

Paper Engineering – Lesson 5

Bringing paper to life, from 2-Dimensional to 3-Dimensional



Project Learning Objectives:

To create a 3D pop-up book suitable for a small child.

Week 1	Week 2	Week 3
Analysis of Pop-up books. Have a go at some basic pop-up techniques.	Explore the essential techniques for accurate pop-up. Continue to have a go. Introduce variations of pop-ups.	Using knowledge learnt so far, introduce mechanisms. Know the difference between them.
Week 4	Week 5/6	Week 7/8
Discuss key criteria for a good story or pop-up book. Plan the story using a storyboard.	Evaluate the story plan so far. Start to make the pop-ups and mechanisms for all the pages.	Finish the pages, with text and decoration. Create the cover and assemble the finished book.

Success criteria:

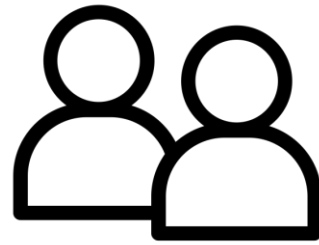
- ▶ (SC1) I can explain advantages and disadvantages of pop-up books
- ▶ (SC2) I can identify advantages and disadvantages of making 3D shapes from flat sheets.
- ▶ (SC3) I can describe how folding a flat (2D) sheet of paper makes it a 3D object.
- ▶ (SC4) I can describe how different cuts and folds can make different 3D shapes.
- ▶ (SC5) I can make a pop-up designs following instructions.
- ▶ (SC6) I can make a pop-up designs from a blank piece of paper.
- ▶ (SC7) I can identify the difference between pop-ups and mechanisms
- ▶ (SC8) I can create a short, fun story and make it into a pop-up book.

Introduction



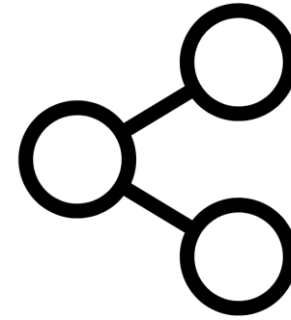
Think

Think about your story you have planned, and the pop-ups and mechanisms you have used.



Pair

Explain your story and plans to your partner / small group.



Share

Can you share what you have discussed, and any improvements suggested?



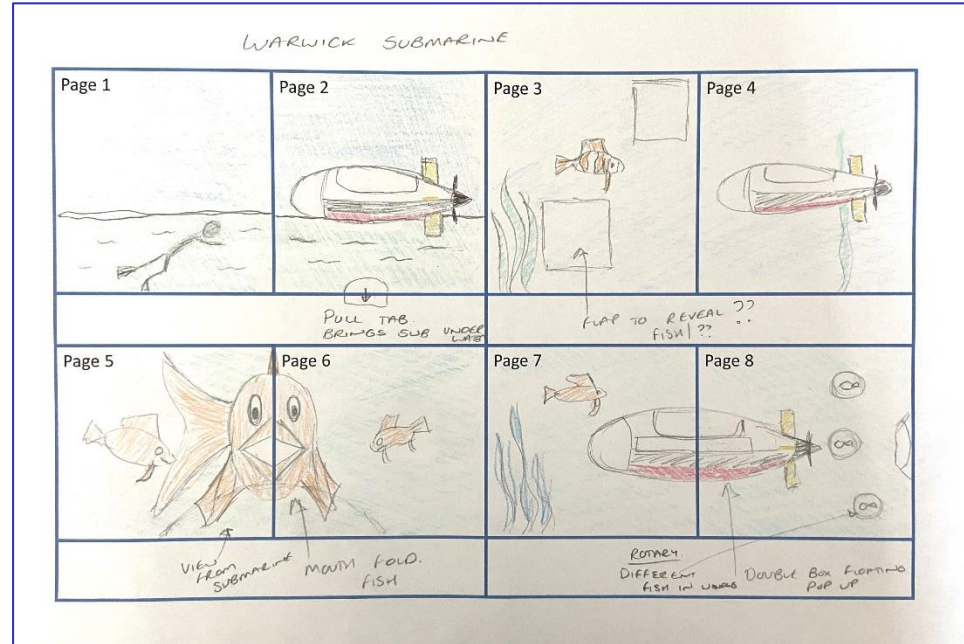
What went well:



Even better if:

