A legend.
A legacy.
A lifetime of inspiration.

The Eric Liddell 100

Integrity and Artificial Intelligence

Key Information

Subject area: Technological developments in society and business

Time required: This resource is planned to be taught as one 50 minute lesson. Depending on the pace at which your class progresses through the lesson you may wish to utilise the content over a series of lessons.

Activity: Artificial Intelligence

Eric Liddell values: Integrity

Curriculum Links: Computing Science

Key skills:
- Critical thinking
- Problem Solving
- Decision Making

Learning intentions:
- To understand the importance of integrity in technological developments such as in artificial intelligence.

Success criteria:
- I can describe integrity.
- I can describe artificial intelligence.
- I understand why it is important for engineers to place importance on integrity when developing new technologies such as artificial intelligence.

Experiences and outcomes:
- *(TCH 3-06a)* I can evaluate the implications for individuals and societies of the ethical issues arising from technological developments.
- *(TCH 3-08a)* I can explore the impact, contribution and use of various software applications and emerging hardware in business.
- *(RME 3-09d)* I am developing my understanding of the nature of belief and morality.

Supporting Materials:
- Presentation
- Artificial Intelligence video
- Self-driving cars video

Uncle Eric Fact

Eric Liddell is well known for his integrity. He was a man who didn't choose the easy option, but he always seemed to choose the right option, even in the toughest of situations. .

As the war got worse in China, Eric began worrying for the safety of his family so he and his family decided they needed to leave. The easy option would have been to leave with his family and head for safety in Canada, but he didn't choose the easy option, he chose to stay in China continuing to help people whilst his family lived thousands of miles away.

Lesson Format

In this lesson pupils will learn about integrity and artificial intelligence. Pupils will explore the importance of ensuring that when new technologies such as artificial intelligence are developed, integrity is carefully considered.

Task 1

Ask pupils to think about the word integrity. What does it mean to them? Have a class discussion on the value integrity. Pupils can utilise the Eric Liddell 100 definition and associated values of integrity included on slide 4 of the presentation to help them further explore the word integrity and what it means.

Task 2

Ask pupils to watch this short film on Eric Liddell's life. Continue the class discussion around the value of integrity. You could use some of the following questions to aid your discussion:

- Were there any moments in the video where Eric displayed levels of integrity in his decisions and actions?
- Can you give an example of a time you or someone you know has acted with integrity?
- How did it make you feel?
- How do you think it made the other person or people involved in the situation feel?

Task 3

Ask pupils to think about artificial intelligence. What does artificial intelligence mean to them? Share this *video on Artificial Intelligence* with the class. Once pupils have watched the video give them time to discuss with the person next to them examples of artificial intelligence in their day to day lives? Ask pupils to share their examples with the rest of the class.

Share examples of artificial intelligence with the class. These could include:
- Netflix
- Search engines such as Google
- Chatbots
- Siri
- Alexa
- Self scanners
- Face ID
- Google maps to provide live information on traffic and the quickest routes currently available
- Amazon recommendations
- Online ads
- Doctors using artificial intelligence to diagnose patients based on medical scans, like X-rays
- Astronauts using artificial intelligence models to detect exoplanets and planets outside our Solar System

Task 4

Ask the class to discuss if they think it is important that the moral principle of integrity is applied to technological advancements. Ask pupils to answer the following question:
- Is integrity an important quality for an artificial intelligence engineer to have? Why?

If pupils are struggling to get discussions flowing you could use some of the following points to help aid discussions:
- An artificial intelligence engineer is responsible for coding artificial intelligence.
- The way artificial intelligence behaves is dependent on the way the engineer has coded the artificial intelligence.
- If an engineer has their own biases there is a chance they could inadvertently or even purposefully encode these biases into artificial intelligence engines.

Task 5

Share this *video on self driving cars* with your pupils. Ask pupils to think about what decisions they would make in each of the different situations mentioned in the video and what they think the right decisions are.

Ask the class to think back to the first scenario visited in the video. Ask pupils to answer the following three questions. You can ask pupils to raise their hands so pupils can see how many of their class choose each option, write their answers down or pick pupils to share their answer and reasoning with the rest of the class.

Which option would you choose if you were driving?
   A. Stay in the lane and hit the oncoming objects.
   B. Swerve towards the car.
   C. Swerve towards the motorcyclist.

Which option do you think a self-driving car coded with protecting itself and its occupants above everything else would choose?
   A. Stay in the lane and hit the oncoming objects.
   B. Swerve towards the car.
   C. Swerve towards the motorcyclist.

Which option do you think a self driving car coded with minimising injury would choose?
   A. Stay in the lane and hit the oncoming objects.
   B. Swerve towards the car.
   C. Swerve towards the motorcyclist.

Ask the class to think back to the second scenario visited in the video. Ask pupils to answer the following three questions.
Which option would you choose if you were driving?
   A. Stay in the lane and hit the oncoming objects.
   B. Swerve toward the motorcyclist with the helmet on.
   C. Swerve toward the motorcyclist without the helmet.

Which option do you think a self driving car coded with protecting itself and its occupants above everything else would choose?
   A. Stay in the lane and hit the oncoming objects.
   B. Swerve toward the motorcyclist with the helmet on.
   C. Swerve toward the motorcyclist without the helmet.

Which option do you think a self driving car coded with minimising injury would choose?
   A. Stay in the lane and hit the oncoming objects.
   B. Swerve toward the motorcyclist with the helmet on.
   C. Swerve toward the motorcyclist without the helmet.

Plenary

Finish off the lesson by asking pupils to answer the following questions.

- If you could choose which type of self-driving car you would drive, which one would you choose?

  Car 1 - a self-driving car coded with protecting itself and its occupants above everything else.
  Car 2 - a self-driving car coded with minimising injury.

- Which of the two cars above do you think would have been coded by an engineer with integrity?

- Would you feel safe driving on roads with self-driving cars which had been coded to protect themselves and their occupants above everything else?

- How important do you think it is that engineers place importance on integrity when developing new technologies such as artificial intelligence?