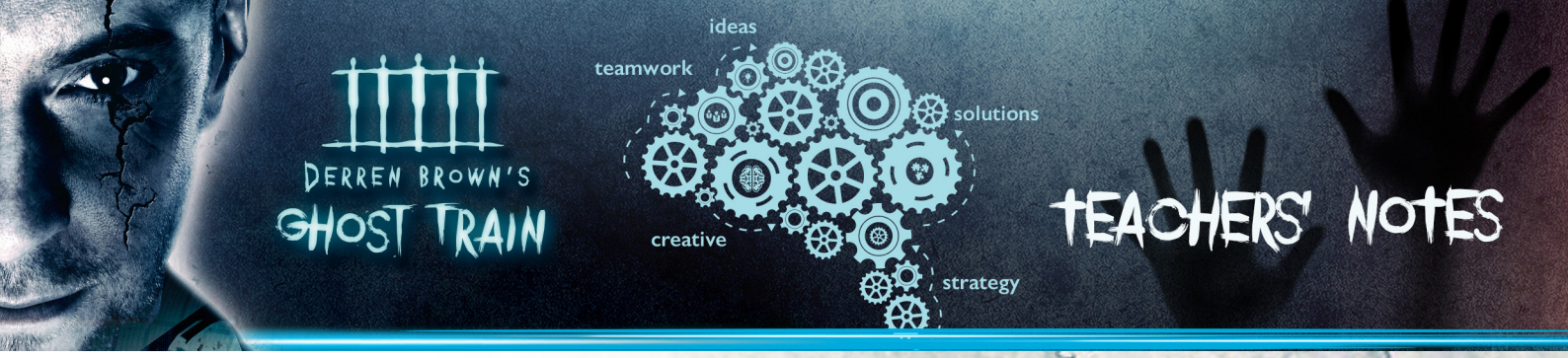


STEP INTO A WORLD'S FIRST

Science, design technology and psychology have been combined with cutting edge, state-of-the art computing innovation to create a world's first, one-of-a-kind experience, like nothing you have ever seen before at a theme park. This exciting new resource has been written to support teachers and students in experiencing Derren Brown's Ghost Train. The materials have been developed and produced by education and teaching professionals on behalf of THORPE PARK Resort.

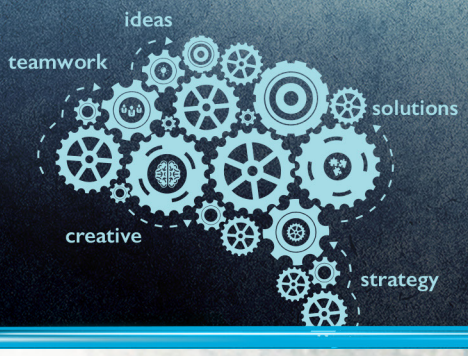
In using them, it should be understood:

- You may (whether you visit the attraction or not) adapt the materials in various ways. Although the materials are targeted at particular subjects and age groups, this can be altered. If you do, we would love to hear about how you did this and how they improved the pupils overall experience.
- It **isn't** essential to visit THORPE PARK Resort or go on Derren Brown's Ghost Train to use the materials or for them to make sense. If however you do, they are likely to have more impact over a series of lessons.
- Using the materials shouldn't in any way detract from students enjoying the attraction, but rather for them to understand that making it enjoyable means careful and insightful thinking, planning and execution.