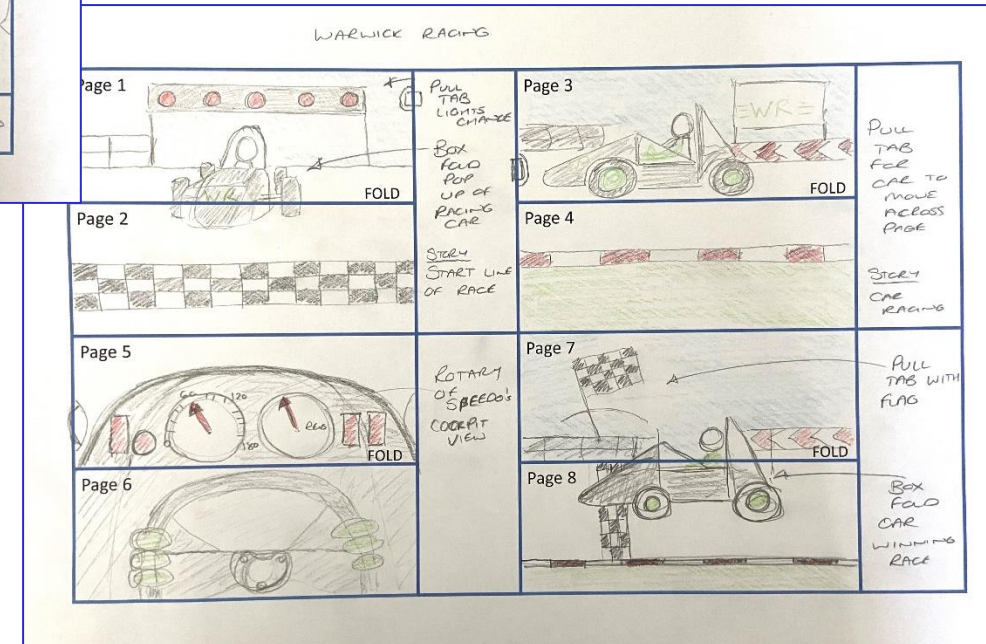
Creating your pages

Start making the pages for your book, create the pop up / mechanism first, get all the pages completed with any pop-ups and mechanisms, then add decoration, extra parts etc.



IS IT PORTRAIT OR LANDSCAPE?

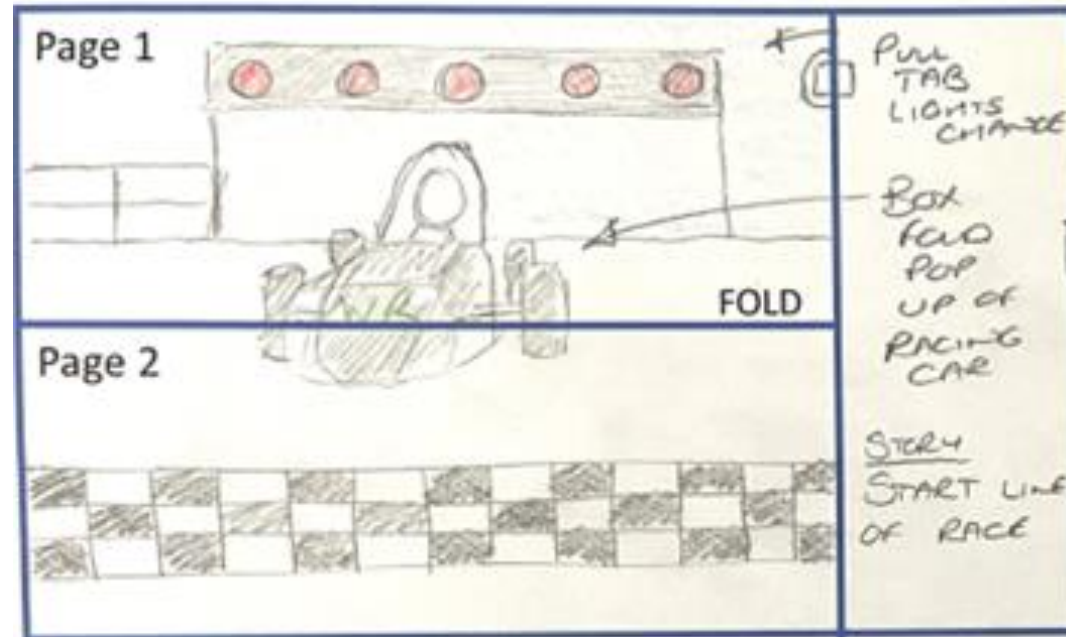
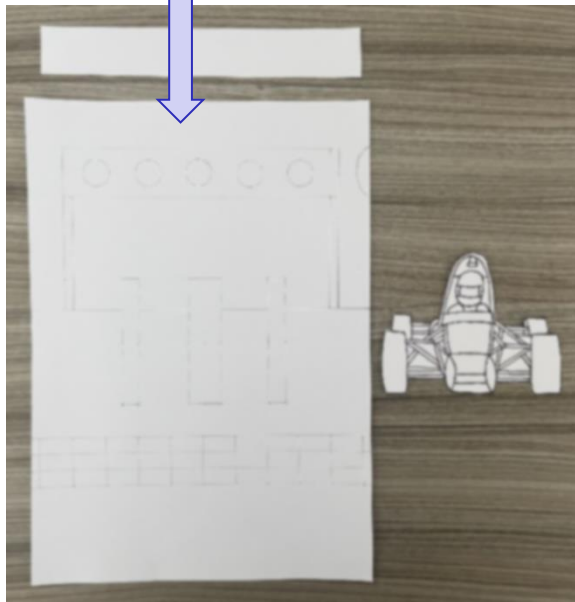
WHERE WILL THE POP-UP OR MECHANISM BE PLACED?



