Worksheet 5: Output devices

**Task 1 Comparison of printers**

1. Indicate whether each of the following statements applies to an inkjet printer, a laser printer or both

|  |  |
| --- | --- |
| **Type of printer** | **Steps** |
| **Inkjet** | Ink will smudge if still wet |
| **Inkjet** | Cartridges will dry out if not used for a while |
| **Laser** | More expensive to buy than the other type of printer |
| **Inkjet** | Cost of printouts is more expensive per page than the other type of printer |
| **Laser** | Very fast printing speed |
| **Inkjet** | Cheap to buy |
| **Laser** | Uses dry ink toner |
| **Laser** | Commonly used in businesses for high quality printing |
| **Both** | They can combine black and white and colour printing at the same time |
| **Inkjet** | Ideal for low volume home use when quality does not need to be perfect |

2. Which printer (inkjet, laser or dot matrix) do you think is the most suitable choice for each of the following applications?

**A** – Producing one-off high quality photographs

inkjet

**B** – Printing 2-part picking lists in a dusty warehouse

**Dot matrix**

**C** – Producing invoices where three copies are required

**laser**

**D** – Producing 5000 high quality colour flyers

**laser**

**E** – Printing labels directly onto CDs

**Dot matrix**

**Task 2 3D printers**

Find four different applications of 3D printers. Explain why 3D printers are used in each of the applications you name.

One application of 3D printers is for making prototypes, for example you want to test if making a car part in a certain way would fit into the car properly or if it doesn’t fit and is too heavy or too large. You can use 3D printers to make something of the shape, and see if it fits in nicely or cant be put in and is too large or too heavy.

Another application is for art and entertainment. If for example you want to display a cool piece of artwork to give people the idea that was made by an artist, but don’t want to put the actual piece of work on display since it might get stolen, you can make a plastic prototype with a 3D printer so people can see a copy that visually looks the same just to show them.

Another application is tools, for example if you want to make some tools that don’t need to be super rigid, like for example a container, instead of spending a lot of money on resources to produce one, you can just use a 3D printer to produce ones that are easier to produce and also cheaper to produce since cheaper resources are used.

One more application is for making prosthetics. Prosthetics can be very expensive to make, using 3D printers you can make prosthetics that function as normal prosthetics should, at a huge reduction in cost, allowing more to be made so it is available to more people since there are both more in stock, and cheaper due to cheaper materials.

**Task 3 In-car entertainment screen**

You have been asked to design a new in-car entertainment screen aimed at keeping young children in the rear of cars occupied on long journeys. The screen may, or may not be incorporated into the rear of the front headrests.

What type of screen would you recommend, and why?

During a car ride, there might be bumpy roads which can cause damage to screens or potentially smash them. Since the car moves a lot, it would be a better idea to go for OLEDs, organic LEDs, this is because they are flexible and made of plastic. If they bend they don’t break easily and even if they do, it’s a plastic screen which is a lot less dangerous than the glass screens the are equipped by LCDs. They also don’t produce a lot of heat so wont and don’t consume much power, allowing for efficiency and reduced risk of fire hazards.