



WILD CREATIONS

CREST Discovery Day

Teacher's Guide



Llywodraeth Cymru
Welsh Government

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Introduction

Inspired by a giant rugby ball bursting out of Cardiff Castle for the Rugby World Cup in 2015, Wild Creations has been designed to help teachers run an engaging CREST Discovery Day activity for 10–14 year olds on the theme of Culture and Heritage, with funding from the Welsh Government.

CREST is a UK scheme for 3–19 year olds which recognises success, builds skills and demonstrates personal achievement in science, technology, engineering and maths (STEM) project work. CREST Discovery Days offer a great introduction to this project work. They take one school day to complete and are ideal for classroom, club or youth group activity days.

This document, along with the accompanying resources, form a step-by-step guide to make running Wild Creations easy and straightforward.

If you would like your students to achieve a CREST Discovery Award to recognise their participation in this activity, you will need to register your students. Please visit www.crestawards.org for information about registering online or speak to your CREST Local Coordinator before the event.

If you do not wish to register for the full CREST Discovery Award, you can still use these activities and resources.



Getting started

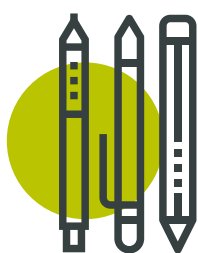
Wild Creations has been specifically developed to meet the CREST Discovery Award requirements. By undertaking the activity and completing the reflective CREST Discovery Passports, all your students should be able to achieve an Award. You can find out exactly how the day fits the Award criteria in **Appendix C**.

The challenge

Wild Creations is an exciting hands-on activity day, aimed at encouraging teams of students to engage with the challenge of designing and building a Wild Creation.

What is a Wild Creation?

A Wild Creation is an indoor or outdoor sculpture that reflects an aspect of the students' culture. Inspired by the giant rugby ball created for Cardiff Castle for the 2015 Rugby World Cup, Wild Creations are about inspiring students to use their imaginations, dream big, and discover that they can create just about anything they put their minds to!



Students will:

- Develop a concept for their own Wild Creation
- Decide on a location and draw scale plans for the location
- Build a scale model of their Wild Creation
- Develop an idea of how to market their project
- Create a detailed budget for the cost of building such a structure

As part of the day, you will divide your students into teams of 5–6 pupils (max). Each team will need the following:

- 1 x Project Manager
- 1 x Finance Manager
- 1 x Design Engineer
- 1 x STEM Researcher
- 1 x Graphic Designer
- 1 x Marketing Manager

Top tips

- When considering timings, start with the end of your school day and work backwards
- Consider the timings that cannot be changed – such as lunch breaks – and schedule around them
- Try and plan the day to give your students as much time as possible for the practical activities
- Before presentations, allow 5 minutes for students to clear their tables and tidy away any equipment
- Before starting the activity, think about which students will make strong leaders and assign them the role of Project Manager for their team (the groups can then decide the other roles)
- Make team role badges using sticky name labels

Example schedule

On the next page is an example schedule of how you can organise the day. You may want to create something similar or adapt it based on the number of students taking part, and your school's own timetable.



Activity	Description	Time required
Introductions Passports & Evaluation	<p>Wild Creations – Welcome and introduction to all students at the start of the day. Split students into teams and assign Project Managers.</p> <p>If you have registered your students for a CREST Discovery Award, introduce CREST Discovery Awards and explain what the CREST Discovery Passports are for. Give these to Project Managers to distribute to team members.</p>	20 mins
Wild Creations Part 1	<p>Wild Creations presentation – this is the first of the two main sessions for the day. The Wild Creation challenge and purpose of the Discovery Day are established here.</p> <p>Cultural case studies presentation – this is a range of examples to discuss as a group.</p> <p>Planning & Information Workbooks – these are the two main resources for the Discovery Day. Print one per team and encourage students to follow the Planning Workbook when developing their Wild Creation.</p>	2 hrs
	Break	
Wild Creations Part 2	<p>This second section focuses on more detailed design, creation and the building of the team's Wild Creation, using both the Planning and Information Workbooks. The teams of student will work together to come up with a concept, make a scale model, and estimate the costs of the project from the information provided.</p>	2 hrs
	Lunch	
Finalise the presentations	<p>A chance to make any final touches to the model and/or presentation.</p>	15 mins
Presentations	<p>Teams give their 5-minute presentations. Teachers provide constructive feedback about the presentations, and congratulate students on a successful project.</p> <p>If you have registered for a CREST Discovery Award, ensure that students have time to complete their CREST Discovery Passport to reflect on their work and qualify for an Award.</p>	45 mins