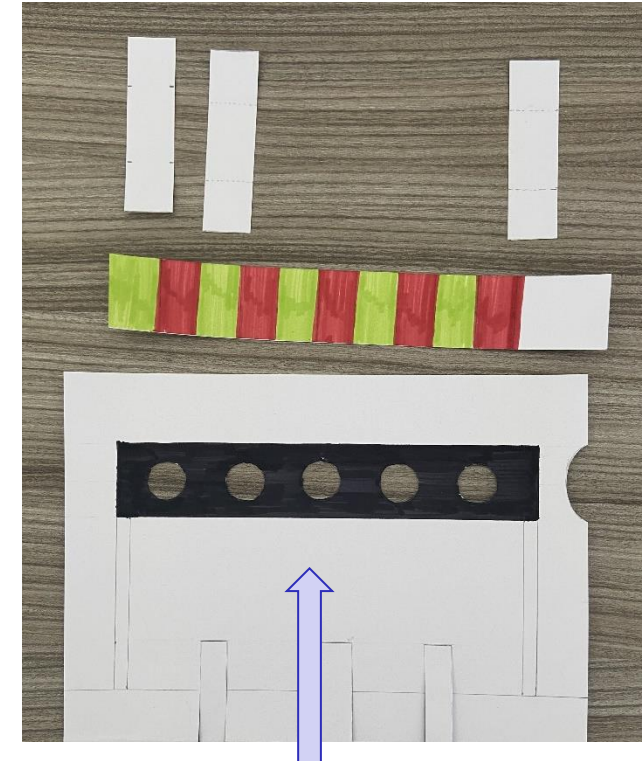
Creating your pages

Plan out where the pop-up or mechanism is going to be on the page, is it on one side or across the middle fold?

Mark out in pencil where everything will be positioned on the page



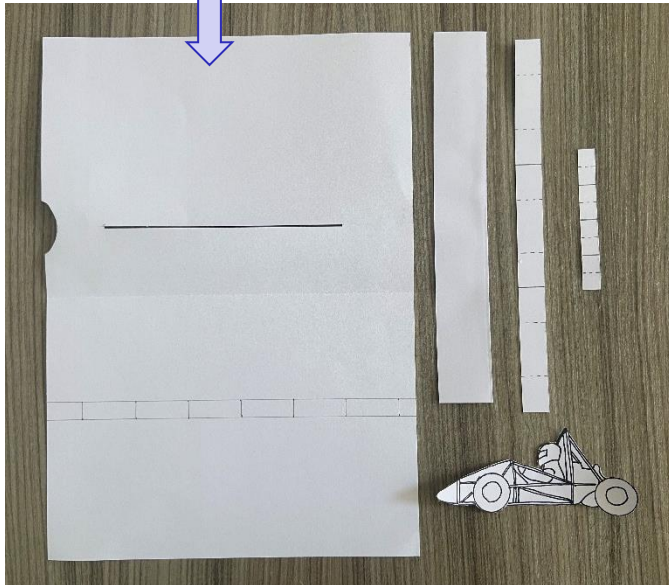
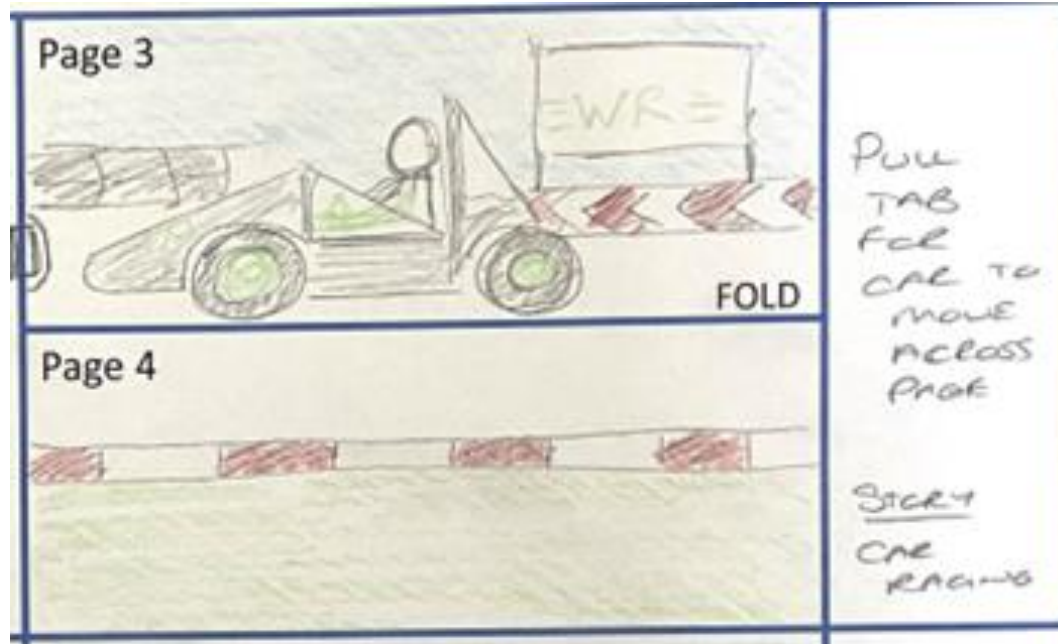
Drawn image for the centre pop-up



