

Candidate 2 evidence

ENTER NUMBER OF QUESTION	DO NOT WRITE IN THIS MARGIN
1.	Playground sand digger:
a)	The use of tubular stainless steel is suitable as
	it will be easy to maintain. Meaning no damage
	or essences will ruin it.
	The textured ABS seat is a suitable material
	to use as ABS can withstand a lot of weight
	meaning anyone of any size can sit on it. The
	texture also allows grip and the user won't suffer
	from sliding.
	The nylon bearings are a suitable material to
	use as nylon is strong and sturdy meaning it
	will keep everything in place without any damage to
	the bearings.
	Garden digger:
	The mild steel frame is a suitable material as
	mild steel isn't that heavy making it easier
	for the user to move around.
	The rubber handles are suitable as it offers
	a lot of comfort and grip strength without the hands
	moving to excessively.

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b)	<p>A suitable process that would be used in the production for the diggers would be die casting. This is suitable because this allows the materials to be hollow with still a unique shape.</p> <p>Another process would be injection molding with the polypropylene and ABS seatings. This is suitable because it makes the product solid and durable while allowing it to also feature a textured pattern.</p>
c)	<p>The physiology of the Playground sand digger is the distance from the seat to the controls. The seat is placed at a good distance so the user can operate and not be uncomfortably close to the controls.</p> <p>The physiology of the garden diggers rubber handles is to fit the hand and make it comfortable while in use.</p> <p>The garden diggers seat also forms around the rear area of it's users. Making it more comfortable to rest on.</p>

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d)	

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2.c)	<p>A thermo setting plastic is suitable for these kitchen utensils as thermo plastic is heat resistant and won't melt or flake while in use. Thermo plastic is also easy to maintain as it has no texture and can easily be washed with no hassle.</p>
b)	<p>Compression moulding is a suitable process for these products as it allows the products to achieve the unique shapes i.e. curves. It can also allow the products to be thin but still very durable.</p>
c)	<p>The designers idea generation techniques that they may have used could be scale models. This means the designer could have used materials such as card or clay to achieve a physical product as a baseline.</p>

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3.c)	<p>A benefit of Standard Components is that they are already made, meaning the consumer can obtain the components easily and reasonably cheap.</p> <p>Another benefit is the consumer can get multiple different sizes of the components in case certain ones don't work.</p>	
b)	<p>A benefit of using CAD is that it gives the designer an idea of the ins and outs of the product before the manufacturing begins to see how it all goes together.</p> <p>Another benefit of CAD is that it shows how the product will look in 3D. Giving the designer a chance to see if they like it before wasting money on manufacturing.</p>	
c)	<p>Fully automated production processes can have a negative impact on labour workers. A fully automated production means labour workers won't receive any work and potentially end livelihoods.</p> <p>Another impact is productivity. Since the machines don't need shifts, they can work 24/7 with no breaks potentially rising productivity and being ahead of the competition.</p>	

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4-c)	<p>An advantage 3D printing has over the traditional manufacturing processes is time. 3D printing is much quicker than the traditional processes making it a good effective manufacturing process.</p> <p>Another advantage is that it's not nearly as costly as the traditional processes. This benefits the budgeting greatly as they won't need much for production.</p>
b)	<p>An appropriate method of carrying out research is checking the users measurements to make sure that the product fits their body well.</p> <p>Another appropriate method is finding out the mechanics of the prosthetic leg. Seeing how it should go together and work properly.</p> <p>An appropriate method would also be the design. Seeing how the designer can make it as comfortable as possible for the user to walk in.</p>
c)(i)	<p>A product design specification is so the designer knows what theme, colour scheme and target market the the product they're designing for needs.</p>
(ii)	<p>A technical specification is information about what materials and methods the designer should use in the production of the product.</p>

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5.a)	<p>The colour of the kettle is very appealing as it's not too vibrant but not too bland either. Involving some nice yellow and silver contrast.</p> <p>The overall design is visually appealing, following the traditional look of a kettle with hints of modernisation.</p> <p>The use of curves and triangular shapes also creates nice contrast but also allows good use.</p>	
6.	<p><u>Ergonomists:</u></p> <p>Their job is to make sure all the products can be used comfortably and make sure all the products are fit for purpose. Meaning they do test the products before the product is fully released.</p>	
	<p><u>Market researchers:</u></p> <p>Their job is to research the new trending things in the world to put them into future products to boost sales. Meaning they research key aspects of a certain thing to help the product.</p>	
	<p><u>Project managers:</u></p> <p>They're the ones in charge of certain productions deciding what is allowed and what is not. Meaning what they say goes.</p>	

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7.a	<p>(i) Texture is a good method to use when determining what material has been used. A lot of materials have distinctive finishes such as smooth or rough textures.</p> <p>Texture is another method to use</p> <p>A burn test is a good method to use when determining what material has been used. Whatever colour the flame goes allows you to know what material it is.</p> <p>(ii) Manufacturing features are used to aid an accurate and efficient assembly as certain features are specifically made to fit one and other. Meaning all products are made to fit each other.</p>	
b)	<p>Manufacturers can use other methods of production to help reduce the environmental impact such as sand casting. Sand casting allows the product to be made using a natural source causing less damage to the environment.</p> <p>Manufacturers can buy standard components to help the environment. By buying standard components they won't have to make them from scratch which means less impact.</p> <p>Reducing their carbon footprint could also impact</p>	

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	<p>the environment as they won't need to travel certain components to each other but instead just have them all together.</p>	
8.	<p>Sketch models can be used to effectively gather information during the design process as having the object in a 3D form allows you to determine how it looks to you if it's good or needs tweaked. This usually comes first in production. CAD model can also be used to gather information as it allows the designer to see how they'll build the product. Seeing what goes where and the support needed. This stage will usually appear after the sketch model.</p>	