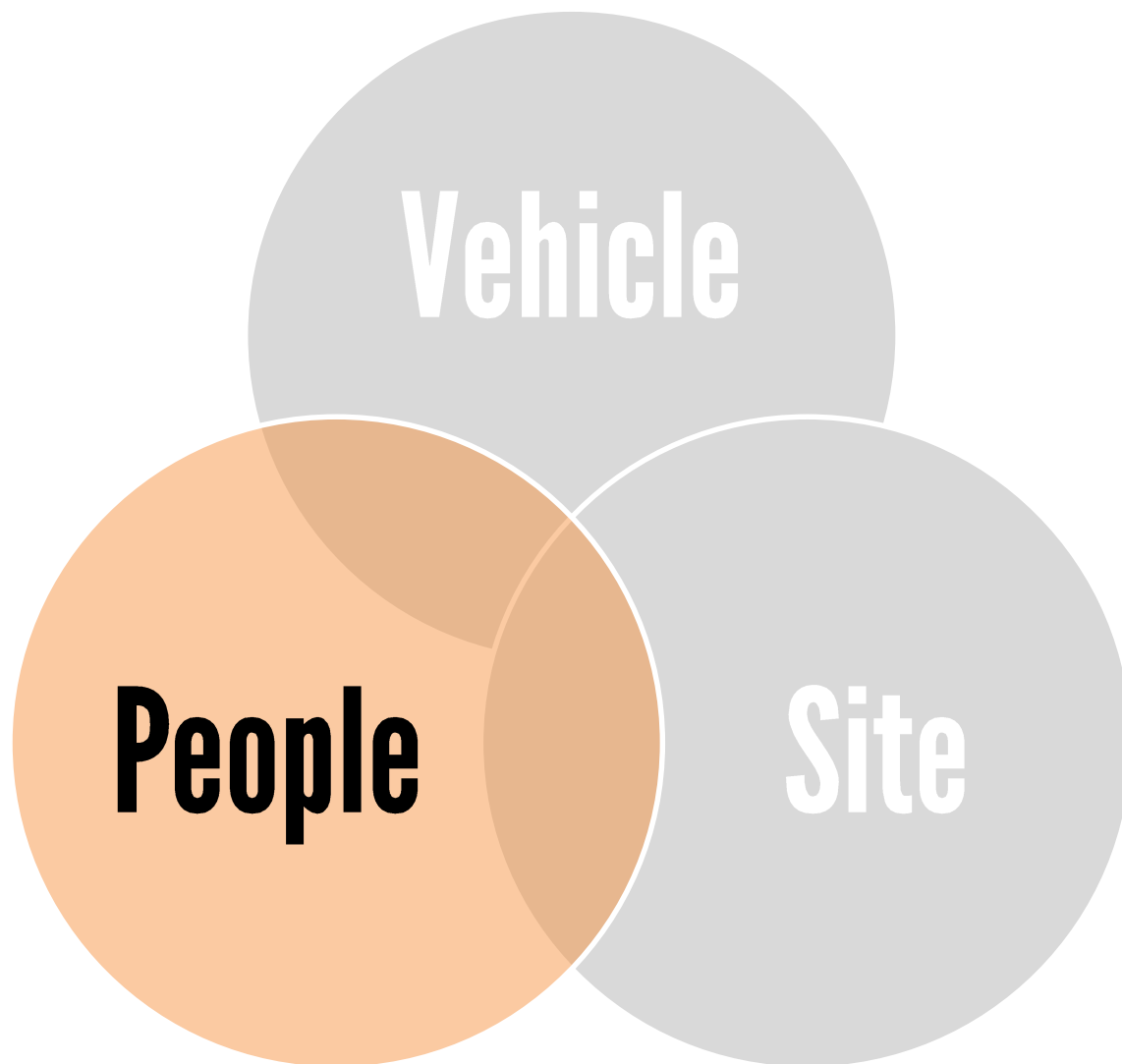


Safe Site









The 'STAMPP' of approval

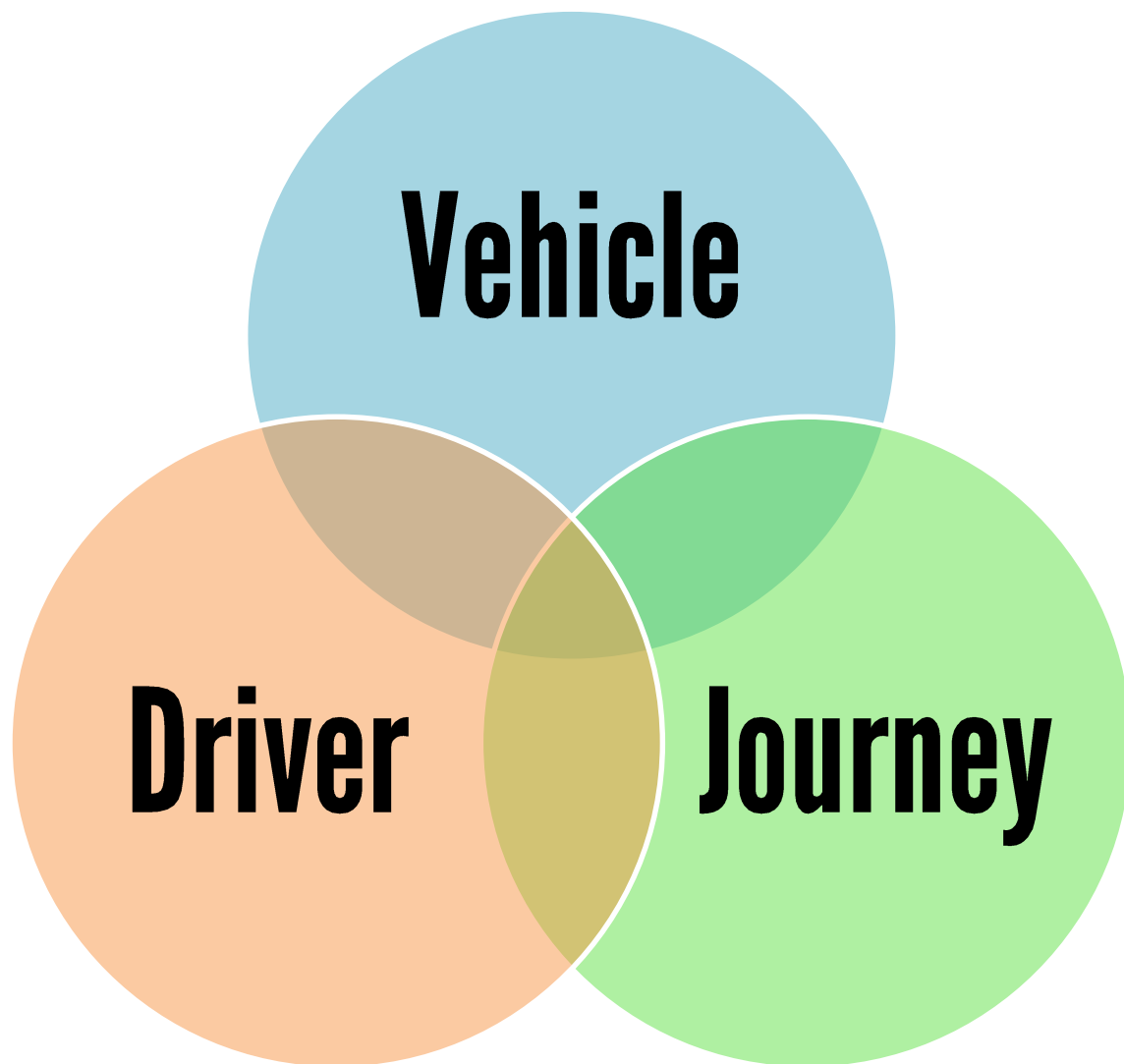


