Welcome to Wallace & Gromit’s Activity Pack

INNOVATION & ANIMATION

12-16 years

Case studies from Aardman Animations plus a range of activities to bring the worlds of innovation and Intellectual Property to life! For parents, teachers and club leaders or for young people to use independently.

Time to get cracking!

www.crackingideas.com

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Innovative ideas surround us in everyday life. Every idea has its origin in the creativity of one person. Their creativity – a product for the home, a piece of machinery, a software programme, a song, an animated character, a brand name – is protected by their Intellectual Property (IP) rights. These rights identify the creator as the owner of the idea and enable them to earn money from it so they can continue to innovate.

This resource introduces young people age 12-16 to the world of innovation and the four types of Intellectual Property (IP): Patent, Trade Mark, Design and Copyright. Each area is covered separately, although a product may be covered by all four elements - a new type of bicycle could be covered by a Patent for the mechanism, by a Trade Mark for a logo, by Copyright for the assembly instructions and by a Design for its shape and style.

This resource is inspired by the animation industry and by the diverse and exciting output of Aardman Animations, a business which started very small in 1972 and is now one of the most famous animation studios in the world. Case studies bring the world of IP to life and a range of activities encourages enquiry about the process of innovation and how IP supports the process.

Curriculum Links: See World of Cracking Ideas website for details.

The Innovation Session: Free 90-minute introductory lesson plan for 12-16s. Can be used in conjunction with this resource to explore the nature and process of innovation. See World of Cracking Ideas website.

Think Kit: Free downloadable resource book, teacher notes and lesson plans. Can be used in conjunction with this resource to investigate detailed case studies covering enterprise and IP. Aimed primarily at Business Studies and Design & Technology for 14-16s it can also be adapted for 12-14s. www.ipo.gov.uk/education

Eureka Challenges and Cracking Ideas Competition: This resource can support planning and ideas for these initiatives on the World of Cracking Ideas website.

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Patents protect the technical side of a product – what makes it work? Patents are granted to inventions that are novel and include a technical step forward. In real life you have to keep your invention secret until you file a patent application. If people don’t protect their inventions using a patent, other people may use, make or sell it without their permission.

**Rotoscoping**

In the 1990s, digital rotoscoping was invented and patents granted. It is now used for special effects in film and television to combine moving images from different sources such as live action and CGI (‘Computer Generated Imagery’). The Rotoscope (or ‘Roto’) Artist is an entry level job: it is an essential part of the post-production process in stop-motion animation, assisting in ‘compositing’ where all the various visual elements are combined. They use software to trace the areas of motion where an inserted element would be obscured, as well as other tasks such as ‘de-rigging’, digitally removing the wires and rigs supporting models.

**The role of the Rotoscope Artist**

In early 2008, Aardman advertised for a Rotoscope Artist/De-rigger (CGI). The job was described ‘an exciting opportunity for an aspiring Compositor to work with us on a new half hour special of Wallace & Gromit.’ The duties included ‘de-rigging’ and it required ‘a solid working knowledge of Adobe After Effects and/or Eyeon Fusion and Photoshop.’ Candidates sent in a CV and a showreel. Research this job: What was the half hour special? What is the software – what does it do? What is a showreel?

**Post Production: Edit Suite**

In the edit suite, the Editor and his assistants work closely with the director. A Matter of Loaf and Death was made up of a total of around 700 shots that were logged and edited as soon as they were filmed. At the same time the CGI team worked on visual effects for around 300 shots including rig removal and adding CGI elements including smoke from tyres and flour in the bakery. The visual effects were approved by the director or worked on further before they were edited into the working edit. After the picture edit is complete, the final step is to add the sound – music, sound effects and dialogue.

**Inventions to make working life easier**

Wallace is an enthusiastic inventor: In A Matter of Loaf and Death he puts a windmill on the roof of their house to power the bakery mill. Research an invention that has made working life easier: describe it and how it works. Has it progressed or improved – how does it operate now? What do you think will be the next step in innovation for your chosen invention?
Trade marks are a badge of origin or a brand name – what sets its products or services apart from its competitors? Trade marks can be words, a logo, or both. When a trade mark is ‘registered’ the owner can use the ® symbol next to it. If people register their trade mark, they can stop other people using it without their permission – maybe to put on something which is inferior to their own products that could damage the reputation of their brand.

It used to be a harder job to create ‘life like’ camera movements in stop frame animation. Breaking the movement of the camera into 24 single frames (to create a second of moving film) meant the camera crew had to do some maths - measuring each move with tape, string and marker pens. The results could look jerky and unnatural. The development of Motion Control (or ‘moco’) transformed animation by using a computer to control the camera’s movement.

A pioneering motion control camera system is the ‘Milo™. ‘Milo™ is a registered trade mark owned by Mark Roberts. This is a robotic crane controlled by Mark Roberts’ ‘Flair’ software that moves the camera: the computer does the maths, breaking down a movement into single frames and creating animation with a sense of real, life like movement.

Cinematographer Tristan Oliver: “When I am planning the camera shots for stop motion animation, I always aim to create a world which looks real even though everything on the screen is constructed. I light and frame the models sets and characters in a naturalistic way and, to further enhance the reality, I move the camera across the frame in a way that creates a sense of what appears to be real time. Motion control, and the Mark Roberts Milo™ rig, has liberated this process by giving us the freedom to construct highly complicated camera moves: we can programme tilts, pans, rolls, jibs, tracks, focus and zooms separately to create a fluid move through space on any path, at almost any speed, which once programmed can be repeated infinitely.”

At Aardman Animations...