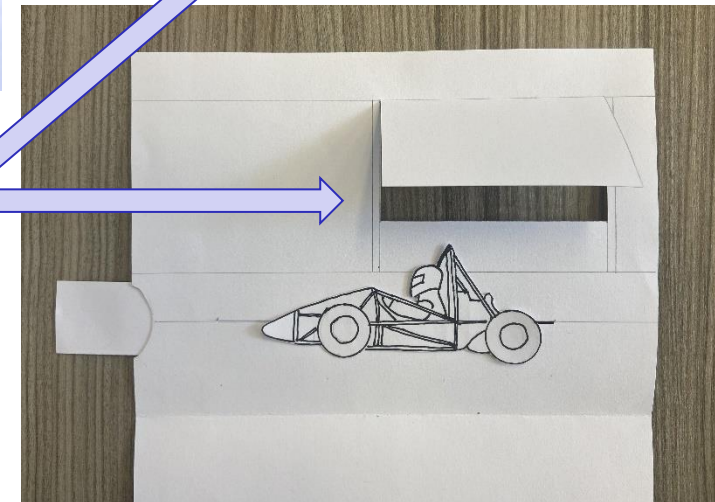
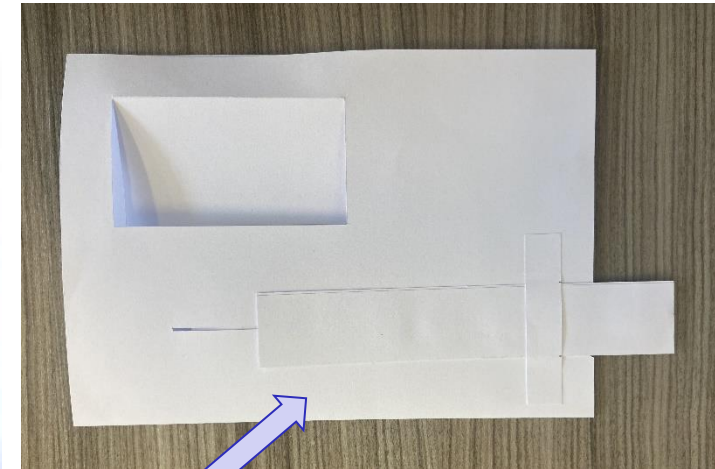
Cut out areas for the lights pull tab and all parts for this mechanism, coloured these in ready for assembly.

Creating your pages

Mark out in pencil where everything will be positioned on the page. Cut out extra tabs and images for the mechanisms.