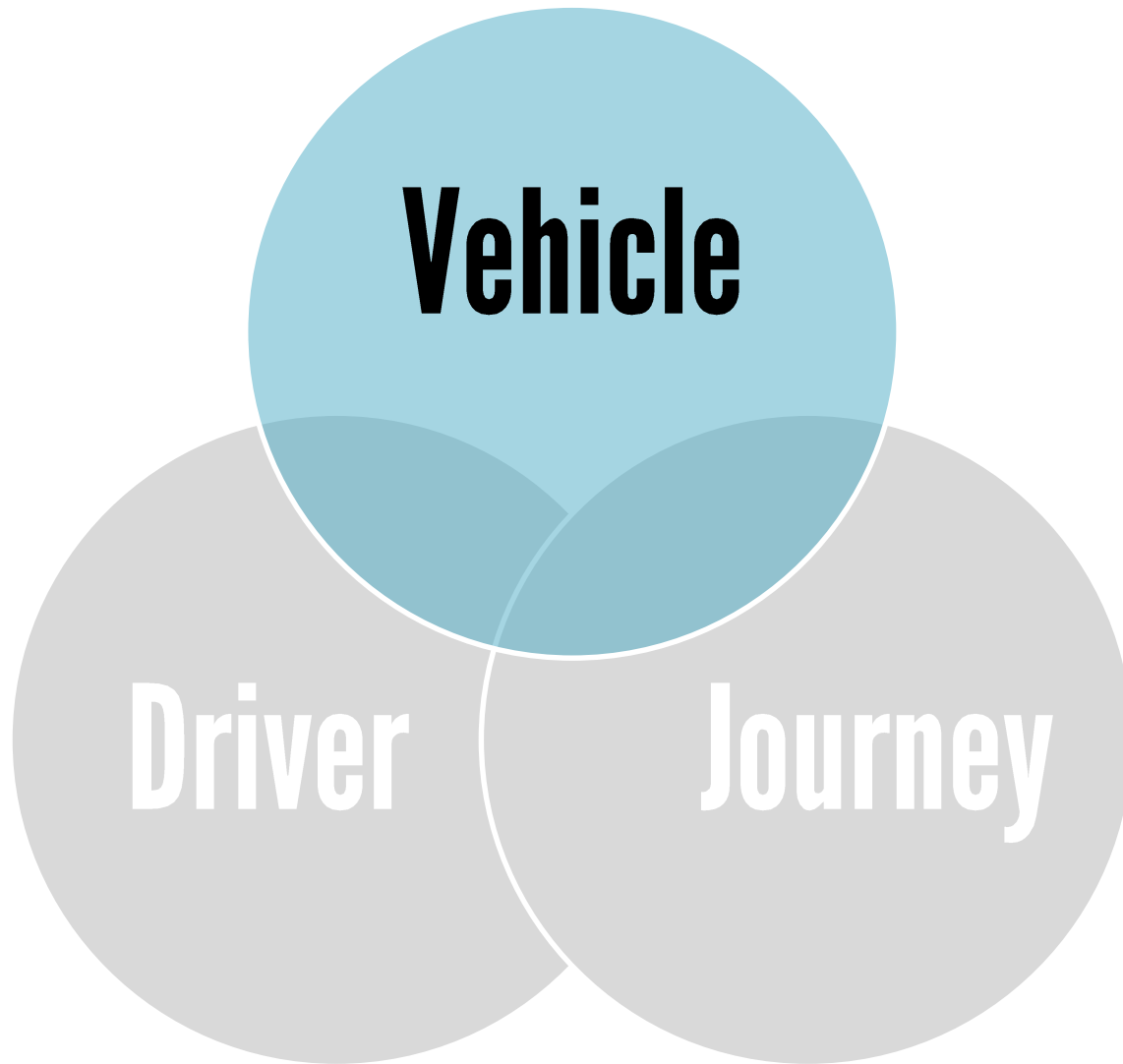


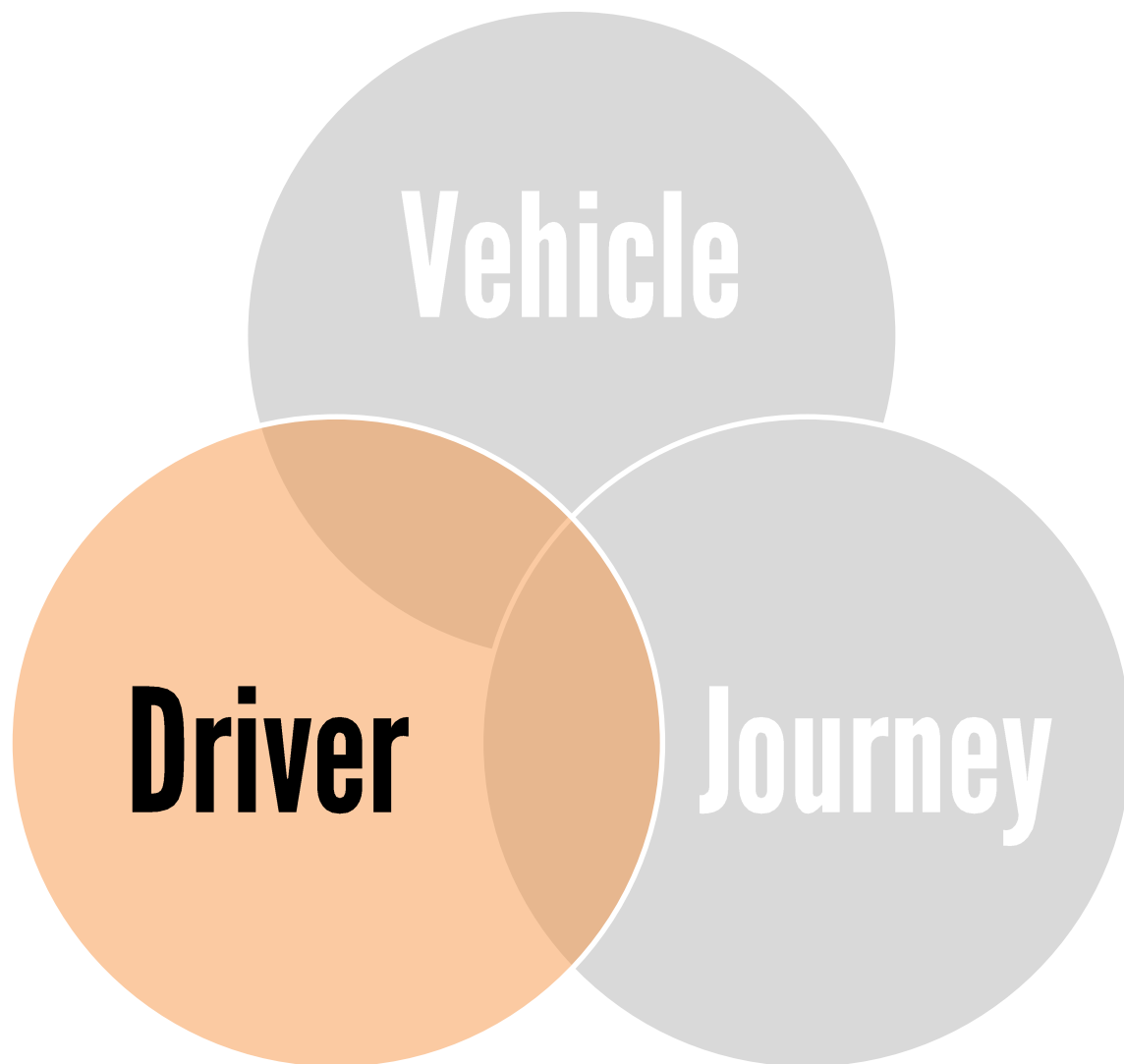
SKATE!