Wild Creations

Overview

There are four main resources for this project:

1. Wild Creations supporting slides
2. Cultural case studies
3. Information Pack
4. Planning Workbook

Wild Creations supporting slides

The Discovery Day is based on this presentation, which gives an overview of the day's activities. The purpose of the presentation is to:

- Introduce the concept of a Wild Creation
- Explore the concept of culture, what culture means to individuals and how it affects their lives
- Set out the Discovery Day challenge

Aims and objectives Slide 2

This project has been written with cross-curricular activities in mind. It will encourage students to use transferable STEM skills, e.g. from science, literacy, design and technology, maths and art.

It may be helpful to encourage students to consider topics they have been studying in school, e.g. structures, forces, scale, volume, area, design, etc., and how they might transfer that knowledge into their Discovery Day project.

What is a Wild Creation? Slide 3

The inspiration for this project is based on the South Wales company 'Wild Creations' who specialise in building large bespoke sculptures for a range of different clients. They have worked on a variety of projects, including *Doctor Who*, film launches, and with multinational companies. More information can be found at

www.wild-creations.co.uk.



Watch the **Wild Creations video** to find out more about the company, the process and skills needed to create large scale Wild Creations.



Culture Slides 4 & 5

What does culture mean to you? Set the scene for the day's activity with a class discussion on culture and what it means to your students. It can be useful to personalise this with additional images of your area, people who live there, local activities, and points of interest.

Students are encouraged to engage with their own culture and find a way to express this through designing their very own Wild Creation.

Cultural case studies Slide 6

Open the **Cultural case studies presentation**. This includes a section on other Wild Creation ideas as inspiration for the students. The aim of this presentation is to inspire students to think big and out of the box.

Your Wild Creation challenge Slides 7-10

These slides give an overview of the:

- Wild Creation challenge
- Planning Workbook
- Information Pack
- Teamwork and the individual roles for students
- Presentation requirements



Cultural case studies

The purpose of this presentation is to show students some other types of sculptures, attractions and installations that have been made around the world, to give them ideas and inspiration. Students should look at the examples, discuss what they like and dislike about them, and consider the practicalities of building something like them.

This presentation is delivered to the whole class. It may also be useful to print out the resources for each team to refer to throughout the day.

Information Pack

This is the main information resource for the development of the Wild Creation. Teams should use this resource to find the following information:

- Team job descriptions
- Location suggestions

- The target audience
- Design process overview
- Scale – how big things are!
- How to cost a Wild Creation

If you have access to iPads, laptops or computers, this can be useful to extend the students' knowledge and research. However, these are not essential to the success of the day.

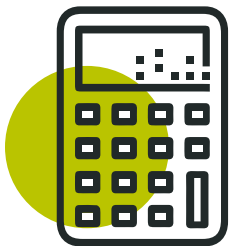
Planning Workbook

This is the main place for students to record their ideas and plan their Wild Creation. If the teams follow the process throughout this booklet they will be able to complete a successful project. Key components of this workbook include:

- What aspect of culture is their Wild Creation based on?
- Who is the target audience?
- Brainstorming the Wild Creation
- The location – deciding on where it will go and creating a scale map of the area
- Model making – creating a scale model of their Wild Creation
- Marketing and what is required
- Finance and budgeting

Working with scale

There are two key concepts on scale in this project that students may need assistance with:



1. Students find it hard to visualise the actual size (and therefore scale) of their proposed Wild Creation. There are a few examples in the Information Pack to help with this. A useful additional exercise is to quickly measure the dimensions of the room you are in (h x l x b) in metres, giving the students a reference point to compare to.
2. The second point of scale is translating the size of their Wild Creation from metres into cms to make their scale model. It is worth spending 5 minutes talking to the students about suitable scales, for example 1cm = 1m or 10cm = 1m. Understanding this scale will help them make their model and cost it appropriately.