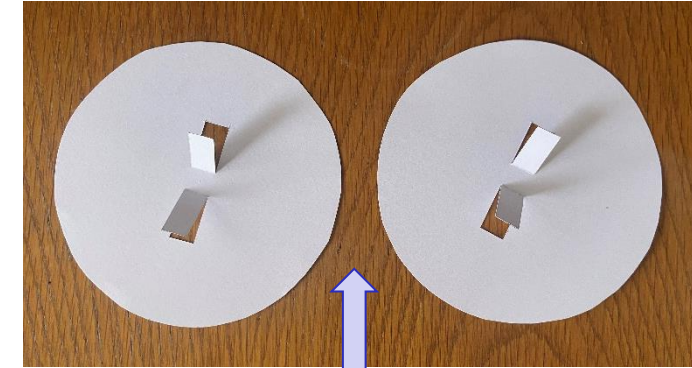
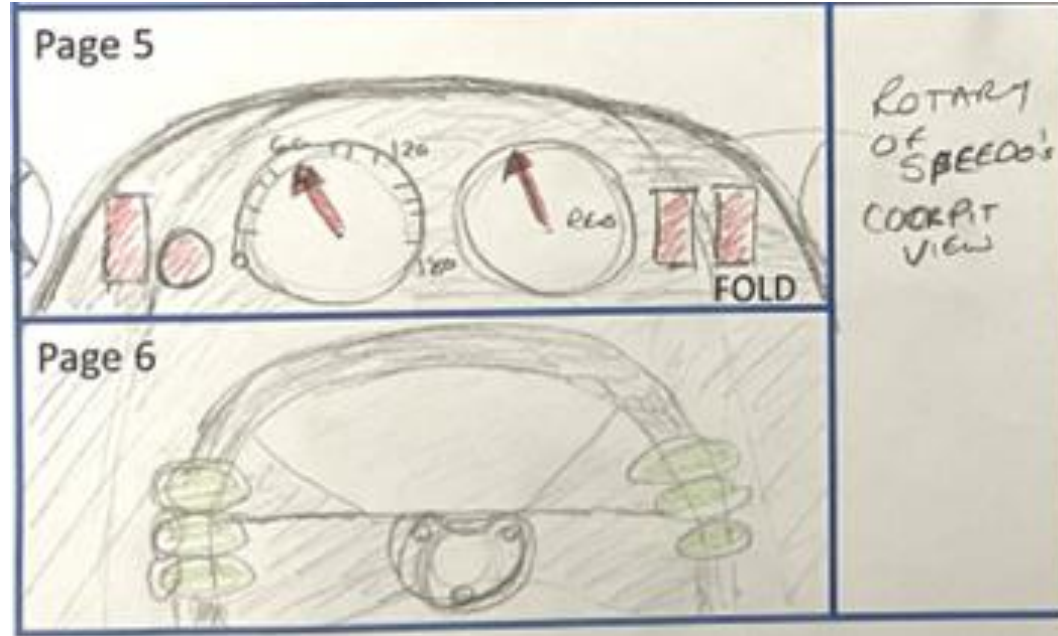


Assemble the sliding mechanism and cut out the lift up flap.

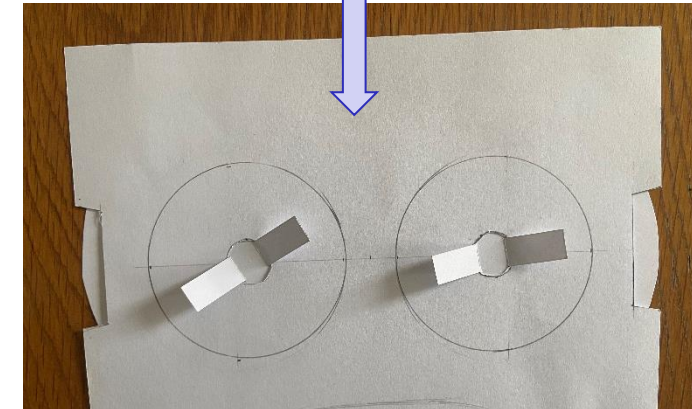
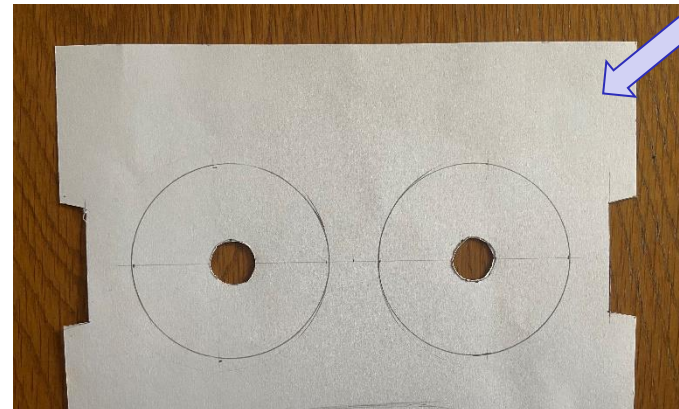
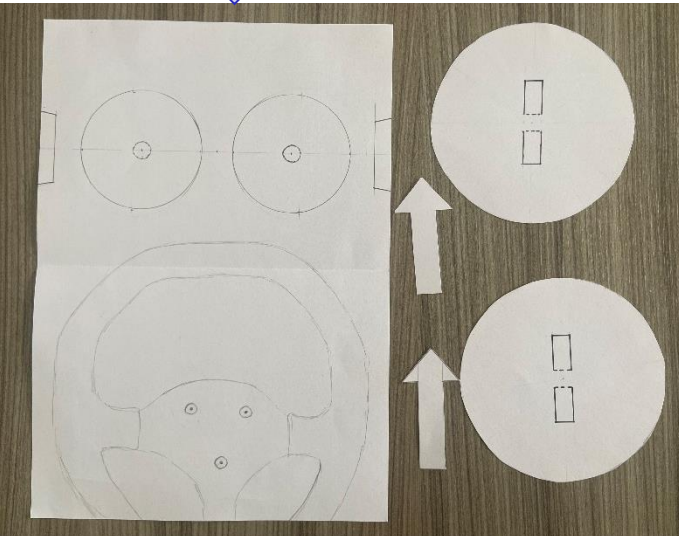