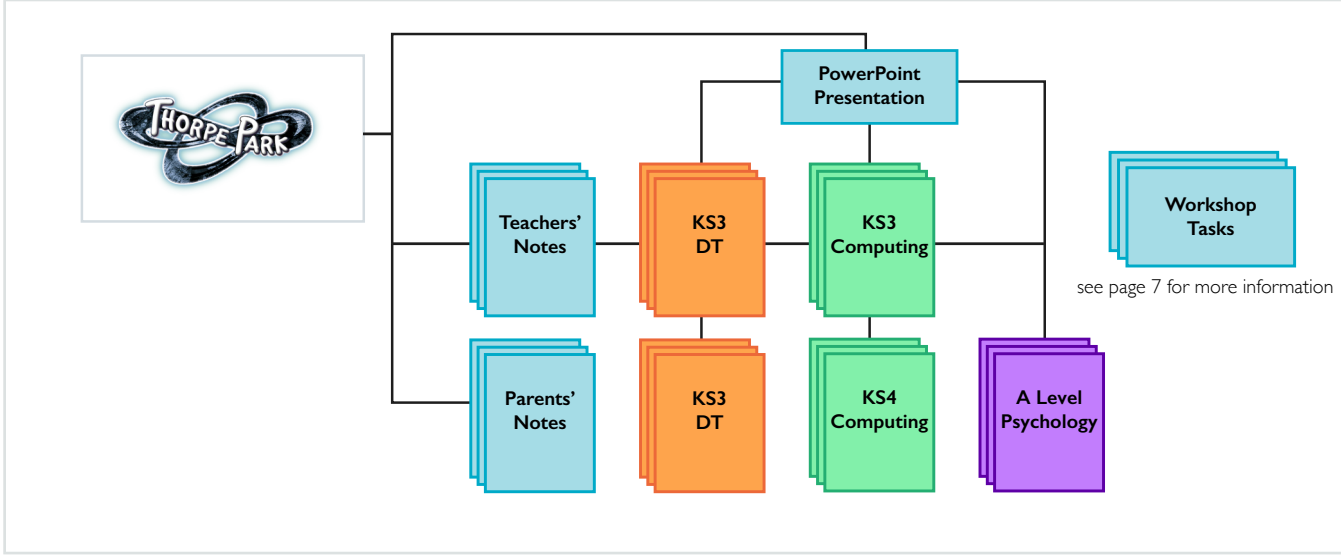
Derren Brown's Ghost Train

Derren Brown's Ghost Train is one of the most exciting developments in innovative theme park attractions in many years. It represents a departure from the recent emphasis upon 'white knuckle rides' which use physical speed acceleration to produce an exciting ride and works instead at the level of suggestion and implication to produce effects and indeed, thrills.

It is closely linked to the work and ideas of Derren Brown, who has been closely involved with the design and development from the outset, lending his renowned approach of the world being susceptible to rational explanation. If you understand how the mind works you can harness it in various ways, whether it be for amusement or some serious learning.



AT A GLANCE



THE MATERIALS:

Teachers' support guide

This document, along with three supporting PowerPoint presentations. These are designed to enable you to design and deliver learning activities and have an open structure so that you can use them 'as is' or modify them. The presentations mainly, but not only, consist of large images designed to stimulate discussion and support explanation.

Task and challenge sheets

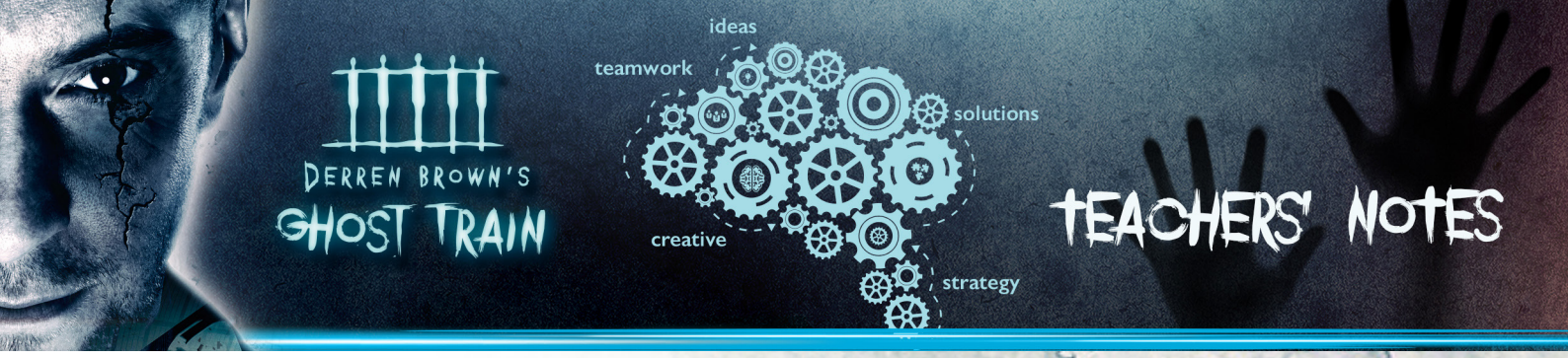
'Student facing' materials designed to engage and support them in various useful learning activities.
There are 15 in total, three in each of the following areas and phases:

- KS3 Design Technology
- KS4 Design Technology
- KS3 Computing
- KS4 Computing
- KS5 Psychology

These task sheets are supported by PowerPoint presentations including the necessary stimulus for students to complete the tasks. Additional resources are provided on a separate sheet where required.

Information for parents and carers

Information leaflet highlighting the creativity and breadth of STEM careers and to help parents and carers nurture and support their child's interest in STEM.



USING THE MATERIALS

The materials follow a three part structure:

1. The first part introduces the key ideas to be explored and sets the scene. The length of the session will be led by the nature of the activity rather than a standard allocation of time. In every case it can be modified to fit other contexts that the students are working on.

2. The second part is based on what might be a site visit and, in each case, a visit to Derren Brown's Ghost Train would fit the bill. However, there are a variety of other alternatives and can be substituted for other places of interest or simply the use of the internet. The activities can also be set as a homework or holiday activity to complete outside of the classroom.

3. The third part draws the ideas together and usually challenges students to share their ideas and reflect on what they have been working on, what they have learned and provide feedback to their peers.

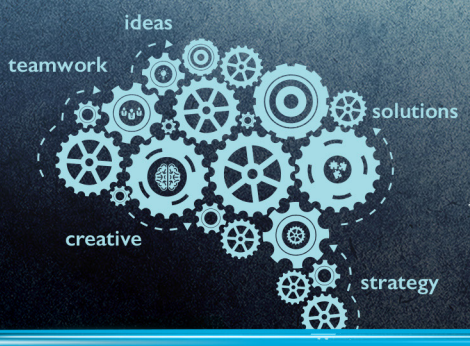
The underlying assumptions in the materials are that:

- **Skills matter!** Development of skills is a key aspect of education and has a strong resonance with employability as well as success in working towards qualifications.
- **Working together is key.** Opportunities are provided for students to practice their communication, speaking and listening skills through group work. This supports effective learning and reflects the way that professionals in STEM careers often work.
- **Challenge is part of effective learning.** Thinking and working in different ways promotes active and productive learning.
- **It's important to recap and reflect.** How are ideas developed? Reflective thinking supports students in seeing what they need to work at and what they're good at.

The materials can be built around a visit to THORPE PARK Resort and if this is possible, they will increase the educational impact of the visit. If you plan on making a visit, it's worthwhile telling the team that run the workshops - they can make sure it fits with your needs!

Overleaf are the references from the relevant programmes of study, subject criteria, assessment objectives for the various subjects and additional resources that may be required.

- We'd love to hear your feedback, please answer this short questionnaire at **smartsurvey.co.uk/s/dbgtfeedback**



