MindSET-do

Year 7 – Road Safety 70min Lesson 1

Learning Intentions	Lesson Outcomes
• Students explore government strategies towards road safety • Students investigate what can be changed for safer roads • Students explore the social, ethical and environmental considerations required in the creation of self-driving cars.	• Explore government initiatives on safer roads • Consider social, ethical and environmental/sustainability issues with autonomous vehicles

Australian Curriculum Content Descriptors	Australian Curriculum General Capabilities
Science Understanding Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations (ACSHE120) **Design and Technologies** Investigate the ways in which products, services and environments evolve locally, regionally, and globally and how competing factors including social, ethical and sustainability considerations are prioritised in the development of technologies and designed solutions for preferred futures (ACTDEK029)	**Critical and creative thinking** – inquiring – identifying, exploring and organising information and ideas **Critical and creative thinking** – generating ideas, possibilities and actions **Personal and social capability** – Social awareness **Ethical understanding -** exploring values, rights and responsibilities

Assessment

Formative assessment

Students record in books considerations on ethical, social and sustainability/environmental restraints of self-driving cars currently.

Phase/Slide	Learning Activity	Resources
Slide 1 - 3	• Greetings/introduction • Acknowledgement of Traditional Custodians • Lesson outcomes	PowerPoint
Slide 4 -5 Engage	• Road crashes in Australia are a serious problem • View the data	PowerPoint and video

Phase/Slide	Learning Activity	Resources
Slide 6-10 Explore	• Review what the government says about the safe system approach • Review text from National Road Safety Strategy (on slides) on considerations for safe roads	PowerPoint
Slide 11 Explore	• Question: How do we avoid human mistakes? • Brainstorm	PowerPoint
Slide 12-13 Explain	• Answer: levels of vehicle automation • But why don't we have it already? • View video on Tesla model X, a current production car (watch up to 3:15) on slide 13	PowerPoint and video
Slide 14-15 Explain	• Social restraints, ethical restraints, sustainability/environmental restraints • Definitions of these to read and consider when watching next videos • Students think of their own examples for each one before moving on • E.g. social restraint may be - not everyone will have a self-driving car and those without may feel unsafe • E.g. sustainability restraint may be - the amount of batteries required to power all the sensors/motors (range of car)	PowerPoint
Slide 16 Elaborate	• Students to record table in their books to fill in when viewing videos	PowerPoint
Slide 17 Elaborate	• View two videos on self-driving cars, considering the restraints	PowerPoint and videos
Slide 18 Elaborate	• Brainstorm restraints as can be seen in the videos • Teacher does one example and has students collaborate in small groups/pairs, come together at the end	PowerPoint
Slide 19 Evaluate	• Wrapping up of ideas • Preparing for next lesson	PowerPoint