Creating your pages

Mark out in pencil where everything will be positioned on the page. Cut out extra tabs and images for the mechanisms.

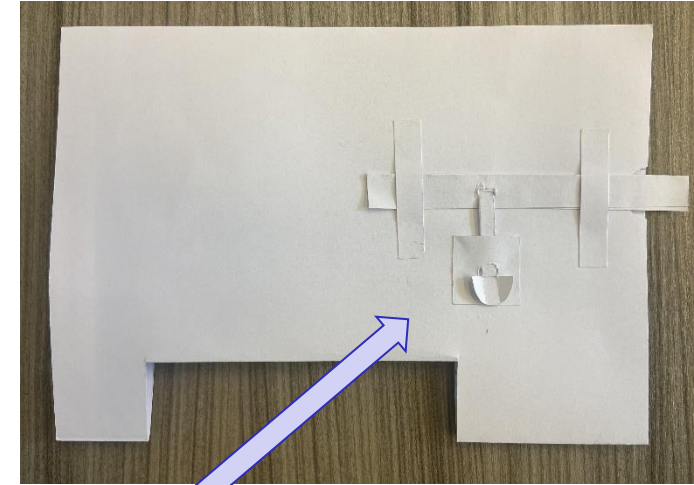
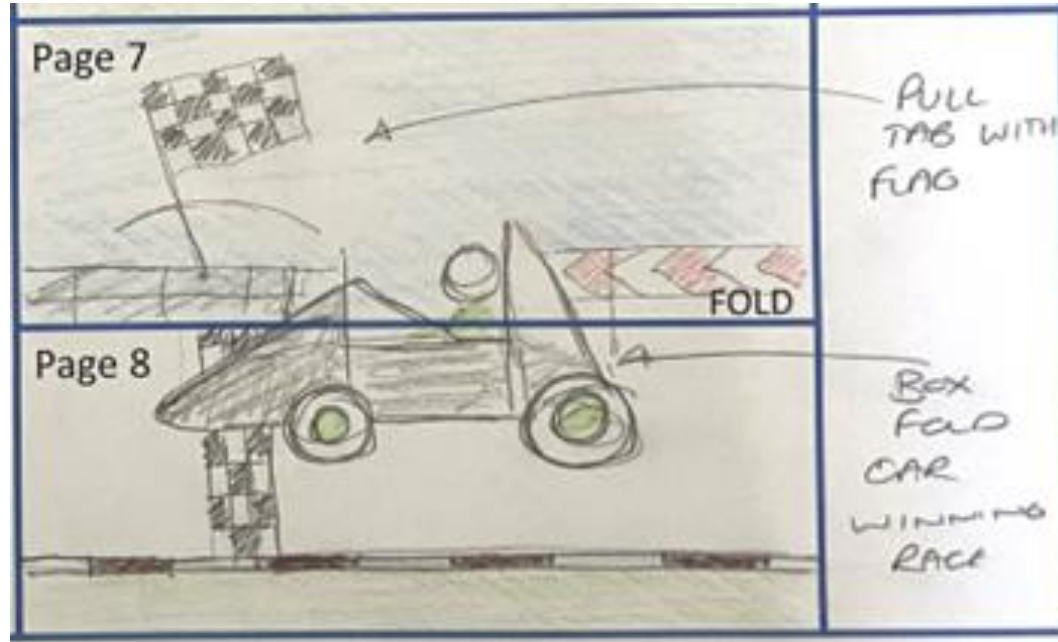