Team presentations

Each team should prepare a 5-minute presentation about their Wild Creation. It is important to encourage all team members to stand up with the team, even if not all speak. Teams should decide which bits of information are relevant and should be included in the presentation. Any information not mentioned in their presentation should be available for you to see afterwards.

Avoid using computer presentations unless supporting access – school networks can be unreliable and students can waste time on the appearance or saving/uploading, to the detriment of the content. Teams should allow plenty of time to collate their presentation and rehearse.

Operational notes

Tips for keeping students on track

- Adults are there as facilitators – students are encouraged to make their own decisions and direct the project themselves
- There are no right or wrong answers
- Occasionally Project Managers should bring their teams together to check on progress
- Encourage the Project Manager to make sure that every member of the team is involved with the brainstorming and concept development stage of the project
- Encourage each student to take on their role as the ideas progress throughout the day
- Don't give out answers too easily; direct students to where they might find answers themselves, e.g. Information Pack, the internet
- Bring all teams together during late morning to explore collectively 'what makes a good presentation?'
- Ensure that all students are working in a positive learning environment and manage behaviour appropriately
- If you have registered your students for a CREST Discovery Award, remind them to record comments in their CREST Discovery Passports as appropriate.



Team roles

This project is based on teamwork and the development of a collective idea, and so it is important that every member of the team is involved throughout the process. The team roles are designed to give each individual responsibility for some aspect of the project.

The Project Manager role is essential to the successful delivery of a successful activity. It is also an ideal opportunity for students to develop their leadership skills. Choose students who will be able to lead a team and who can also ideally:

- Manage team members
- Resolve disagreements
- Give encouragement and advice to team members
- Make key decisions about the project
- Ensure there is an even distribution of workload and reassign team members where necessary
- Maintain the high standard of work produced by the team
- Take the opinions of all team members into consideration
- Assign team members specific role responsibilities where necessary
- Organise the 5-minute presentation at the end of the day

Other team roles can be duplicated if necessary. If there are not enough members in a team, then the Graphic Designer and Marketing Manager can be combined, as can the Design Engineer and STEM/Materials Researcher.



Practical activities

There are several different activities and resources to use throughout the presentation, including:

- What does culture mean to the team?
- Concept development for a Wild Creation
- Location planning, including drawing a scale map
- Concept refinement and model making
- Creating a range of marketing material examples
- Creating a detailed budget for the project, making sure the most appropriate materials are used at the best cost

Equipment and resource list for each team

For general working:

- Ideally, tables and chairs grouped together (in a hall for a large group or a single classroom for small groups)
- Whiteboard or projector presentation facilities
- Where possible, access to computers/iPads for research
- Paper for rough working
- Coloured pencils or felt-tip pens

For the location map:

- 4 pieces of graph paper
- Sellotape

For model making:

- Sticky labels to write names and roles on
- Plain and coloured paper of a range of sizes and textures
- A range of stationery – scissors, glue, pencils, pens, coloured pencils, felt pens for poster work, rulers, brass butterfly clips, Blu tack or modeling clay, etc.
- Crafting materials – art straws of different thickness, lollipop sticks, kebab style sticks, Sellotape, string, pipe cleaners, tin foil, tissue paper, etc.

Plenary

After the presentations, provide teams with feedback/constructive criticism and congratulate them on their endeavors – make sure what you say is encouraging and celebrates the teams' successes. Schools can decide to make this challenge competitive and award prizes for the best Wild Creations.