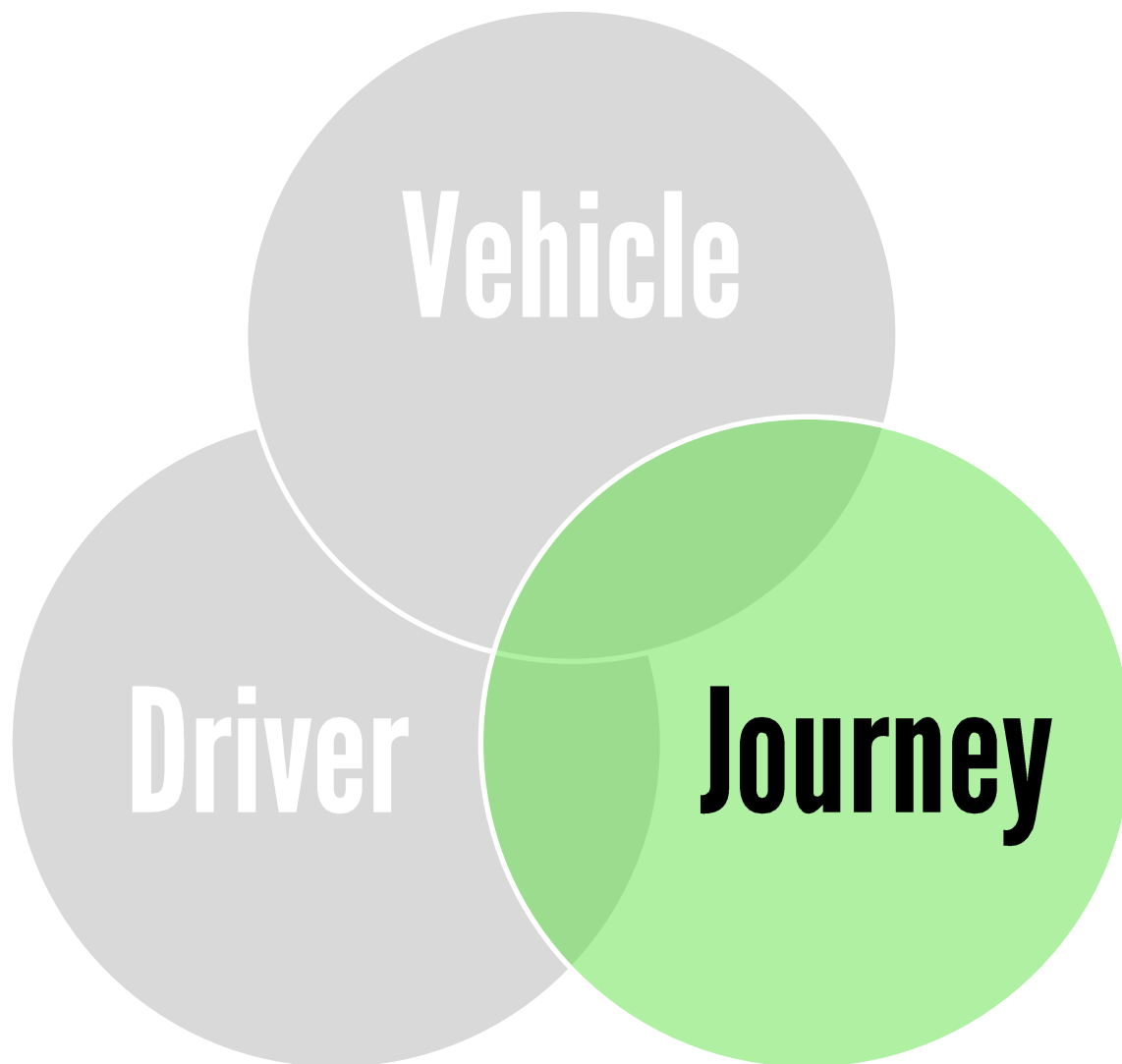
Driving at work











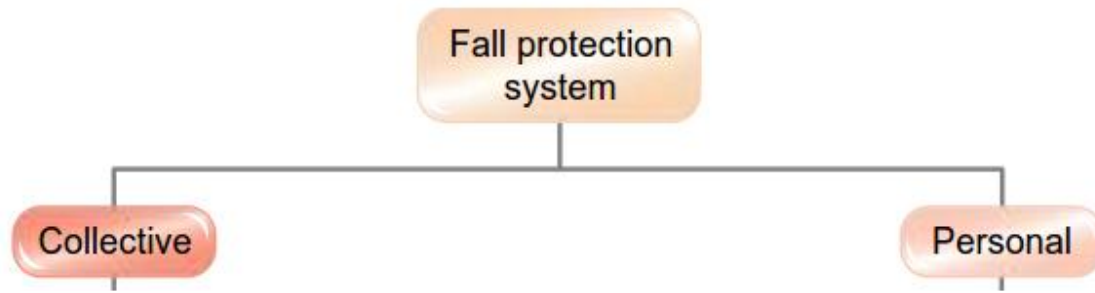
Access/Egress

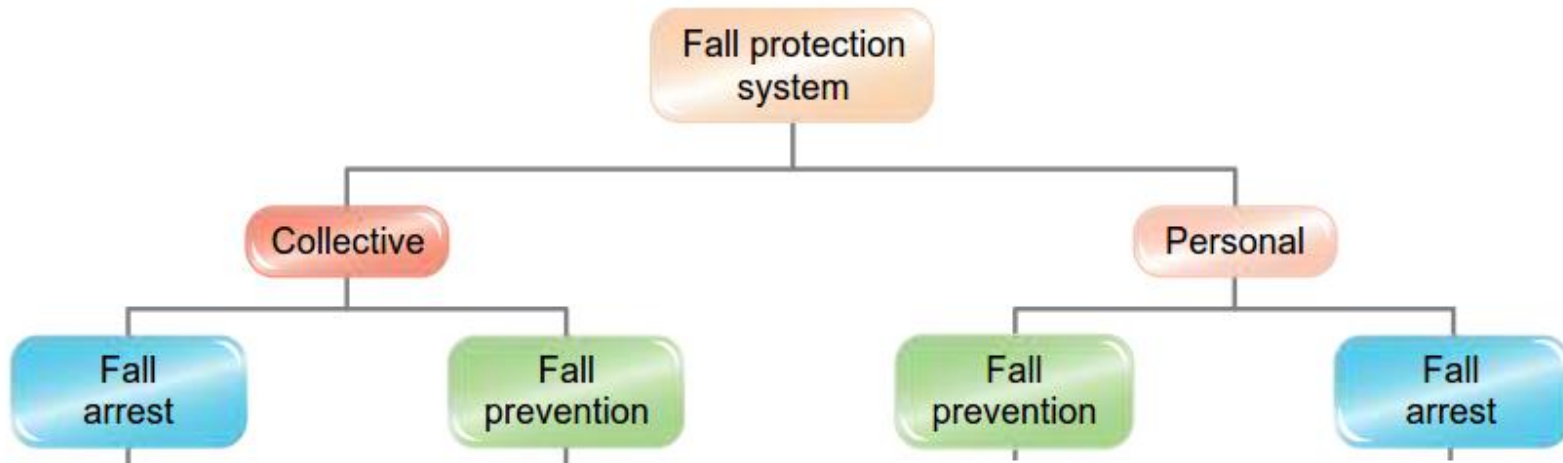


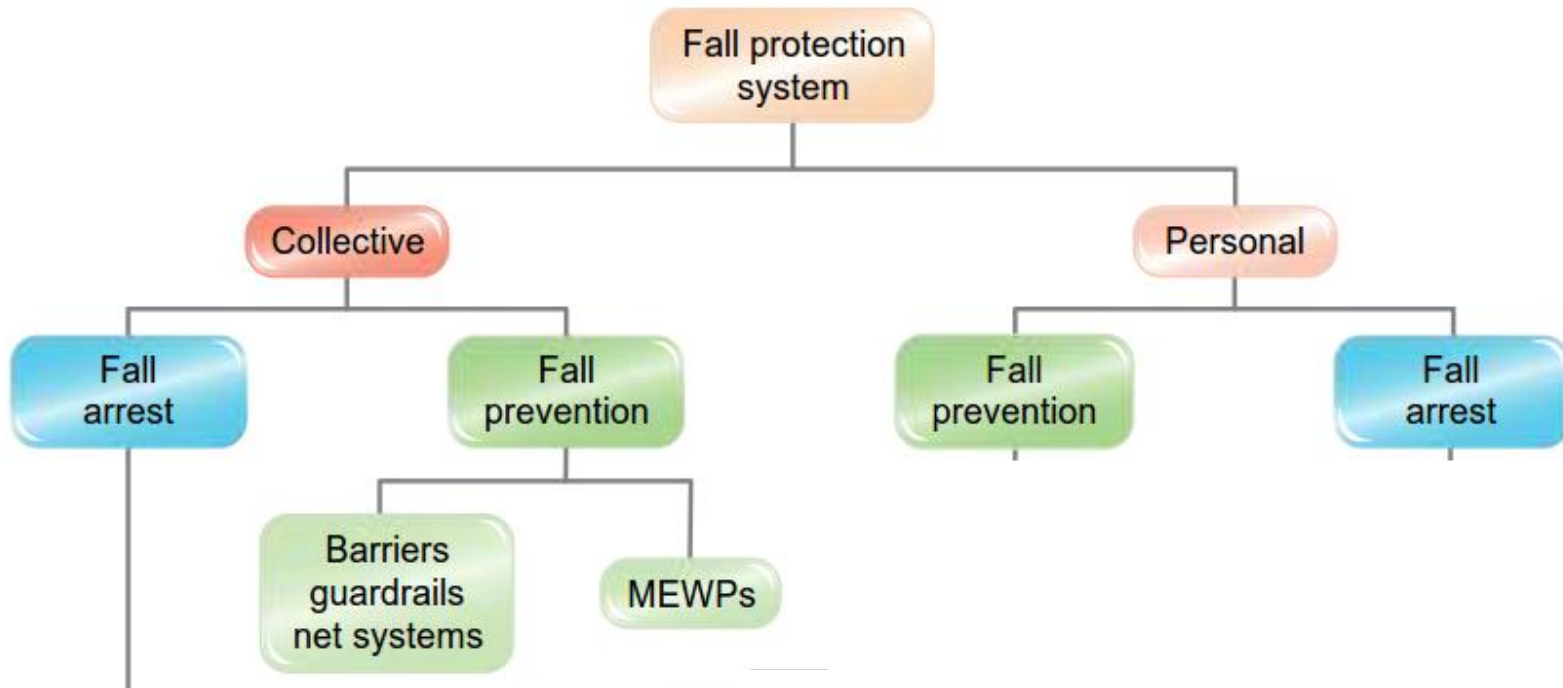
- 1. Don't go up**
- 2. If you have to go up; don't fall**
- 3. If you do fall; don't hit the ground**

