Lesson 20 – Activity Sheet

Getting Started

Today’s session is about understanding the basic principles of mechanical engineering. We need to look at the materials we are using and decide are they the best material for the job? We need to consider tis from both a mechanical / structural perspective and an ethical standpoint.

Success Criteria

* Identify the materials to develop our self-driving car
* Take into consideration the safety of the occupants and pedestrians in the material choices
* Choose materials for wheels taking into consideration friction and grip

Pro-tip

* Ensure you consider how you will join materials together and which adhesives are best suited for the materials and the environment of use.

Test Time

* Have you chosen and justified a material for the body shell?
* Have you chosen and justified the use of fixing components and adhesives?
* Have you completed times tests on different materials and dimensions for wheels over a 1m straight?

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| **Material** | **Dimension** | **Time** |
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Stretch Tasks

* Present your groups findings to the class
* Consider how countries recycle electronic goods
* Write a short discussion of the rights and wrongs to recycling

Final Thoughts

* During today’s lesson we have looked at mechanical engineering in relation to building the mechanical components of our self-driving car. We have looked at the different materials, their properties and the adhesives available to us. We have also discussed the product life and considered why manufactures may wish is artificially shorten a products lifespan