After the day

Achieving a CREST Discovery Award

If your students are aiming for a CREST Discovery Award, you will have been following the Teacher Guidance notes in **Appendix B** (pages 15-16), using the assessment criteria to observe their progress throughout the project.

So what should you do next? If you are unsure whether an individual student should receive a CREST Discovery Award, review their CREST Discovery Passport and consider whether they have met the assessment criteria (it is not intended that teachers review all CREST Discovery Passports after the event).

Register your students' names on the www.crestawards.org website or via your local coordinator, in order to arrange certificates.

If you have enjoyed the day:

- Make your CREST Discovery Day an annual event
- Encourage your STEM colleagues and students to engage in CREST Bronze projects. To get some free ideas on how to get started, see www.crestawards.org



Appendix A: About Wild Creations



Founded in 2010, Wild Creations is a creative company based in Cardiff, Wales and founded by Matthew Wild.

Mr Wild previously worked on the set of *Doctor Who*, and was responsible for dressing the sets before filming; piecing together what the set design and prop teams had created to craft whole environments!

The attitude of the company is 'anything is possible, there are no limits to your creativity and projects are as big as your imagination'.

Wild Creations operates from a 16,000sq ft workshop building in Cardiff Bay and employs a wide range of skills.

More information can be found at www.wild-creations.co.uk



Appendix B: CREST Discovery Awards

If you have registered your students for a CREST Discovery Award, you will be recognising the skills that students will gain through participation in the day.

Teacher's guidance

Teachers should observe students individually throughout the day and record any information which could be used to provide evidence of students meeting the following assessment criteria:

Self-management

Readiness to accept responsibility, flexibility, effective time management, motivation to improve own performance and confidence when tackling tasks.

Team-working

Respecting others' work and views, working collaboratively, negotiating/persuading, contributing positively to discussions.

Problem-solving

Analysing facts and circumstances in order to apply creative and imaginative approaches to developing realistic, innovative and original solutions.

Research

Acquiring new knowledge relevant to the task and applying it appropriately.

Communication

Following written and verbal instructions (the brief), talking and listening to other team members, producing a structured presentation which relates to the original brief and which reflects the creativity used by the group during the day.

Reflective practice

The ability to recognise what knowledge and skills they have gained, where they could have worked more effectively, and where they achieved/exceeded expectations.

CREST Discovery Passport

This is primarily intended as a self-reflection tool for students. Each student is assessed as an individual even when working within a team. Teachers should remind students at regular intervals to add comments to their Passports.

The Passports should be collected at the end of the day and can be used to confirm (or not) if a student has met the assessment criteria. This should only be necessary if teachers have any concerns about the performance of particular students.



Appendix C: FAQ

Do I have to do a CREST Discovery Award?

You can choose either to register your students for a CREST Discovery Award or deliver the activity on its own.

How many students can take part?

Students will work in teams to design their Wild Creation. It is recommended that 5–6 students make up each team. As long as you provide sufficient supervision for the students, a CREST Discovery Day can cater for a single class or whole year group.

How many adults will be needed to supervise the activity?

Adults will be required to deliver the project overview, including the Case Studies presentation, to the students. They will then need to supervise activities under normal school requirements and provide constructive feedback at the end of the challenge. How many adults are required will depend on the number of students taking part in the day.

When do I hold the event?

It doesn't matter what time of year you hold your Discovery Day, just don't forget to plan the date and tell everyone well in advance. That way you can avoid other events conflicting with yours, and get more support from across the school.

Where do I hold it?

How much space you will need and which rooms will need to be booked will depend on the number of students participating in the day's activities.

How long will it take?

Begin by establishing your desired finish time, and then work backwards from there and break the day down into timed sections (see the example timetable on page 6 to get an idea of timings).

Do I need access to the internet?

The resources have been designed to work without the use of technology. However, if you have access to computers, laptops or iPads they would provide a useful research tool for the students.

What consumables and resources will I need?

These should be sourced in advance of the day (see the equipment list on page 12).

www.crestawards.org

email: crest@britishscienceassociation.org

CREST Awards is the flagship Education
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