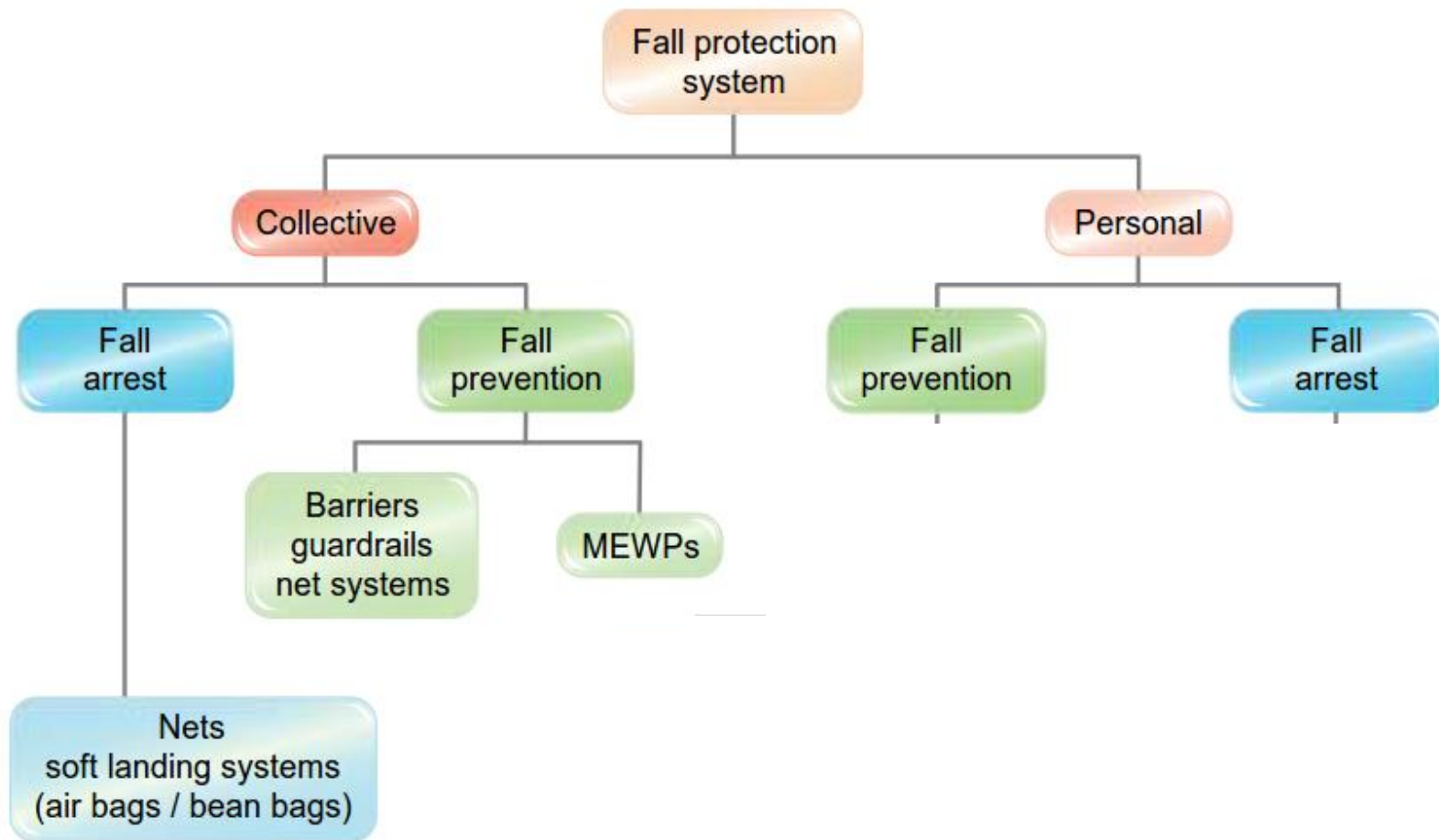
Fall protection
system

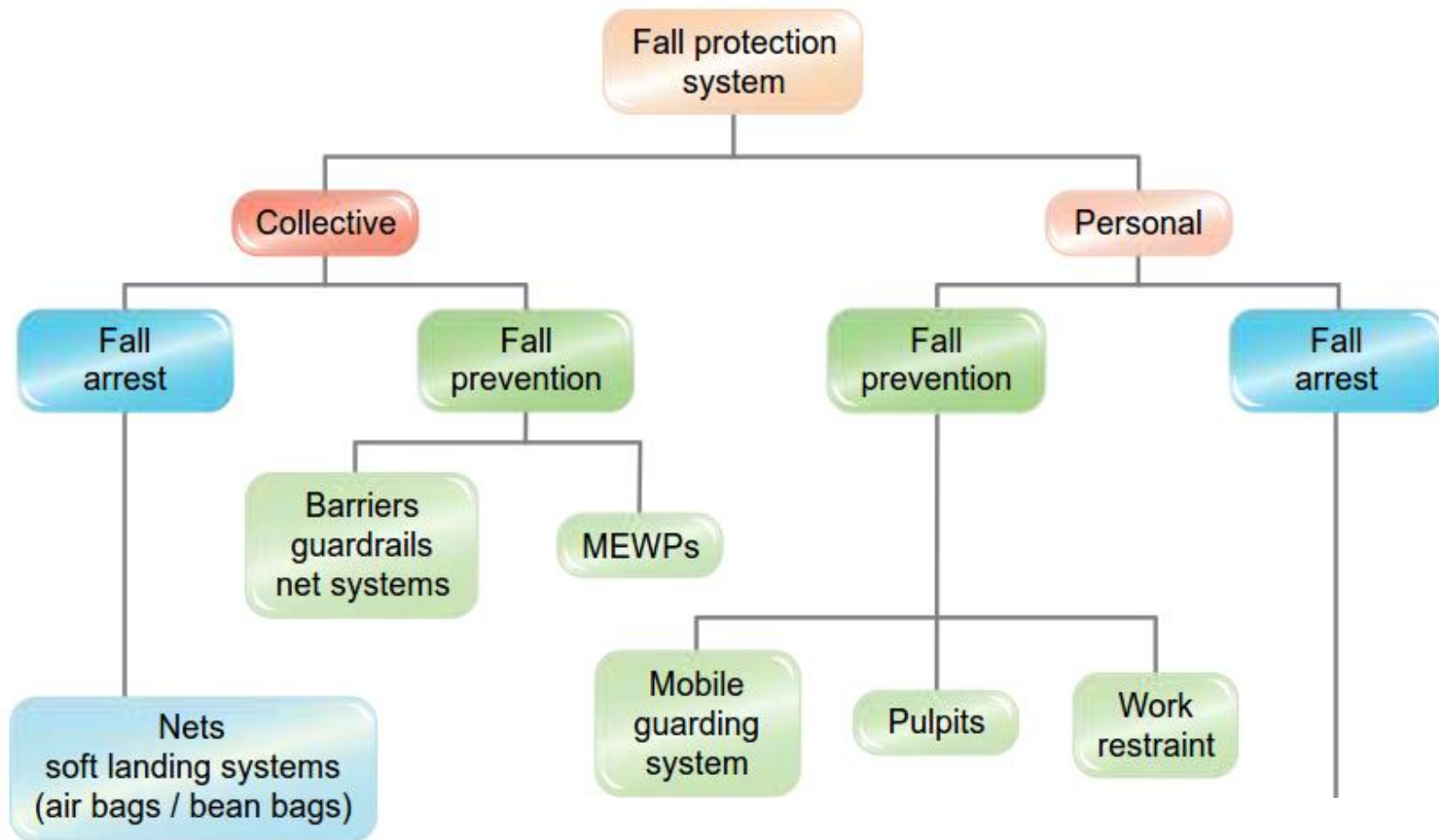


