

Candidate 6 evidence

ENTER NUMBER OF QUESTION	DO NOT WRITE IN THIS MARGIN
1a.	* The tubular stainless steel frame is suitable
	for the medical trolley as it has a good
	strength-to-weight ratio. This allows it
	to carry many items without breaking.
	* The stainless steel shelves are suitable for
	the medical trolley as they are corrosion
	resistant and therefore won't rust,
	maintaining its aesthetic look & lasts longer.
	* The ABS shelves are suitable for the
	tool trolley as it it is scratch-resistant
	so it will not be marked ^{marked} when heavy/
	sharp tools are placed onto it.
	* The polypropylene hooks are suitable
	for the tool trolley as they are
	chemical-resistant so they are easily
	cleaned when necessary.
	* The mild steel side panel is suitable
	for the tool trolley as it is hard so
	can withstand any bumps or bashes.
	which may happen when working with heavy tools.

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1b.	
<p>* The nylon and castor wheels are suitable for the medical trolley as they are a lightweight alternative to ensure the trolley is easily moved without strain.</p>	
<p>* Injection moulding is suitable for ^{of the foot trolley} creating the ABS shelves and handles [↑] due to them having intricate detail.</p>	
<p>* extrusion is suitable for creating the stainless steel frame of the medical trolley because it increases it's strength.</p>	
<p>* Blanking & piercing is suitable for creating the mild steel panel on the tool trolley as it is a sheet.</p>	
<p>1c. * The handles contain pattern / texture to increase grip.</p>	
<p>* the ABS shelves have doorkets to store smaller parts.</p>	
<p>* The medical trolley contains a wire to prevent things falling off the trolley</p>	

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	<p>* Both trolleys have 360° swivel wheels to allow them to be knocked easily portable</p>	
	<p>* The steel ^{hooks} has ^{allow for} hooks ^{additional} hooks ^{hooks} to be stored.</p>	
	<p>* The steel panel has holes to allow the hooks to be secured.</p>	
	<p>Id. Answers money on tool/assembly</p>	
	<p>* They are easily sourced</p>	
	<p>* Saves money as are bought in stock.</p>	
	<p>* Makes self-assembly more straight forward.</p>	
	<p>* Relying on another company to source parts for your product, may introduce problems.</p>	
	<p>ie. * Physical Modelling allows different features to be tested.</p>	
	<p>* Physical Modelling allows designers to get proportions/sizes.</p>	
	<p>* Physical Modelling allows design process reason ^{to} be easily shared with clients/consumers and other members of the design team.</p>	
	<p>* Physical Modelling allows designers to</p>	

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2a.	
★ ABS is a suitable thermoplastic as	
it is scratch-resistant, meaning the	
helmet will stay looking new, and it is	
chemical-resistant, so the helmet can	
be cleaned when necessary.	
2b.	
★ It will need to fit a variety of people	
so adjustable straps and support has	
been added.	
★ Due to it being for children, it was	
designed with primary colours to attract	
them and catch their eye.	
★ The overall size of the helmet isn't	
excessive and allows for them to be	
comfortable wearing it and easy is	
the easily stored.	
★ The strap/ ^{clip} needs to be straight-	
forward and easy to use since the	
product is for children. They need to	
be able to use it themselves.	

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2c.	★ User trial - make a prototype and give it to a member of the target market to test and then give feedback.
3a.	★ An open brief allows the designer to have creative freedom.
	★ An open brief means the designer could create something which the client has no interest in.
3b.	★ A product design specification provides information on design factors and the needs/wants of the target market.
	e.g.
	performance requirements
	ergonomics sizes
3c.	★ Brainstorming:
	- group activity
	- designated writer
	- express all ideas, none seen as silly and are all written down
	- often sometimes done under a time

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	limit.	1
	This helps produce initial ideas as it gathers a number of different ideas in a short amount of time.	
3d.	★ Rough sketches can be used at the initial idea stage to produce lots of ideas quickly with minimal detail	
	★ 2D/3D sketches can be used at the idea generation ^{development} /refinement stage to add more detail and focus on smaller things. more	
	★ CAD can be used at the idea generation ^{development} /refinement stage to finalise details OR it can be used to present ideas to a client.	
	★ Orthographic drawings can be used at the planning for manufacture stage to create a detailed plan for the manufacturer to follow.	

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4a.	★ Celebrity Endorsements
	★ Advertising (billboards, social media, etc)
	★ A sale (50% off)
	★ special deals (Buy one get one free)
4b.	★ Put on a sale and introduce deals.
	★ Improve them an aspect of the product.
5a.	Psychology Psychology:
	- The buttons have all been labelled with clear writing to indicate what their was they are used for.
	Physiology:
	- The force needed to open the door needs to be considered to ensure it's opened without strain but also not too easily that a young child can access it.
	- The weight of the overall product needs to be relatively lightweight so it can be moved or stored easily

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anthropometrics:	
- The grip diameter of a human hand	
has been considered when designing	
the thickness of the handle.	
- The size ^{width} of a finger tip has been	
considered when designing the width of	
the buttons.	
- The width of a hand has been considered	
when designing the gap width of the	
handle gap.	
5b. ★ handheld vacuum cleaners ^{vacuum cleaners} were influenced by	
market pull as people needed lightweight	
and easily stored ones.	
★ phone cases are influenced by market pull	
as they need to stay up-to-date with current trends.	
5c. ★ Any/all competitor products will be	
slightly different as they cannot fully	
copy your design.	
★ Your product is fully protected to	
ensure nobody copies your idea and	
attempts to take credit.	

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6a.	<p>* weight - some metals are lighter look extremely similar but feel different. e.g. steel and aluminium look very similar but aluminium is much lighter than steel.</p>
	<p>* colour - some metals have very distinct colours such as brass and copper. they are easily identifiable. e.g. brass is a yellowy colour and copper is an orangy/brown colour.</p>
	<p>* melting points apply heat - plastics can be identified by applying heat as thermosetting plastics have high resistance to heat. e.g. a thermoplastic such as polypropylene will melt and change shape when heat is applied however a thermosetting plastic such as Urea Formaldehyde will remain the same shape.</p>
	<p>* Corrosion - Ferrous metals are known</p>

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	to corrode ^{corrode} corrode and non-ferrous metals will ^{not} corrode.
	e.g. leave two metals in a condition to rust and a metal ^{which contains iron} such as copper will rust whereas whilst ^{one which doesn't} it will remain the same.
6b.	* thin walls
	* intricate detail.
6c.	* Gantt charts are used by production managers to track the progress of a product throughout the design & manufacture process. It will maintain good timekeeping and ensure it's on track.
	* JIT • is when materials/stock arrive only when they are needed to prevent overflow in storage. This keeps the process flowing productively and helps to maintain good timekeeping.

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7.	<u>Design:</u>	
	When a product is initially being designed	
	it is best suited for the target	
	market and different considerations are	
	made depending on who that may be.	
	If a product is for a child, they	
	need to use non-toxic materials as	
	to not harm them. ^{our environment} Along with recycled	
	and recyclable materials.	
	<u>Manufacture:</u>	
	consideration for the environment has	
	influenced ^{the} manufacture of products as	
	they use machinery which doesn't	
	produce harsh chemicals or gasses	
	which which eventually affect the	
	atmosphere.	
	<u>disposal:</u>	
	If a product is made from recyclable	
	materials it means it can be broken	
	down and remade into something new.	
	This ensures people are using using	
	their products for good and not to	
	contaminate the environment.	