CURRICULUM AREAS

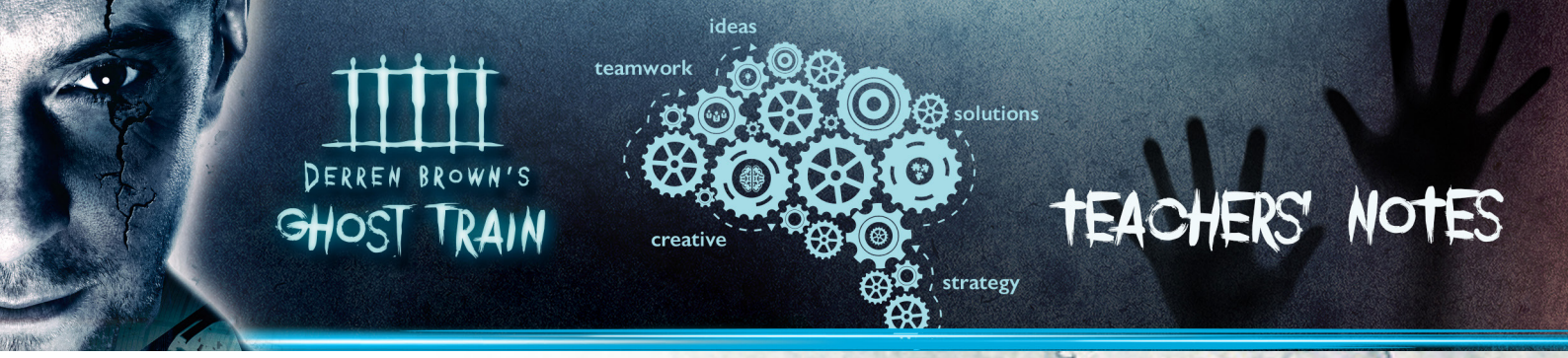
Design Technology

KS3

Tasks	Curriculum Links	Resources Required
Creating the atmosphere	• develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations • use a variety of approaches to generate creative ideas and avoid stereotypical responses • develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools	• Supporting PPT
Getting the texture right	• develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations • develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools	• Supporting PPT
Input and output	• develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations • develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools	

KS4

Getting some feedback	• generating, developing and communicating ideas in a range of ways, using appropriate strategies • solving technical problems	
Making things appear … and disappear	• solving technical problems • reflecting critically when evaluating and modifying their ideas and proposals to improve the products throughout inception and manufacture	• Supporting PPT
It's all about the brand	• generating, developing and communicating ideas in a range of ways, using appropriate strategies • reflecting critically when evaluating and modifying their ideas and proposals to improve the products throughout inception and manufacture	• Supporting PPT



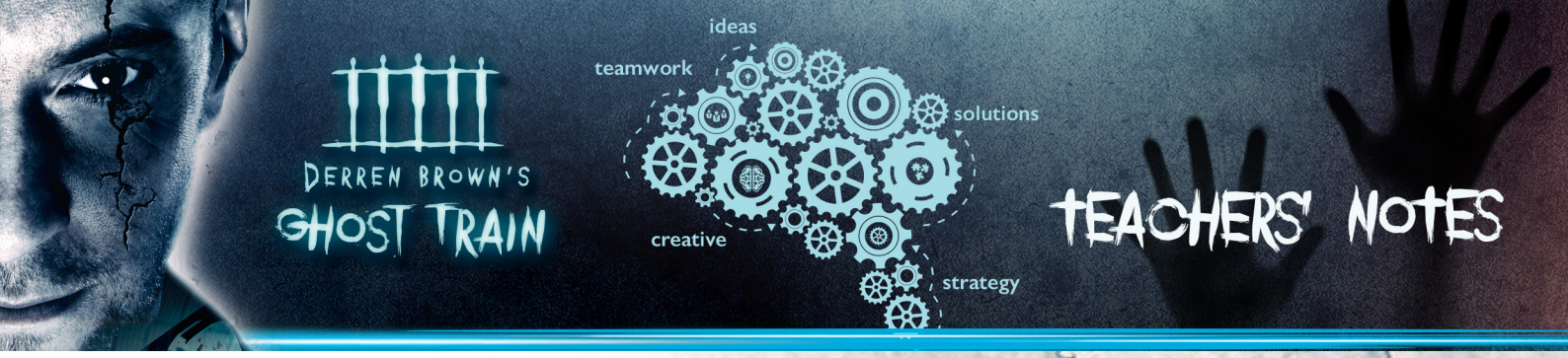
Computing

KS3

Tasks	Curriculum Links	Resources Required
Telling the future – on video	• undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users • understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy	• Supporting PPT • Smartphone
Creating an image for a simulation	• design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems • create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability	• Supporting PPT
Personalising products	• create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability • understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy	• Smart phone • Transparent object

