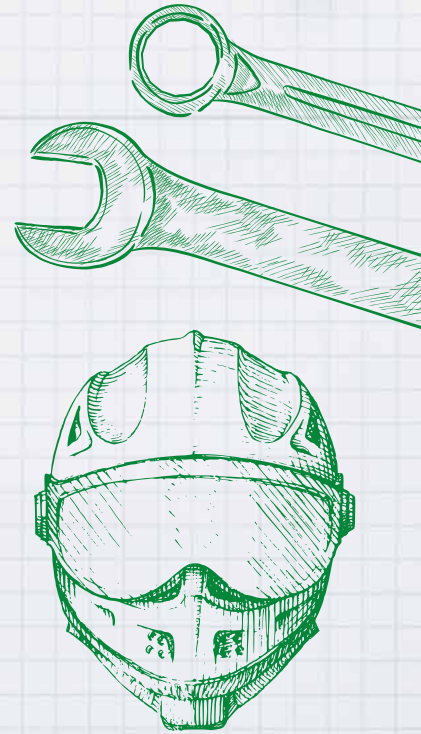# GREENPOWER

GOBLIN PORTFOLIO GUIDE

GREENPOWER EDUCATION TRUST

National supporter

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YOUR GREENPOWER PORTFOLIO

GUIDE FOR FORMULA GOBLIN

A portfolio is a record of your journey throughout your project, from the early stages of fundraising, to designing, building, testing, fine-tuning and finally racing your car, if you haven't raced yet, you can explain what you want to achieve when racing.

This is a guide which explains how to structure your portfolio so that you can make the most of recording your Greenpower experiences.

WHY MAKE A PORTFOLIO?

- It will highlight the skills that you have learnt throughout the Greenpower project
- All portfolios gain points for the team on race day
- The best portfolio at each event receives an award from Greenpower

LINKS TO MY LEARNING?

We are sure that you are going to learn so much throughout the Greenpower project and you will soon be expert engineers.

This project will help you learn about forces, aerodynamics, properties of materials, and the relationship between mass and acceleration. You can also develop your IT skills using Design software and of course you will have to use your Engineering skills when building your car. Make sure you include your learning in the portfolio.

SUBMITTING YOUR PORTFOLIO

If you are entering your portfolio for the portfolio award at an event, simply bring it with you on race day and take it to Race Administration when you sign in. It will then be judged during the day by our independent judging team. They'll ask you if they have any questions or want to find out more.

HOW TO SHARE YOUR PROJECT STORY

You can show all your hard work throughout this project in your portfolio in lots of different ways. Keep a record as you go so you remember everything that happened during your project.

Photos - Did you have to solve any problems during the project? Did you work as a team? Greenpower would love to see photos that show engineers hard at work, whether they show your team designing, building, racing or even fundraising.

Certificates & Awards - Did you win any awards from school for your commitment to the project? Maybe you were lucky enough to win an award at a previous race day. Make sure you include it, and explain why you won it!

Videos - A video can be a good way of showing your achievements. Ask your teacher to help you with this and make sure you have permission before uploading anything. (Add a link/QR code to your portfolio to link to any videos you have)

Written Work - You can include diary entries, create a poster or even write a news article telling the world how you tackled this project.

CAD – Have you been able to develop your I.T skills during your project? Perhaps whilst creating this portfolio or using design software to help create your cars bodywork? Save images of your work or take screen shots and share it in your portfolio. (See **page 6** for information on free software for schools).

Testimonials - Did anyone you worked with comment on the brilliant work you had done? Maybe it was a parent, friend or teacher. Be sure to include their thoughts too.
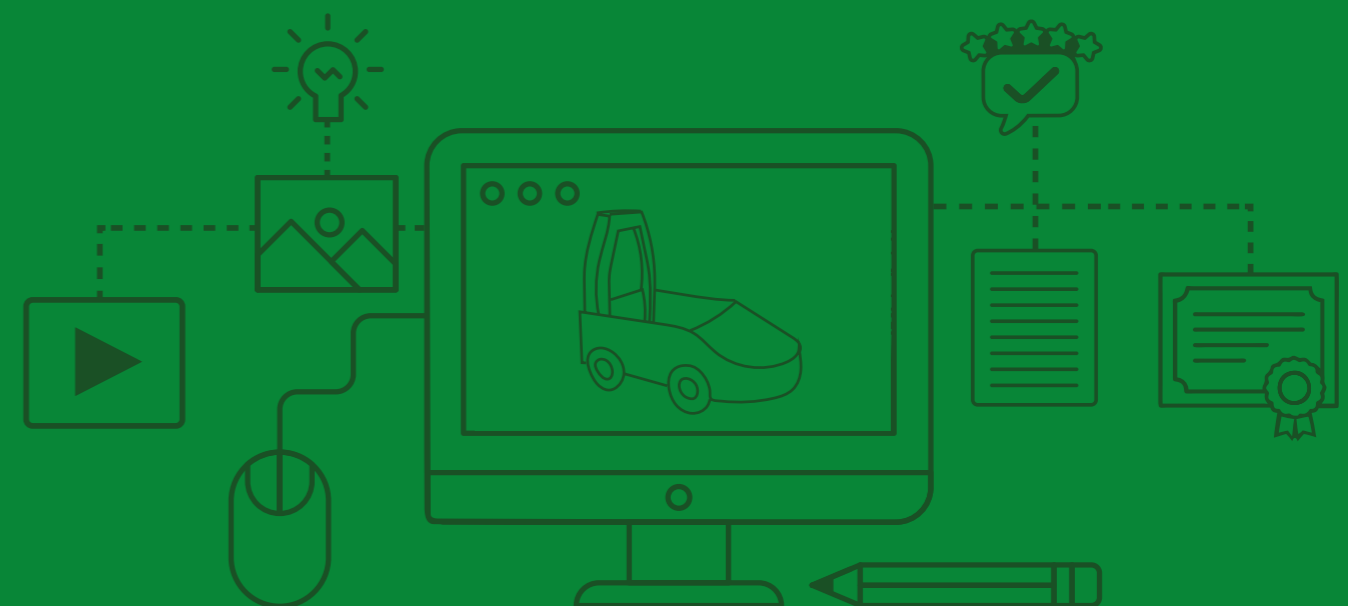
IDEAS FOR SECTIONS TO INCLUDE IN YOUR PORTFOLIO