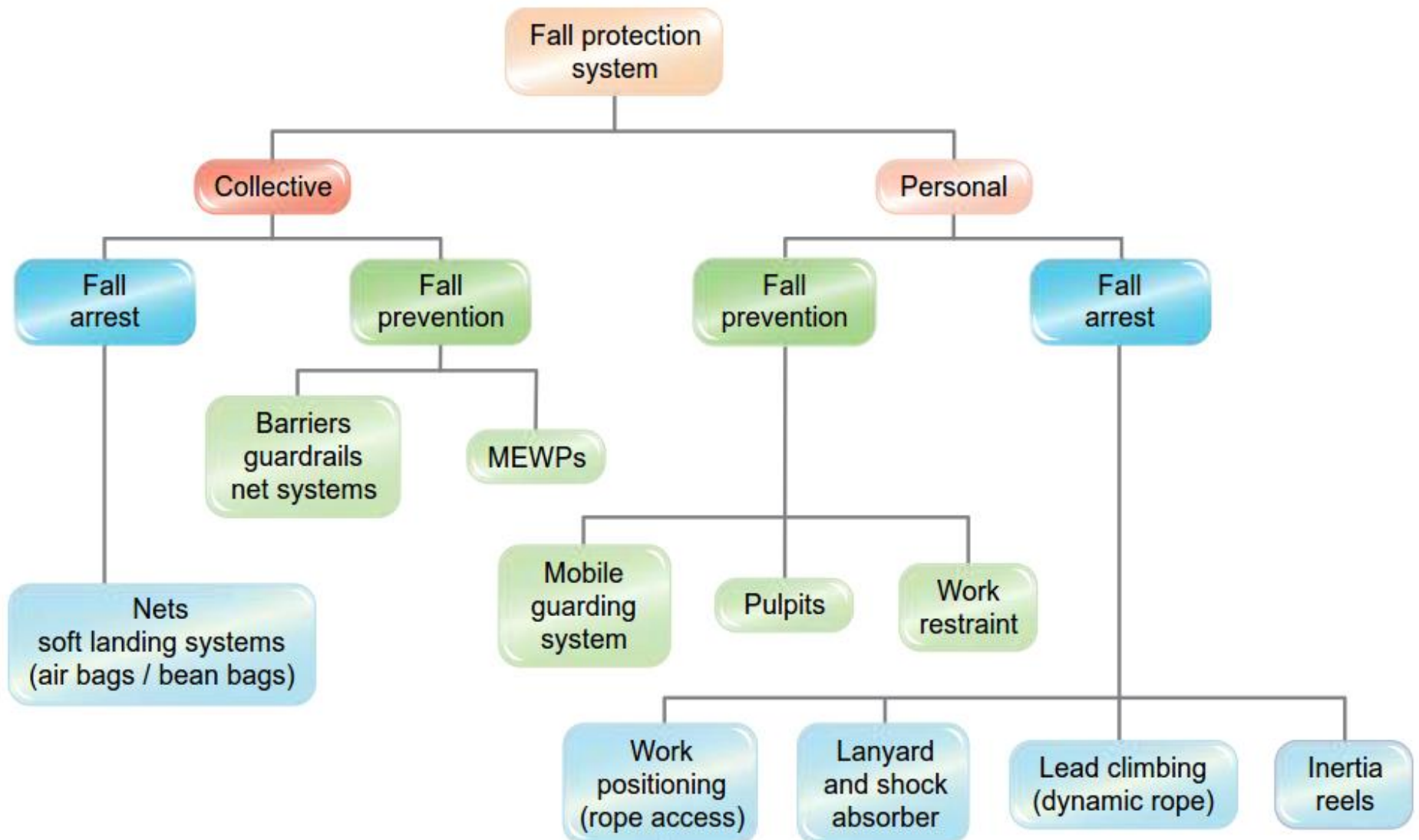












Ladders

Risk Assess...