Assemble the mechanisms for rotating dials

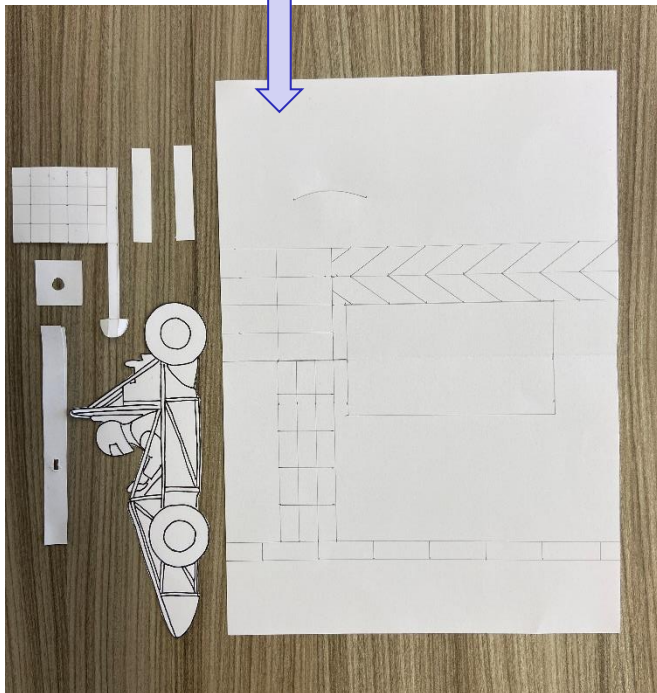
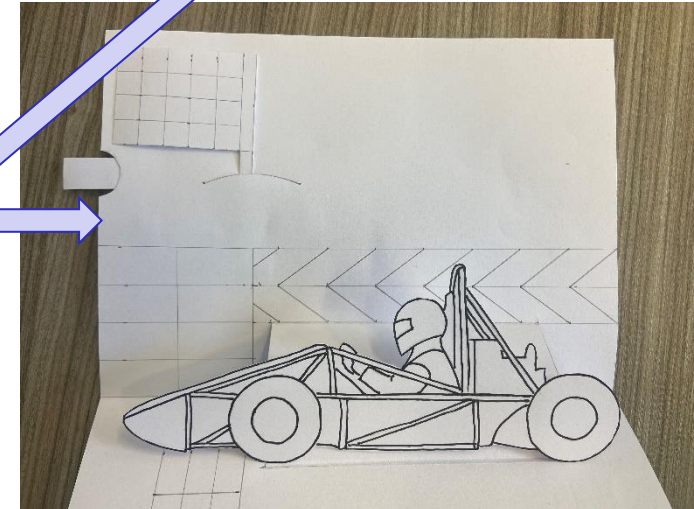


Creating your pages

Mark out in pencil where everything will be positioned on the page. Cut out extra tabs and images for the mechanisms.

