**Science That Saves Lives**

“Crash Science” addresses the leading cause of death of teens in the United States

**Linda Jones and Griff Jones**

|  |  |
| --- | --- |
| **“Crash Science” addresses the leading cause of death of teens in the United States**  Sixty-seven deaths per week, nine per day, one every two hours: Motor-vehicle crashes are the number one killer of teenagers in the United States, and although fatalities have declined in recent years, almost 3,500 teenagers still die every year in motor vehicle crashes (NHTSA 2011). In fact, 35% of all deaths among 16- to 19-year-olds are related to motor vehicles (National Center for Injury Prevention and Control 2006). This article outlines our attempt to use research from the emerging field of crash science to teach truly life-saving lessons.  **Teenage crash research**  In recent years, several agencies and organizations have collaborated on initiatives to reduce crashes, injuries, and deaths among teenage drivers. Spearheading these efforts have been the National Highway Traffic Safety Administration (NHTSA), a federal agency, and the Insurance Institute for Highway Safety (IIHS), a nonprofit organization.  Statistics highlight the importance of their work: Although teenagers drive less than all but the oldest  (ages 70+) drivers, teenage crash rates and deaths are the highest of all drivers (Lyman et al. 2002). Sixteen-year-olds are at the highest risk for both crashes and deaths in motor vehicles. Their crash rate per mile driven is twice as high as that of the second highest risk group (18- to 19-year-olds).  Why are teenage drivers so prone to car crashes? The obvious explanation is lack of driving experience, but that’s only partially responsible. Research has found that teenagers’ lack of emotional and cognitive maturity increases risky driving practices, including speeding, tailgating, and not wearing seatbelts (Juarez et al. 2006; McCartt et al. 2009). A common misconception is that most teenagers who die in crashes are drivers. In fact, three of every five are passengers in vehicles driven by other teenagers (McCartt, Shabanova, and Leaf 2003).  One unusual study observed teenagers arriving at school in the morning and found seat belt use highest among teenagers arriving in cars driven by adults and lowest among teenagers arriving in cars driven by other teens. Interestingly, about half of all teenage passengers don’t wear seat belts even in cars  driven by adults (IIHS 2002). As numerous studies have documented, seat belts save lives, and the likelihood of dying in a car crash significantly increases for unbelted occupants. In 2006, 4,842 teenage passenger vehicle occupants were killed in car crashes, and 58% of those teens were unrestrained at the time of the crash (NHTSA 2007). | 14  30  47  65  80  98  102  105  119  133  147  151  167  185  202  220  237  252  265  284  300  304  321  338  354  370  386  403  409 |
| *Excerpted from* Jones, L and Jones, G., 2013.Science That Saves Lives. *The Science Teacher,* 80, no. 1 |  |
| **On the web**  Insurance Institute for Highway Safety videos of frontal offset crash tests: *www.iihs.org/ratings/frontal\_test\_info.html*  Paper Car Crash Design Challenge instructions: [*www.nsta.org/*](http://www.nsta.org/) *highschool/connections.aspx*  Project assessment information: [*www.nsta.org/highschool/*](http://www.nsta.org/highschool/) *connections.aspx*  Web Quest activity worksheet: [*www.nsta.org/highschool/*](http://www.nsta.org/highschool/) *connections.aspx* |  |