2012 olympic sports drink pack

Materials Research B

KEY STAGE 4

Sponsored by

The Institute of Materials, Minerals & Mining

+ www.iom3.org

+ background

The Olympics is an event that showcases the world's fastest, strongest and fittest in virtually every sports discipline.

Over time, advances in materials have been helping designers and engineers to produce equipment and clothing to help improve sporting performances not only in the participants' discipline but also in the environments in which they perform.

Keeping these athletes constantly hydrated and refreshed is essential and an important issue for the organising parties. The efficiency of maintaining a constant supply of water and energy drinks within a safe and secure environment is crucial.

Temperatures and climatic conditions are also important for both the summer and winter Olympics and any refreshment pack or unit needs to be efficient in maintaining temperatures and its function needs to be fast in dispensing a product to the consumer.

You may choose to work in teams, pairs or as an individual to address the challenging issues of this brief. *You are not required to produce a 3D mock-up*, but you will need to show a 2D representation of the pack in the form of visuals, sketches, schematics, diagrams, photographs or CAD images. This development work should indicate and explain how the pack works, what it contains and show how you developed the ideas, chose the materials and justify your final solution.

+ the brief

With this brief you are to look at new developments in materials and intelligent packaging in order to design a 'new drinks pack' for either water or an energy drink for the Olympics 2012. The drinks pack you design may be made from one or a combination of appropriate materials.

Your are to consider the following when designing your final pack:

+ Structure and shape.
+ Accessibility and efficient dispensing of contents.
+ Security and tamper proof prevention methods.
+ Ease of use and handling or grip.
+ Portability value, and storage and transit methods.
+ Disposability of the pack, recycling and possible re-use opportunities.
+ Different climatic conditions

We encourage you to explore new and innovative methods of dispensing and packaging water and energy drinks, combined with researching and specifying effective materials appropriate for the convenience of both the consumer and the 2012 Olympics environment.

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150 words to support your chosen idea.

A portfolio of visuals, consisting of no more than 6 single sided A3 sheets or boards, to show your research and demonstrate how your ideas have developed into your final solution.

+ the prize

IOM³: The Institute Of Materials, Minerals and Mining will award a prize of £250 to the school whose entrants provide the most in-depth research project on a material and show innovative and considered thought in their choice of new pack specifications.

IOM³ wishes to acknowledge the individual commitment of the entrants and will also award a voucher of £25 to each of the winning participants.

Please ensure that the questions are collated by teachers and tutors only in the first instance.

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