About the Innovation Cards

There are ten Innovation Cards, which are A4, colour, double-sided student resources. Each details a particular packaging solution. Three are both iconic and taken for granted: The egg, The can and The retort pouch. The remainder are recent award-winning designs produced by industry and design students in competition, in response to a detailed brief. Each card is predicated on the assumption that there was a problem to be solved and each sets out one 'award-winning' solution; however, there is always more than one way to solve a problem. The challenge for students is to conceive a solution that is an improvement on the original, a new or novel approach or a radically innovative solution. Each card is accompanied by an activity sheet that aims to draw out the challenge.

Below is a brief description of the underlying key points of each card and a description of its content.

Key Points and Descriptions

Innovation Card	Description	Key Points
1. The egg	A bird's egg is an almost perfect packaging solution with its protective shell, membranes for controlling transmission of water and gases (modified atmosphere), suspension system for supporting the yolk and cushioning system of the white.	• That nature is an innovator and that all things package their content (themselves) to meet the four requirements of life: → Protection from the environment (eg fur, feathers, blubber) → Protection from predators (eg armadillo armour, reptile scales) → Acquiring food and water (eg camouflage colours, skin to keep water in) → Reproducing (eg seed cases and cones).
2. Shaker Painter 4-litre tin	Presented with an everyday item, a 4-litre tin of paint, students conceive a radically different solution that addresses problems and improves functionality.	• Clear identification of a problem • Use of a defined material (steel can) • Innovation for usability – opposing handles and opening
3. Plantic biodegradable plastic tray	A product developed to be functional, which is also aimed squarely at sustainability, reducing waste and recycling. It looks like a 'normal' plastic tray but dissolves in water.	• Science and technology solution that students can text • New materials that are fit for the purpose (direct contact with foods) • A material that can be used in many different ways – students to consider how

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4. Simply Green Tomatoes	There are three challenges – package a wet, oily product so consumers can see it, so that consumer information can be included and so that the product is protected if posted.	• Review of a commercially available product • Students can research and relate to the 'real' story of a person with a bright idea who followed it through to create a product • A combination of challenges and solutions • A website available for student research
5. Finishing Moisturiser	Everyone has been faced with the problem of how to get the last drop of material out of tube or pump pack. This is a classic 'Why hasn't somebody thought of this before?' story.	• An everyday problem • A design student's solution • A solution that could be applied more broadly • The material the packaging is made from is important
6. Shelf-ready Pounce	A trip down any supermarket aisle shows an array of packaging designed to attract customers. If packaging can also save time and money in materials and stacking time, so much the better.	• Innovative use of graphics (left- and right-hand boxes that 'look the same' but gain extra prominence when placed together) • The holding carton is also a display box
7. The steel can	This is a classic example of 'taking it for granted'. The can was invented, its design and manufacture were modified and improved and its existence revolutionised the preservation, storage and distribution of food.	• History • Microbiology – cooking food inside the can preserves it • Design – cans can be stacked, are robust, can be printed on or have labels • Longevity • Link to military supply, exploration and adventure
8. The retort pouch	Less well known than cans, retort pouches have been called 'flexible cans' because they perform many of the same functions. Food can be cooked in them, they are easy to transport and they keep food for long periods. Everyday uses include single serves of cooked fish, soups and sauces.	• Demonstrate a lateral development of an accepted technology (the can) • New materials make it possible (eg laminated plastics with different properties) • A technology that students can apply in new and innovative ways

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9. Hydro Asparagus Pack	The packaging solves two problems: storing a fresh product that requires regular watering in a new material (waterproof cardboard) and meeting new environmental requirements (must be recyclable)	• Design – unique shape to suit the product • Custom material to suit the conditions • Environmental/sustainability issues regarding material recycling
10. Flexeeze	A new way of packaging an everyday item that combines ease of use (able to dispense sticky plasters), health and safety (package must protect its contents from contamination) and improved functionality (package can be placed in convenient new locations, such as on the fridge using magnets)	• An example of taking an everyday item and creating innovative packaging that extends its use • An example of taking a familiar package (looks like a sticky tape dispenser) and applying it in a new way