TEAMWORK

How did you work together as a team? Did you split up different jobs? How did you make decisions as a group, and did everyone get a chance to share their ideas.

FUNDRAISING

How did you raise money for your Greenpower project? Did you organize events or ask for donations? Describe what you did to support your team financially.

SUSTAINABILITY

How did you make your car more sustainable? Consider the materials used for the bodywork, could they be recycled or eco-friendly? Did you think about ways to save energy or reduce waste in your project?

ENGINEERING

What did you think about when designing your race car? How do things like speed, shape, and weight affect it? What can you change to make your car go faster or perform better on race day?
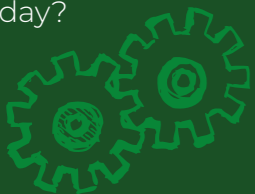
GRAPHICS

What's important when designing graphics for a race car? What details need to be included, such as sponsor logos or colours? Did you find any examples you liked, and how did they inspire your own design?

MODELS

How did you design the bodywork of your car? Did you make any 3D CAD or mini card models of your car to test out how it will look?

TEST DAY

Did you have a test day for your car? What did you test? Speed, handling, battery life? What did you learn from the test? Did you need to make any changes to the car after testing it out?

RACE DAY

Have you raced before? If so, how did it go? What did you learn, and did you make any changes for the next race? If you haven't raced yet, what are you planning to do on race day to make it successful?
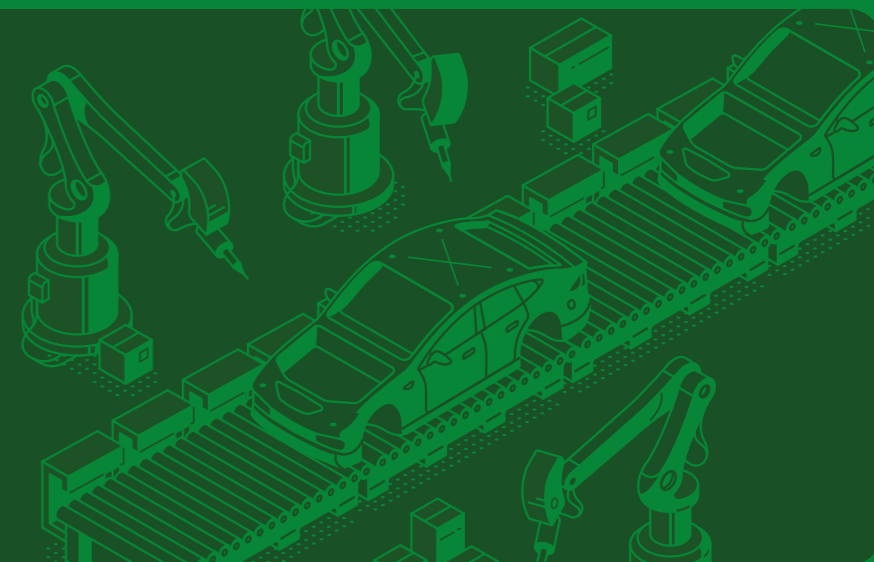
PROBLEMS?

Did you face any challenges in your project? What were they, and how did you solve them? Describe how your team worked through any difficulties to keep the project on track.

RESEARCH INTO STEM CAREERS

COMPANIES

Visit a local company where they make products for industry, for example a car manufacturing plant, or invite them in to talk to your class. What considerations do they need to make when designing and making products? How might this apply to your Greenpower project?

CAREERS

Research into Careers in STEM. Are there any roles in the industry that you would like to do when you are older and why?

