

# Science through Road Safety

Lockerbie Academy is teaching Mechanics through the topic of road safety.

Thanks to Inspectors Hewitson and Moffat who really wish to get the road safety message across and have been so helpful



As the playmats are 2D it is quite easy for students to have simple understanding of velocity and how this is different to speed.

Forces can be studied through crashes, the importance of safe cars, crumple zones and other safety devices.

The police provided two scenarios of real accidents that occurred in our Region to study.



A scenario is set up in the Assembly Hall. Make it as complicated or as simple as required. Students are brought in to see the scene. Teachers and the Police are on hand to work through what happened. Don't give them too much police tape, they get it everywhere.

In upper school momentum is covered and the police give a talk about one of the worst crashes in D&G. Students get to work out a more difficult road traffic incident.



A local business sponsored our equipment of playmats, but I am sure you'll have students who might have these at home and would be delighted to donate them to you.

Questions are often written in terms of road safety. There is even a chance for students to learn road signs and link these to Physics.

The evidence would suggest this appeals to boys as well as girls.

Students wrote up their work in Young Scientists' Journal.

Our work was awarded the 2016 EU Excellence in Road Safety Awards both the best school and the overall best road safety project.



Start with playmats to teach average speed. Follow the set route and time how long it takes

Use light gates to measure instantaneous speed. Discuss the similarities and difference between how Police measure speed. Clearly shows the difference between average and instantaneous speed.



Thanks to the Royal Society, Magnox, Police Scotland, and the Radcliffe Trust who helped us raise money to put these ideas together.

Working with Police Scotland students have done winter safety checks on cars at the local Tesco. Tesco provided screenwash and de-icer. Students learned about car safety, communication, team work and gained in confidence.



Use reaction timers to work through stopping distance, thinking distance and braking distance. Discuss the effects on stopping. Can students anticipate stopping distances? What are the H&W issues?