Light

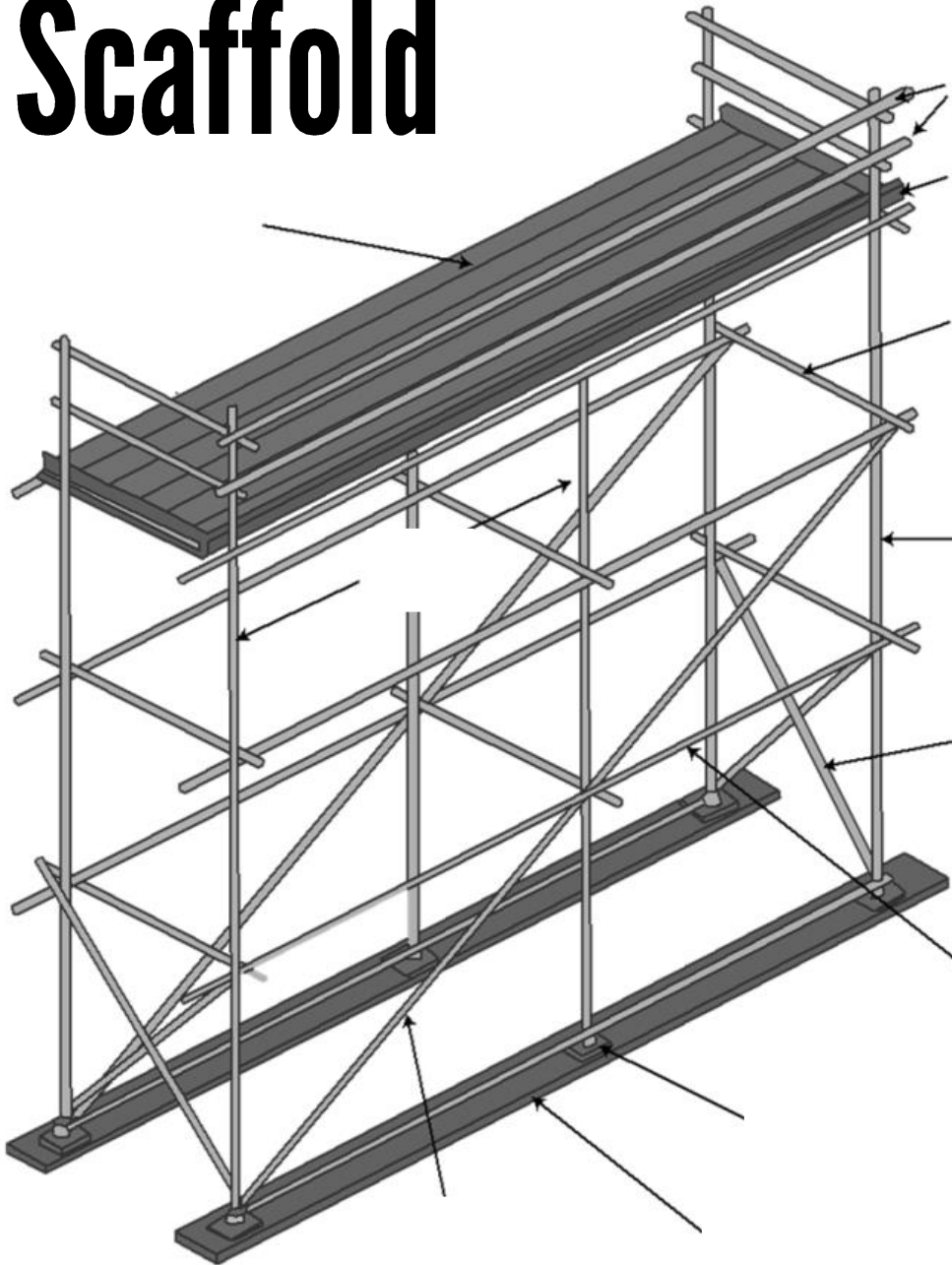
Handhold

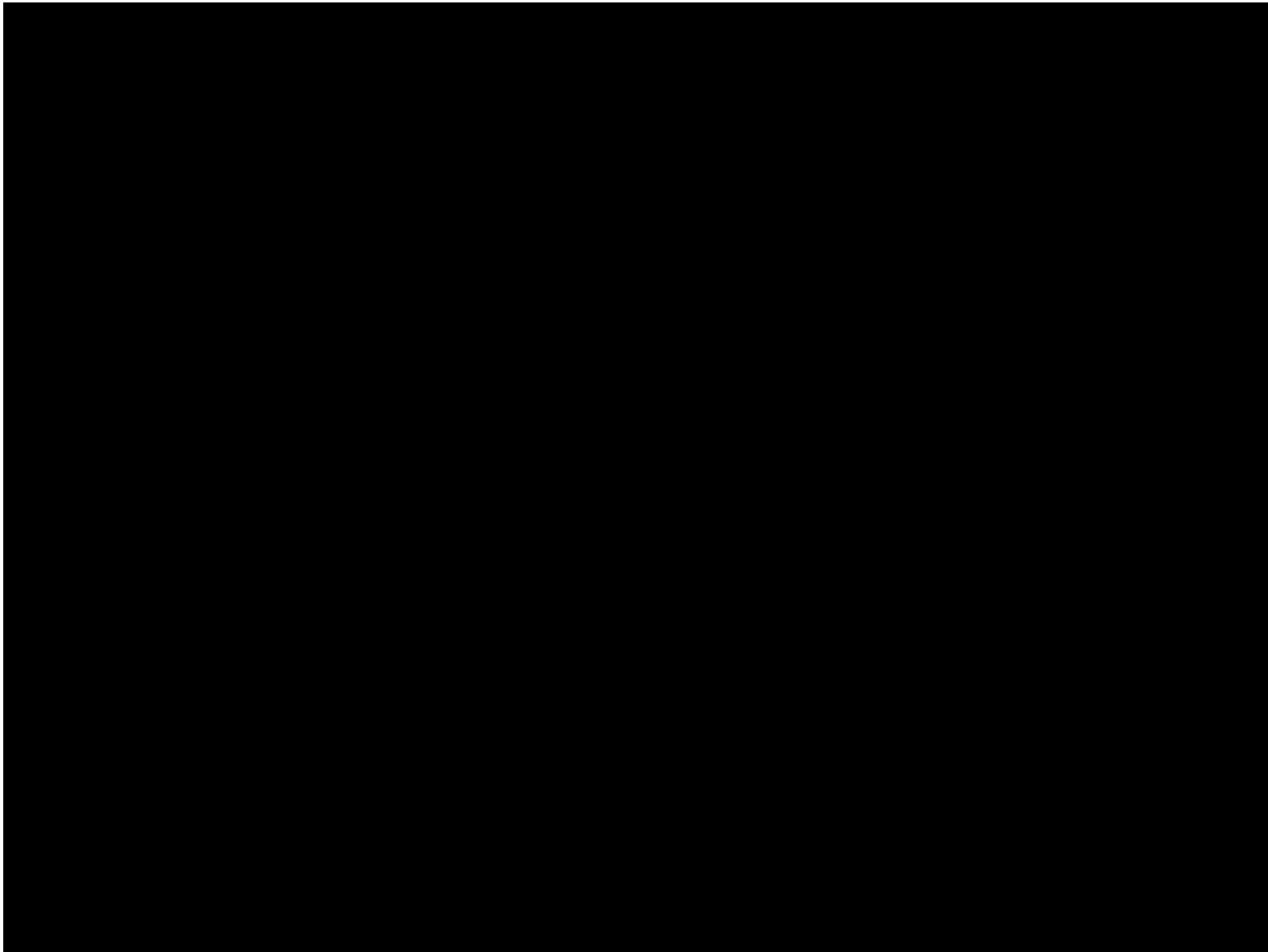
3 points

Short duration

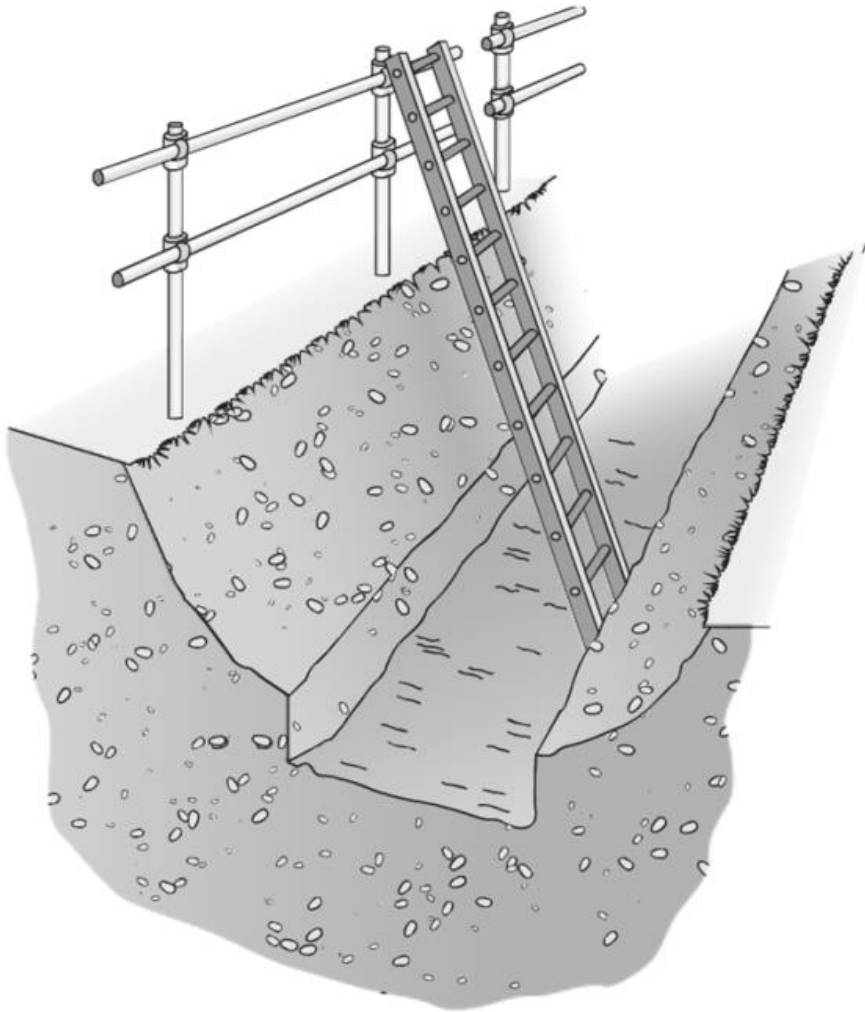


Scaffold



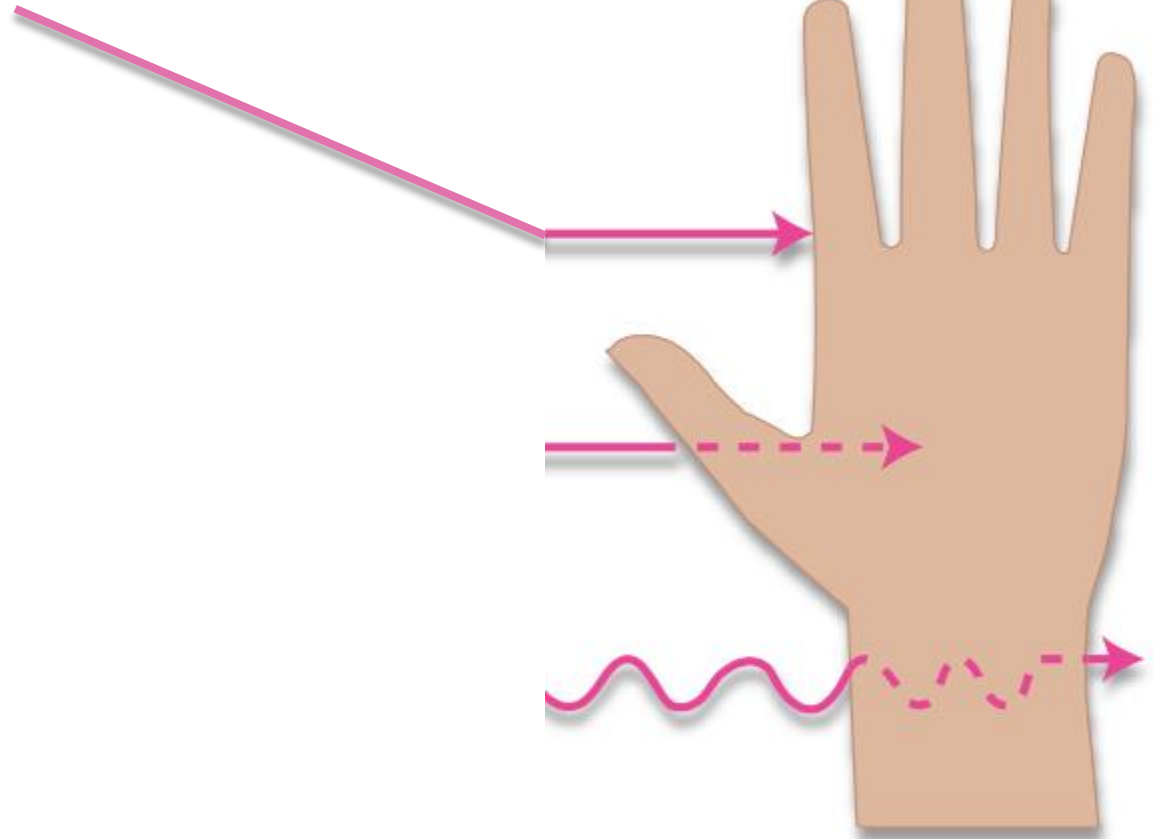