STEM stands for Science, Technology, Engineering, and Math. People in STEM careers use their skills to solve problems, invent new things, and improve the world. For example, engineers design things like cars and bridges, scientists study plants and animals, and computer programmers create video games and apps. There are many different STEM jobs, so whatever you're interested in, there's likely a STEM career for you!

HELPFUL INFORMATION

FREE DESIGN SOFTWARE FOR SCHOOLS

SketchUp for Schools—3D modeler available to use in a web browser for any Primary or Secondary school signed up with Google Workspace for Education or Microsoft Education (which are also free for schools).

Tinkercad—Learn how to 3D model. Create 3D digital designs with online CAD

**Affinity**—Photo editing, Graphic design and illustration software.

Canva—Graphic design and Video editing software.

Adobe Express—Good for making visual reports, also includes Premiere Rush for video editing and Photoshop express for photo editing.

CREATING A MINI-MODEL

Create your own or use the flat net opposite (Page 7) to make a mini-model of your car.

On race day you will be given a large circular race number sticker, as well as sponsor logo's from various companies who support the Greenpower Education Trust so consider where these will go whilst you are designing your graphics.

CUT
FOLD
STICK

Bonnet

Roll cage

Front

side · Floor

side

Back
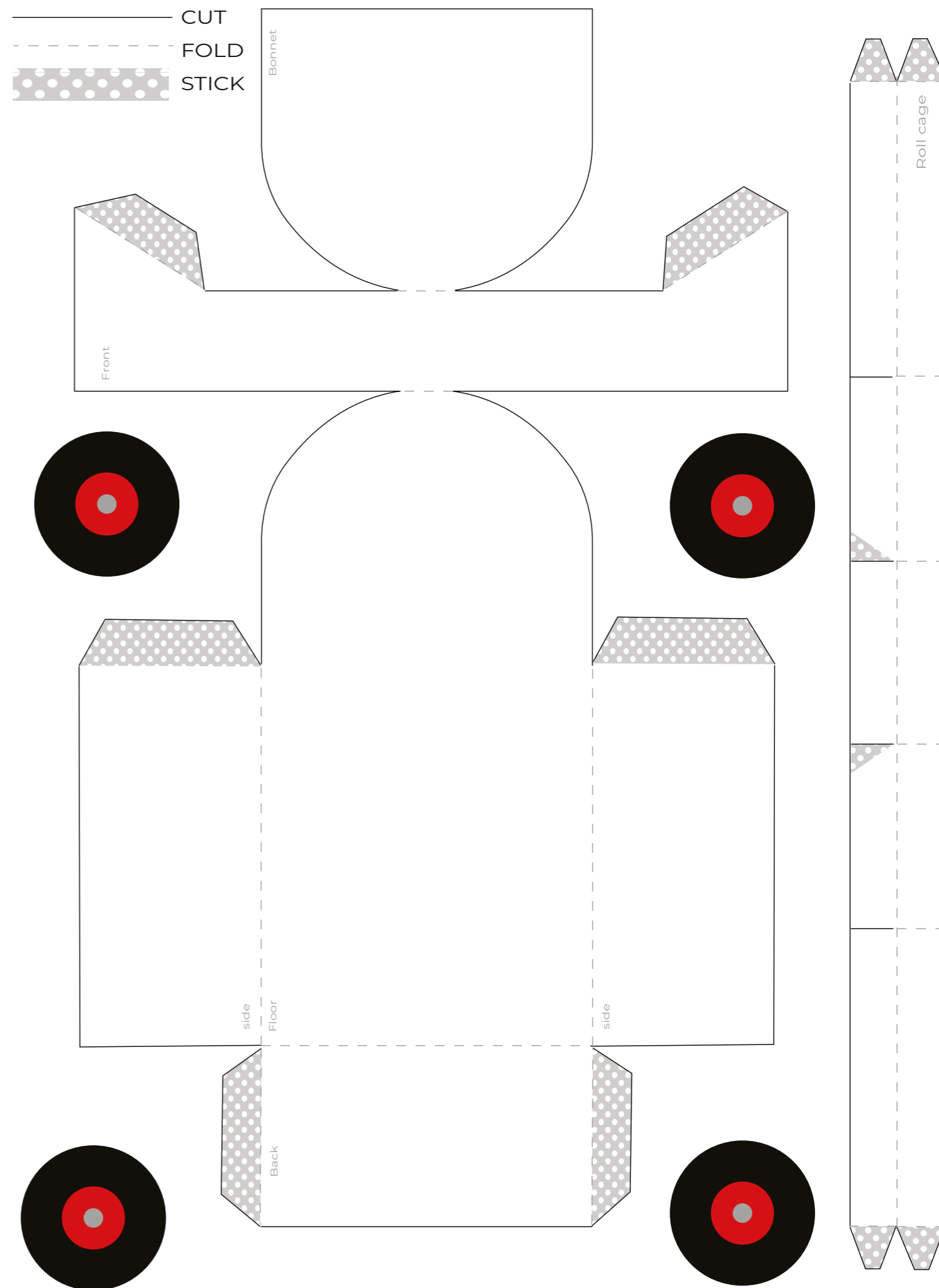
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MORE INFORMATION

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