Production: On Set
The production studio at Aardman is a huge space where equipment is kept and where animation sets are built. It also houses directors, animators, cinematographers, lighting and camera crews, each taking their turns to bring the model sets and characters to life. A TV series might need 15-20 sets which stay in the studio for months, whereas a feature film could require 30 sets in total, several of which will be being worked on at a time before they’re taken down to make way for the next ones. Visit the Aardman website Studio Tour: Production Technology to explore all the equipment used and Production Studio to see the animators at work.

Familiar trade marks
Find five trade marks on products at home or at school. Choose one to research the journey of one logo text or image over its lifetime. What changes have been made and why? What elements remain consistent and provide a strong identity?
Design protects the **appearance** of a product – what gives it eye appeal? Designs must be **new** and look **different** to already known designs. Registered design protects **how it looks** including the materials and also any pattern.

**Discover**

What is the ‘Locarno’ system for classifying designs? Why is it useful for countries to share a system like this? Look at DESIGN on the IPO website www.ipo.gov.uk

Aardman researches and develops innovative digital products using new technology. Partners include the Intellectual Property Office to develop the World of Cracking Ideas website. Before the design stage, they research how digital ‘platforms’ like video games, websites, online communities, virtual worlds and viral marketing create new ways for people to work and play. It’s also important for Aardman to know how people learn across different platforms, take in information and understand stories.

With BBC Learning Development and Adobe, Aardman developed the prototype for a ‘digital book’. A big step forward from scribbling notes into the margins of texts, Book Notes is a study tool for written texts in which students can literally get inside books. It allows students to read the text on screen, searching and making notes as they go and saving ideas to a scrapbook. The design was crucial to make it appeal to the target audience.

**At Aardman Animations...**

**Research and Development**

Research and Development is a key part of Aardman Digital’s work. It includes the development, design and build of new products across digital platforms. The income that Aardman receives from its IP and production (films, adverts, games and more) enables people like Dan and his colleagues Rich Davey (Technical Lead) and Gavin Strange (Senior Designer) to put time and money into innovative new projects like Book Notes. The team sit in a large open plan office, with walls covered in design ideas, and desks brimming with toys. Visit the Aardman website Studio Tour: Digital.

**Innovative product design**

Research a recently registered design for a product that uses digital technology. Find an image and provide a description. Focus on the how the product looks: the shape, form, colour, texture and decoration. Who would buy this product and why? Where would they use it? Bearing this in mind, sketch and make notes on improvements you could make to the design to make it more appealing. You could present your findings in your sketchbook.

**Explore**

Creative Director, Aardman Digital – Dan Efergan:

“Thinking is at the heart of all Aardman creations. Whether their purpose is to entertain, educate or inspire, all great products start with a good amount of brain power well before a computer is involved. We always start with processes such as creating and gathering ideas in brainstorm, exploring user journeys, pencilling out screens for wire frames and prototyping simple working versions of the application. The time taken researching is vital to ensure that the things we make are unique, successful and the best possible solution for the people who need them. No design can be truly innovative without it.”

www.crgakingideas.com
COPYRIGHT

Copyright – using the © symbol - protects things like books, art, music and films. What makes it original? Copyright protects these things as soon as they are written down or recorded. From this moment on, the copyright owner must give permission for their work to be used or copied. The copyright owner has the rights for every way their work could be used – e.g. to turn their book into an audio book or a film or to use part of it on a website.

The composer of the theme tune for Wallace & Gromit is Julian Nott. Julian met director Nick Park when they were at film school together. Inspired by brass bands from the north of England where Wallace & Gromit are from, he composed the theme in a hurry for the deadline for A Grand Day Out. Little did he know how famous it was to become.

The theme is used throughout the Wallace & Gromit films, from the original recording by a few musicians to a 65-person orchestra for A Close Shave. For Curse of the Were-Rabbit, Julian worked with music producer Hans Zimmer who manipulated the theme to create different moods, combining its local character with some big Hollywood orchestration for the film to be watched by different audiences around the world.

Composer – Julian Nott: “We wanted the Wallace & Gromit theme tune to be the kind of music that Wallace might like, something that the local town brass band around West Wallaby Street might play. So it was written in a brass band style with a traditional ‘oompah’ feel. It also needed to be upbeat and happy because that’s the kind of world Wallace & Gromit live in.

“Copyright is vital to composers because it is the only way we can get paid for our work. Writing music takes time and can fill a whole working day. Like everybody else we need to earn a living and copyright makes sure we can get some income when our music is played around the world.”

The IPO arranged a licence with Aardman Rights to use the Wallace & Gromit theme tune for the World of Cracking Ideas. The composer gave permission and Aardman charged a fee for the theme’s use on the World of Cracking Ideas website, the accompanying DVD and as part of the exhibition. Look at COPYRIGHT on the IPO website www.ipo.gov.uk. What are the different licence types?

At Aardman Animations...
Rights & Licensing
Aardman Rights manages the licensing of all forms of Aardman content, from films and advertisements to ring tones and toys. The Rights team works with marketing and merchandising business partners across TV, video and digital media, careful to ensure that the Aardman ‘brands’ stay true to Aardman’s vision. The protection and income that Aardman receives from rights and licensing enables it to keep growing and have great new ideas. The team of 17 people have a first floor office at Aardman HQ, carrying out most of their work with partners via emails and the phone. Visit the Aardman website Studio Tour: Rights & Licensing.

Explore
The issues around music downloads
What is the current debate about music downloads and the law? Research current news and views on the internet, including the Music Matters campaign. Write your own 100-word view of how this situation can be resolved without musicians losing out.

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