Design in Engineering…Where to start?

This resource was developed as part of the Autumn Webinar 'Design in Engineering … Where to start?' which took place during the 2021/2022 school year. All materials used during this webinar can be viewed in the Technologies section of www.jct.ie within the Elective Workshops section of the Engineering CPD Supports. Click on the link below to access those materials.

Link:https://www.jct.ie/technologies/cpd_supports_engineering_elective_workshops#DesigninEngineeringWheretoStart?

The design challenges showcased during this webinar focused on how the JCt4 associates developed research, analysis, and investigation techniques with students. The associates planned around a design theme for their students, with their school context in mind. They reflected on what they learned and outlined changes they may make for future learner experiences. This resource can be viewed as a stimulus to generate student research in Junior Cycle Engineering and may assist a teacher to plan and develop materials suitable for the Engineering classroom.

What is included in this PDF?

Included in this document are strategy sheets which build on the same techniques for research, investigation and sketching as seen in the webinar. Throughout the webinar the strategies focused on the students developing key skills to engage in effective research for design.

2021 Webinar

A big thank you to the JCt4 associates for their commitment and involvement in making this resource available to the JCt4 Engineering team

Note: It is recommended that the 2021 webinar materials are viewed in conjunction when using this resource to contextualise the resource and to develop a better understanding of how these resources were developed.

 See	 Think	 Wonder
What do you **see**?	What does it make you **think**?	What does it make you **wonder**?

See-Think-Wonder: This activity encourages students to reflect and make observations individually and collaboratively. It helps stimulate curiosity and sets the stage for enquiry. The associates used this resource to support students to analyse a partially completed trike and gather information to inform possible designs. The students completed the 'See' column first, before moving to 'Think' column, and then the 'Wonder' column. The activity culminated in a class discussion to assess learning.

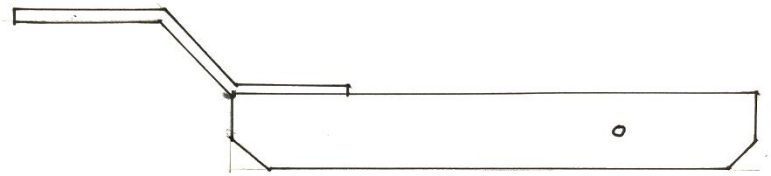
Design Theme:

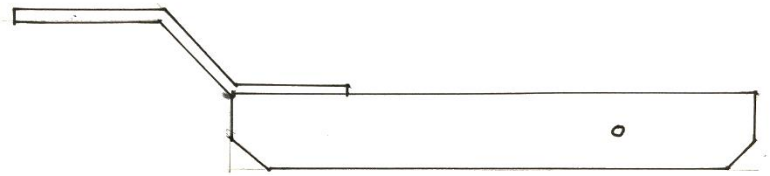
_____

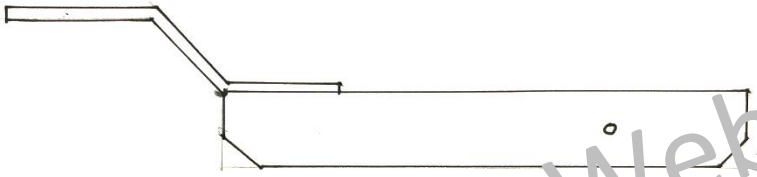
Design theme mind-map: This mind-map was used in the activities presented during the webinar. The associates previously used the See, Think, Wonder activity to analyse the partially completed trike and agree on a design theme for the class. This mind-map facilitated and recorded the explorations that the students undertook in deriving modifications to be made to the trike.