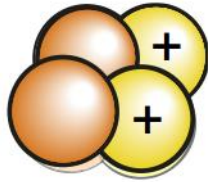


Excavations

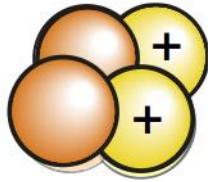


Radiation

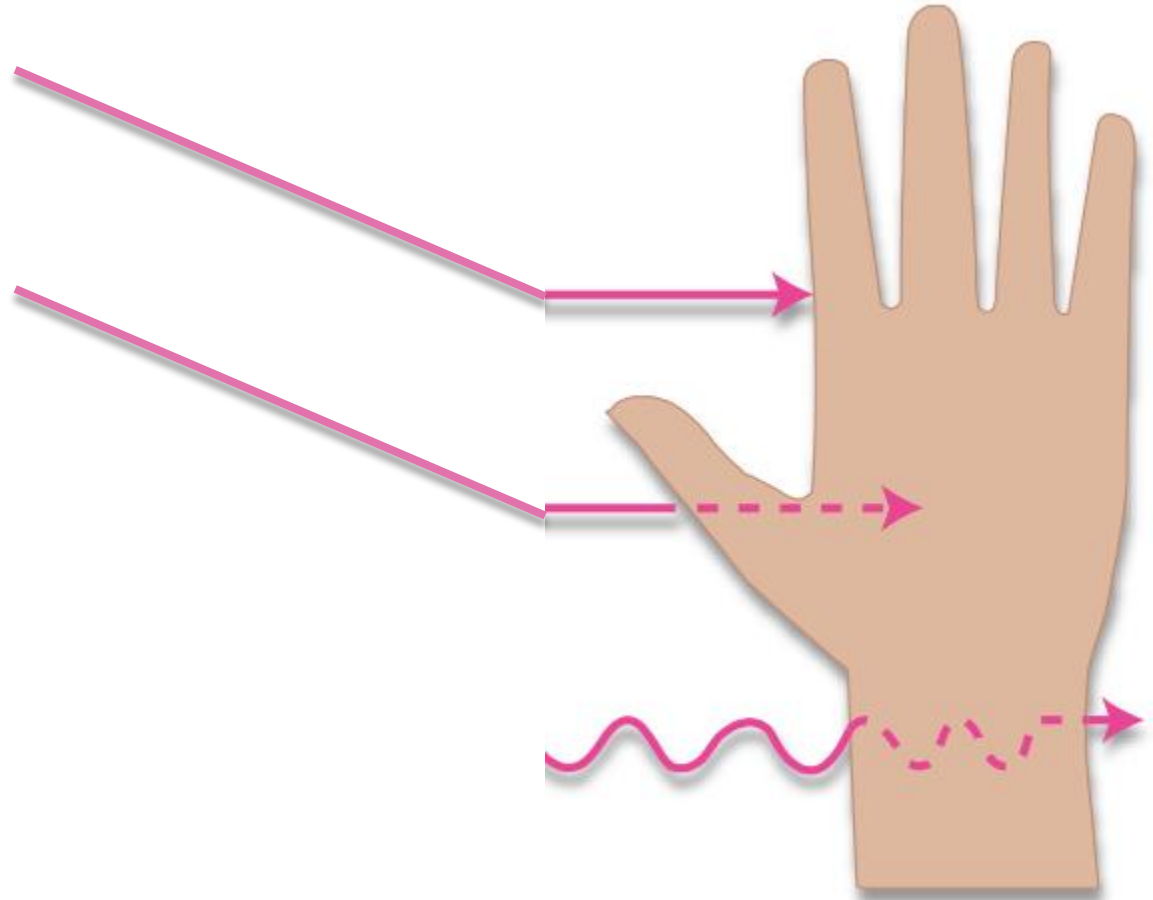
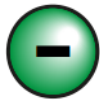
alpha



