



Triple Crossed Project

Crash Test Dummies: The Marc Bolan Crash

Teachers Notes

Marc Bolan's 1977 car crash is used as the context for an activity that covers forces, car safety and advances in the car industry. The pupils are asked to consider the differences between the old style mini in which Bolan died and the new version. What advances have the developers made since 1977?

Resources

Marc Bolan's crash – stimulus sheet
Old and new minis – discussion sheet
'Pimp your Ride' – task sheet
Types of car (picture sheets x 6)
Extras – cut out sheet
Car safety timeline – task sheet
Car safety – date cards
Car safety – ideas cards
Car safety timeline – answers sheet
Cars and the law – discussion sheet
Smart Grid

Curriculum Links

New KS3 Science National Curriculum

Key concepts:

1.1 – Scientific thinking

a – using scientific ideas and models to explain phenomena and developing them creatively to generate and test theories.

1.2 – Applications and implications of science

a – exploring how the creative application of scientific ideas can bring about technological developments and consequent changes in the way people think and behave.

1.4 – Collaboration

a - sharing developments and common understanding across disciplines and boundaries.

Key processes:

2.3 – Communication

a – use appropriate methods, including ICT, to communicate scientific information and contribute to presentations and discussions about scientific issues.

Range and content:

3.1 – Energy, electricity and forces

a – energy can be transferred usefully, stored, or dissipated, but cannot be created or destroyed.

b – forces are interactions between objects and can affect their shape and motion.

Curriculum opportunities:

c – use real-life examples as a basis for finding out about science.

j – consider how knowledge and understanding of science informs personal and collective decisions, including those on substance abuse and sexual health.

k – make links between science and other subjects and areas of the curriculum.

Objectives

Personal Capability:

Team work: to discuss and agree collective decisions

Science, History and Citizenship

Work as a team to consider how spending on car safety and fashion accessories can affect a vehicle.

- To review the history of car safety development.
- To discuss and explain the effectiveness of different car safety measures.
- To understand how crumple zones and airbags work in terms of car safety.
- To discuss the extent to which car safety should be legislated.

Success criteria

To be successful the pupils will:

- Be able to work as a team to discuss and decide on a range of modifications to a car, justifying their choices.
- Be able to describe some technologies which have improved car safety and say when they were introduced.
- Be able to comment on the effectiveness of different car safety measures and explain how some safety measures work.
- Be able to offer an opinion on the extent to which car safety should be legislated.

Introducing the Overall Task

Show *Stimulus sheet* with images from Marc Bolan's crash site and, if possible, play T Rex music in the background e.g. 'We love to Boogie' or 'Children of the Revolution' which have been used on TV recently. Ask the students what they know about his life and career.

Marc Bolan's crash was in an 'original' type of Mini. Ask the students if they think the situation would have been any different on a modern Mini. Show pictures of old and new Minis from page 2. Are there any visible differences? What safety features do they think might have been incorporated in the new Mini? If possible show comparative films of crash tests for old and new Minis. Several are available on YouTube including <http://www.youtube.com/watch?v=5tLE6gd-8AM> and <http://www.youtube.com/watch?v=vmiZOCqX2kk>

Discuss the range of safety features typical on modern cars, including crumple zones and airbags and the idea that these work by increasing the time it takes for the passenger to come to a stop in a crash, therefore reducing the force on the person.

Main Tasks

Organise the students to work in groups of 4 or 5. Raise the idea that both manufacturers of cars and individuals may have to balance the cost of safety features and “fashion accessories” in order to make a car saleable and attractive to individuals.

Show page 3, *'Pimp your Ride' task sheet* and give each group a different typical first car picture and a copy of the *Extras sheet* on page 10. After groups have had time to carry out the task ask them to report back to the class as whole on their car, explaining and justifying the extras they included.

Show *Car safety timeline task sheet* on page 11 and give each group sets of *Safety ideas and Date cards* to match up. Show and go through the *Answers sheet*. (Several internet sources do suggest that Volvo introduced a seatbelt in 1849! Obviously this wasn't a car but the firm was involved in manufacturing steam powered industrial and agricultural vehicles at the time.)

Move on from this task to discuss with the students their views on the extent to which car safety should be legislated. Use page 14 *Cars and the law* as a stimulus. Use this context to encourage the students to consider rights and responsibilities under the law.

Reviewing the Task

Involve the students in reviewing the task further using the assessment for learning *Smart Grid* on page 15.

Historical note

Bolan died on 16 September 1977, two weeks before his 30th birthday. He was a passenger in a purple Mini 1275GT (registration FOX 661L) driven by Gloria Jones as they headed home from Mortons drinking club and restaurant in Berkeley Square. Jones lost control of the car and it struck a sycamore tree after failing to negotiate a small humpback bridge. Bolan died instantly, while Jones suffered a broken arm and broken jaw and spent time in the hospital; she did not learn of Bolan's death until the day of his funeral. Neither was wearing a seat belt.