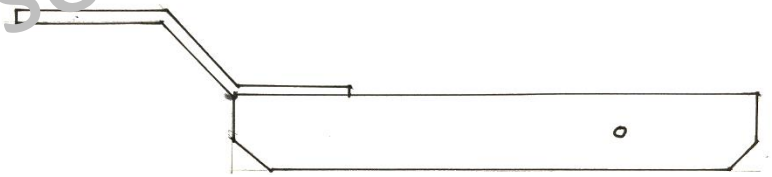
Activity – Create sketches to show how the existing trike chassis can be modified to build a_____

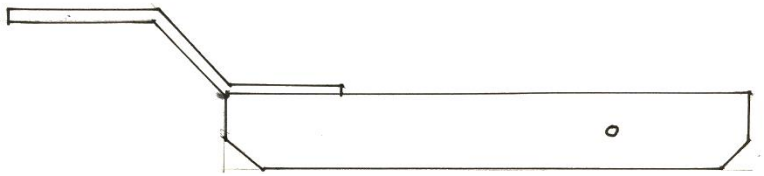
This sheet will inform your prototype, final idea selection and working drawing.

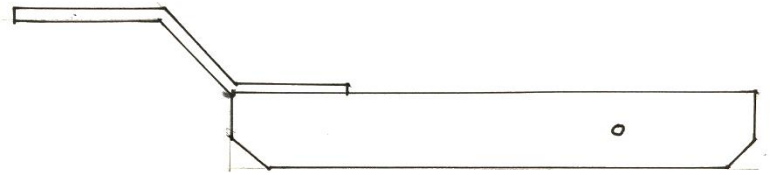


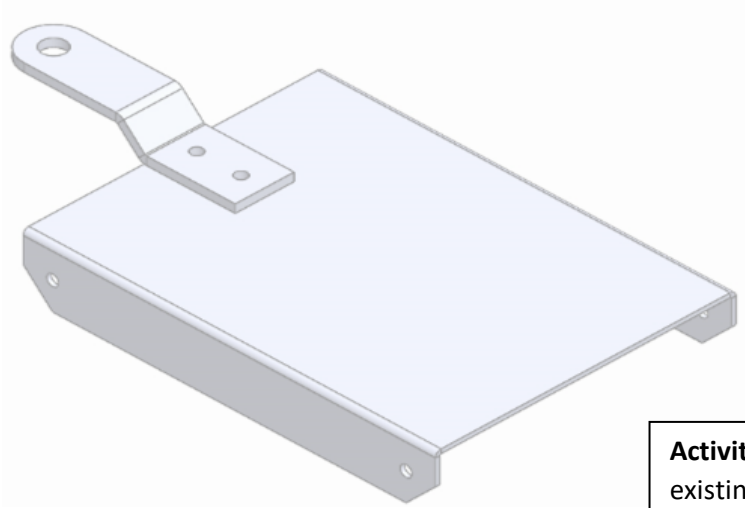


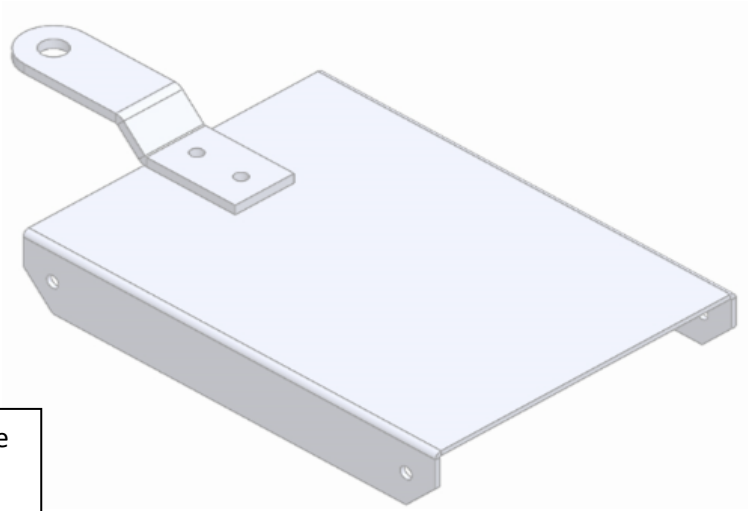












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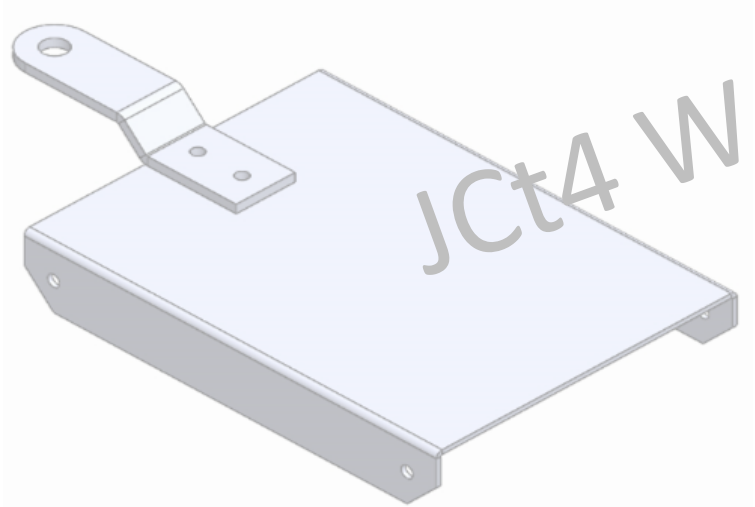