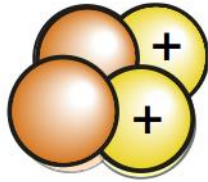
alpha



beta



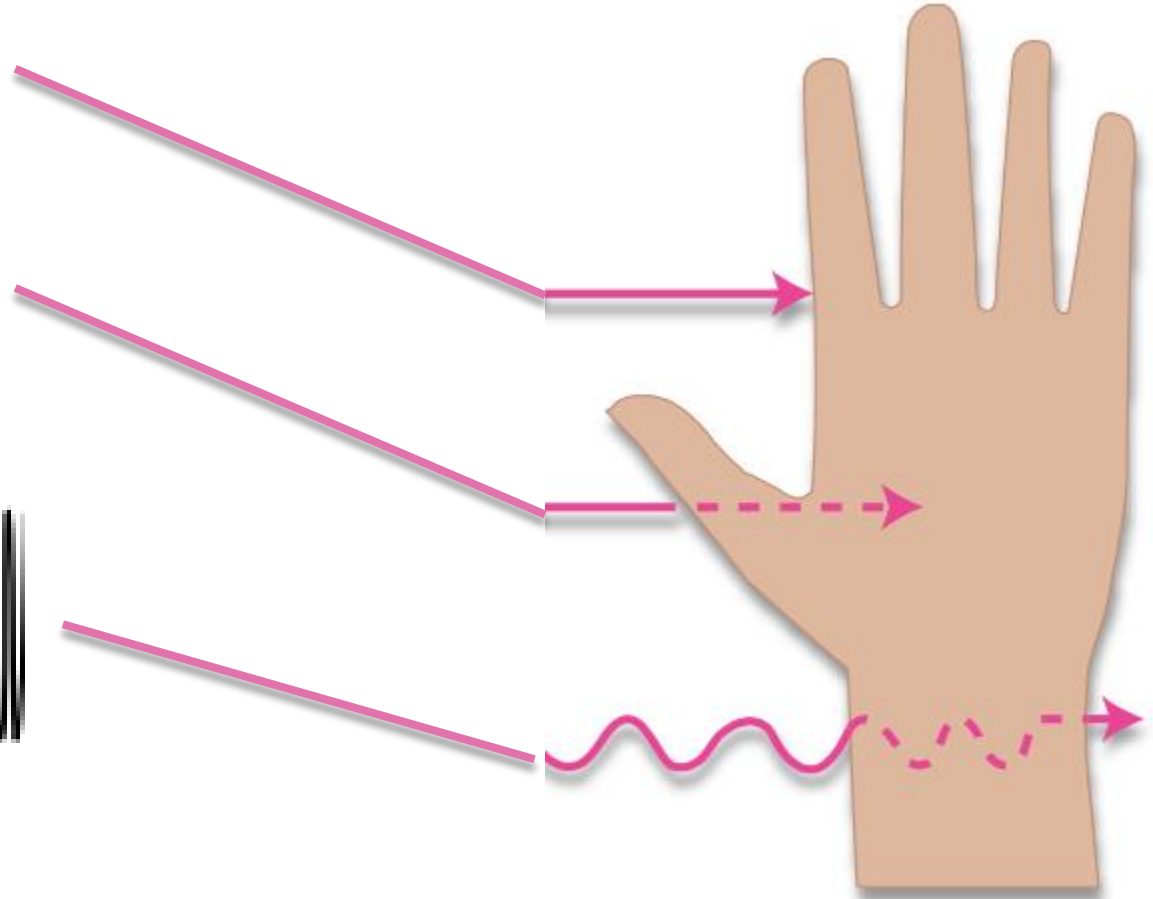
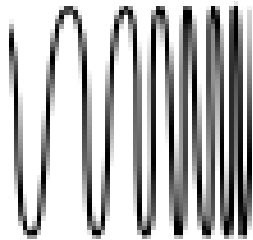
alpha



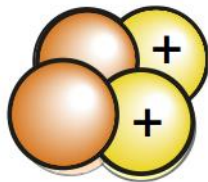
beta



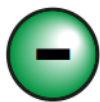
**Gamma
rays**



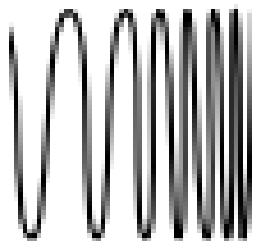
alpha



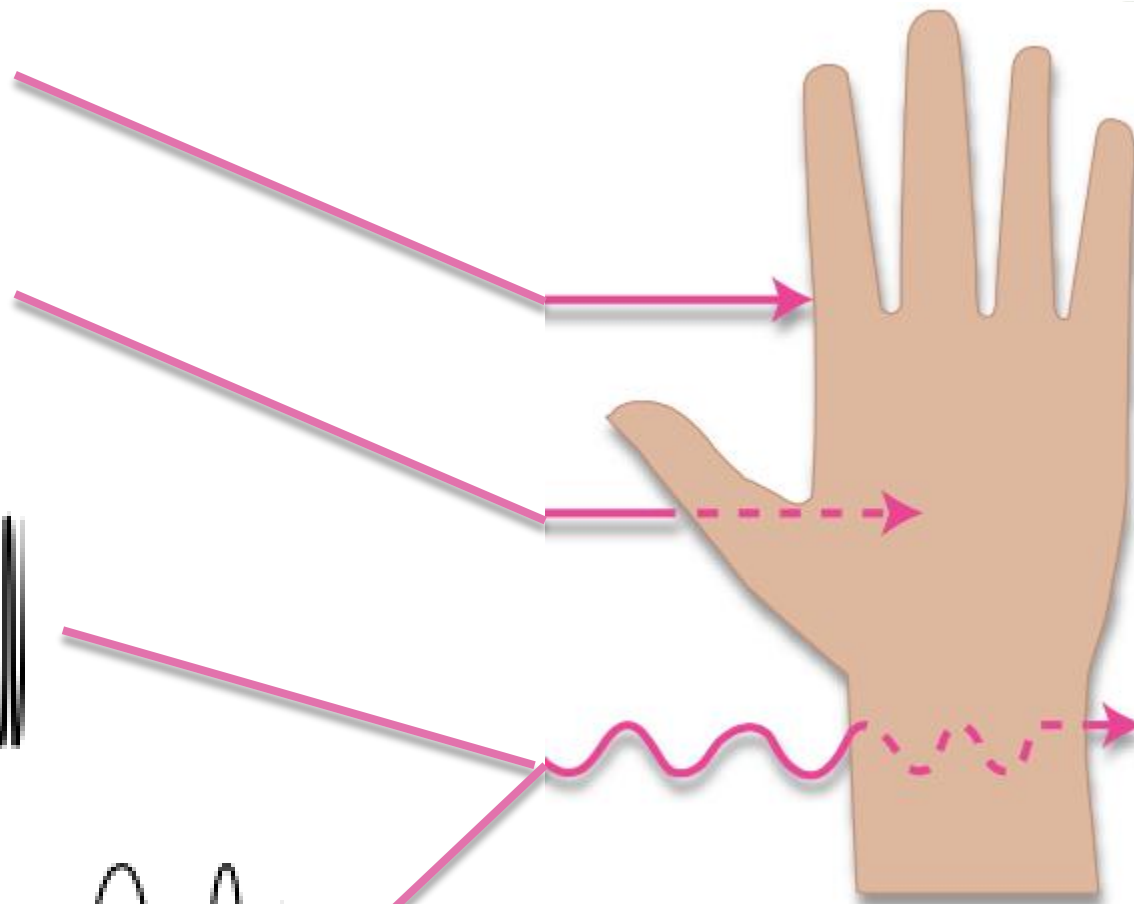
beta



**Gamma
rays**



X rays



Radiation Controls



Shielding



Radiation Controls



Shielding



Time

Radiation Controls



Shielding



Time

Distance

Inverse Square Law