KS4

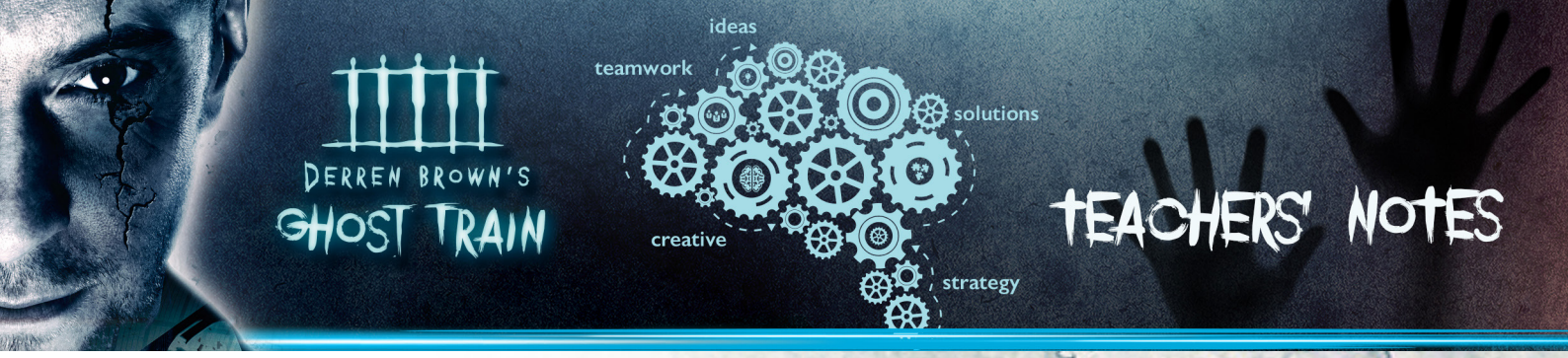
Promoting an attraction	• develop their capability, creativity and knowledge in computer science, digital media and information technology • understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to identify and report a range of concerns	
Something to take away with you	• develop their capability, creativity and knowledge in computer science, digital media and information technology • develop and apply their analytic, problem-solving, design, and computational thinking skills	• Supporting PPT • Template (link provided) • Smart phone • Google Card App
A bleak view of the world	• generating, developing and communicating ideas in a range of ways, using appropriate strategies • reflecting critically when evaluating and modifying their ideas and proposals to improve the products throughout inception and manufacture	• Supporting PPT



Psychology

Post 16

Tasks	Curriculim Links	Resources Required
Conforming	• apply psychological knowledge and understanding in a range of contexts • analyse, interpret and evaluate psychological concepts, theories, research studies and research methods	• Supporting PPT
Organising information	• apply psychological knowledge and understanding in a range of contexts • analyse, interpret and evaluate psychological concepts, theories, research studies and research methods	
Getting your attention	• apply psychological knowledge and understanding in a range of contexts • analyse, interpret and evaluate psychological concepts, theories, research studies and research methods	• Supporting PPT



Workshops at THORPE PARK Resort

THORPE PARK Resort provide a range of practical, hands on workshop experiences for visiting school groups. Three have been specially written to support the education contexts and themes relating to Derren Brown's Ghost Train, new for 2016.

1. Design Technology

- Developing and modifying a design, using an idea and following it through from initial exploration to practical manifestation.
- Exploring how ideas can be scaled up, using ad hoc models to scope out an approach initially and then seeing how it can be used in a full sized application.
- Evaluating the extent to which an idea is 'fit for purpose'.

2. Computing

- Seeing how digital images can be managed and manipulated to produce desired effects.
- Exploring the human body/machine interface and how images have to be presented so a person can use them.
- Investigating ideas about future technologies, especially VR applications.

3. Psychology

- How compliance theory helps to explain why we may (or may not) obey other people in particular situations.
- How attitudes towards order in society may influence our attitude towards authority figures.

Participation in the workshops above may require a pre-workshop activity from the supplied student worksheets.

PLAN A VISIT OR BOOK A WORKSHOP via the Provisional Online Booking Form found at THORPEPARK.com/schools

Or by calling our Education Team on 0871 282 5126*

*Calls to this number cost 13p per minute plus your providers access charge