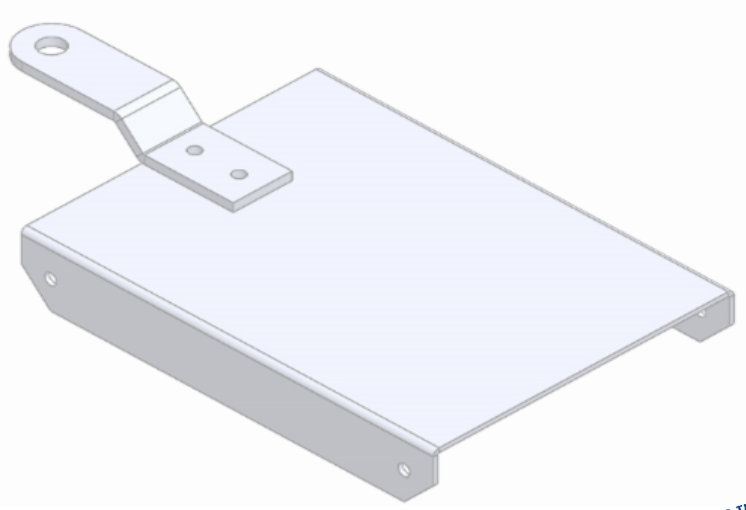

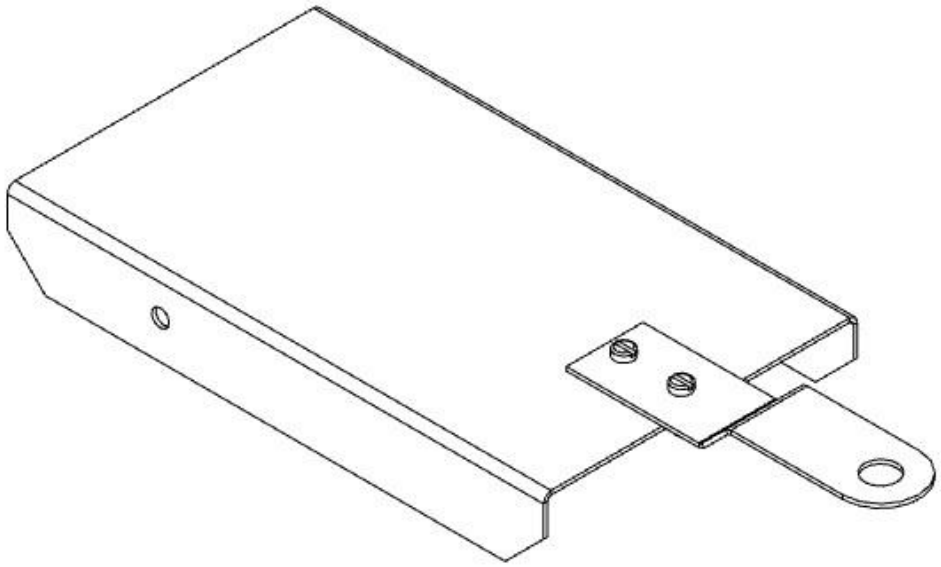

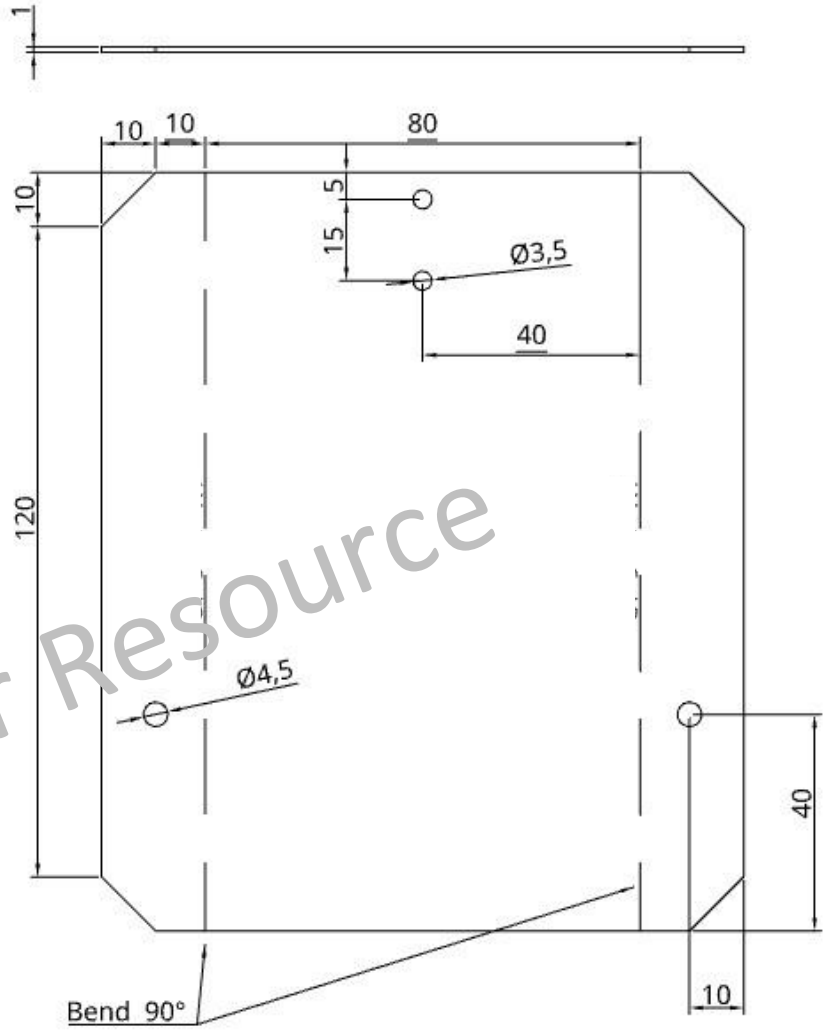

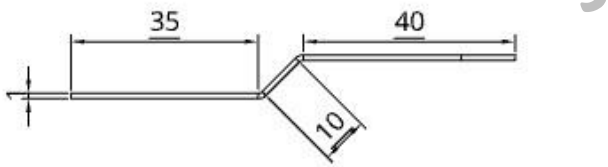

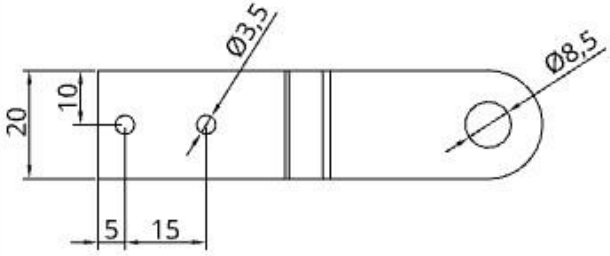

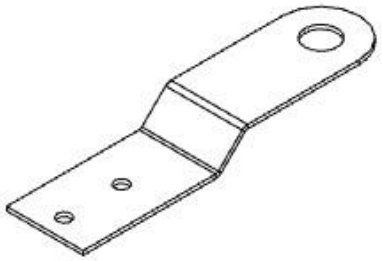

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TRIKE CHASSIS

Design in Engineering: Where to Start...?

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SCALE 1:1		SHEET 1 of 1