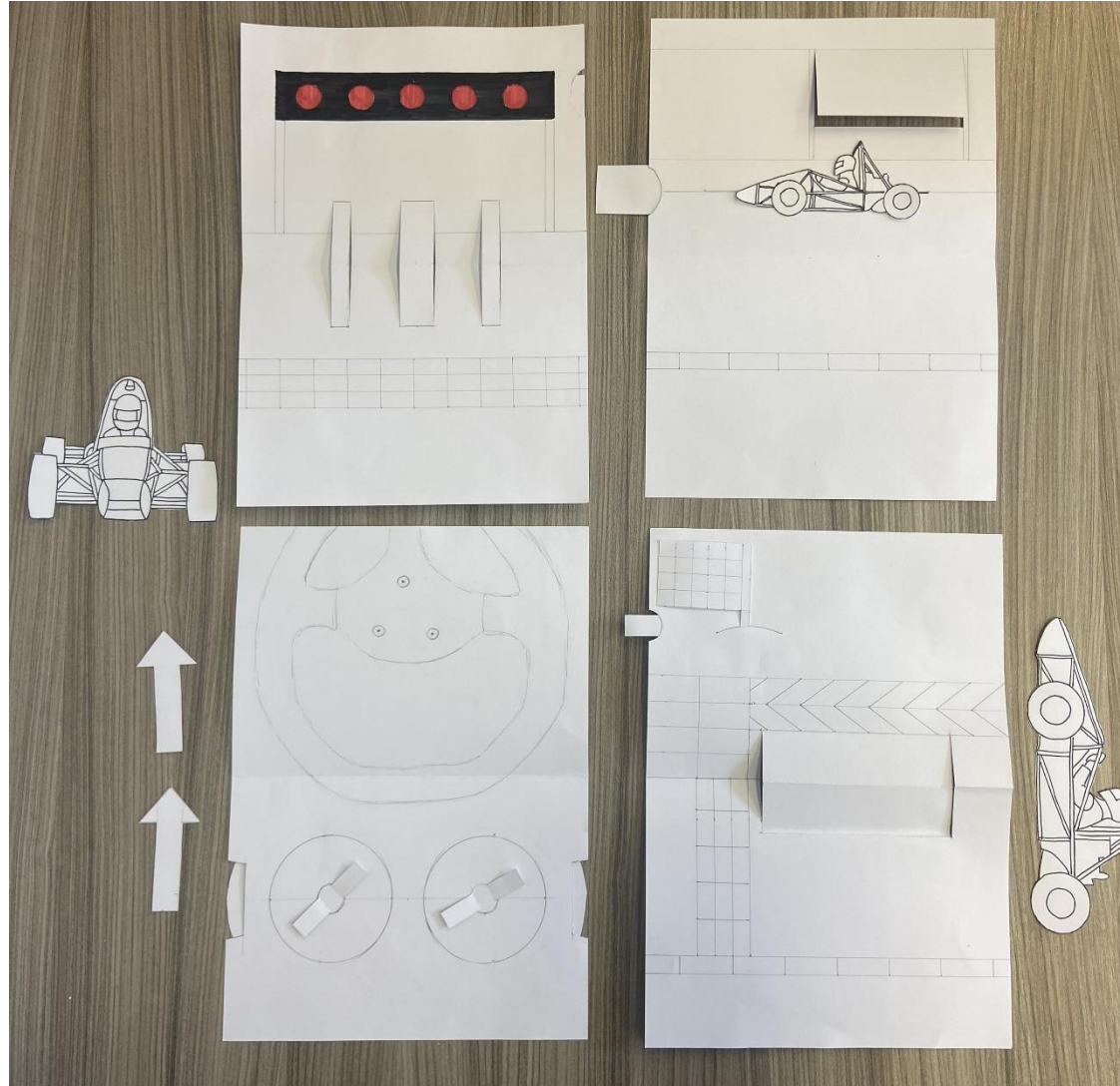
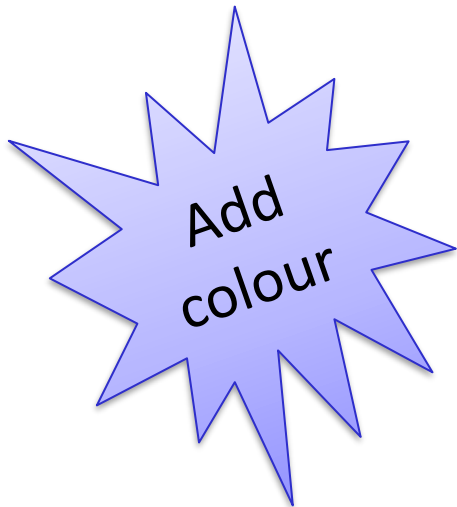


Assemble the mechanisms for the waving flag

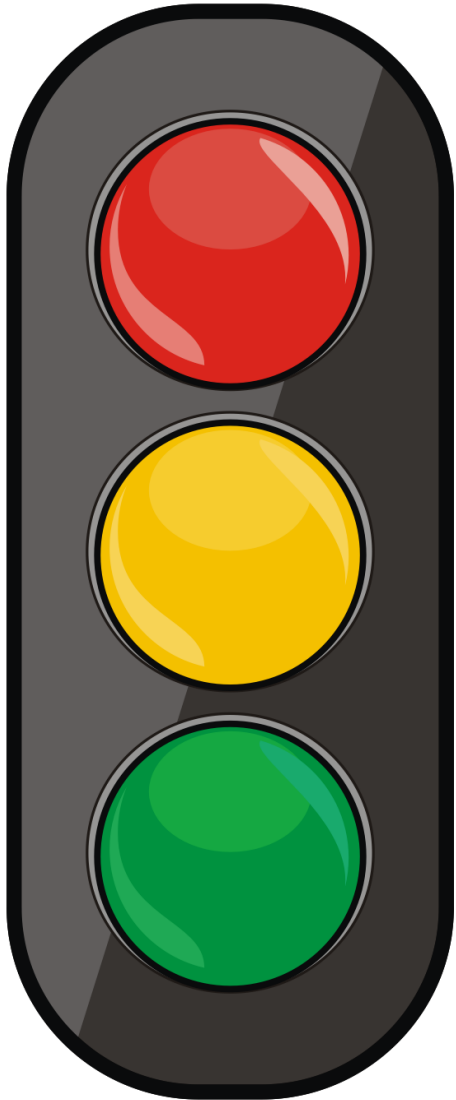


Creating your pages

Now all your pop-ups and mechanisms are made for all your pages, it is time to decorate and assemble them.



Assessment



Still need to finish some pages, not all pop-ups or mechanisms are complete.

Finished planning all pages, making all pop-ups and mechanisms required.

Finished planning all pages, making all pop-ups and mechanisms. Have started assembly and decorating.