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| **Unit** | COVID-19 Unit: Lesson 8 | | | | **Driving Question** | What are the ethical considerations concerning vaccines? | |
| **Date** |  | | **Time** |  | **Class** |  | |
| **Real life scenario (context)** | | | | | | | |
| James and Tiffany are discussing the vaccine that is being used to vaccinate people against COVID-19. Tiffany believes older people should all be vaccinated first as they are more vulnerable. James believes younger people should be vaccinated first as their lives have been more drastically changed than older people who were not as mobile prior to the pandemic starting. Who do you agree with and why? | | | | | | | |
| **Learning Outcomes** | | | | | | | |
| 1. Understand the key ethical considerations of vaccination including: not/requiring vaccination by law; the development and testing of vaccines; informed consent about the benefits and risks of vaccination; and the equitable distribution of vaccines (at a national and international level).  2. Apply critical thinking to discussions concerning the ethical considerations concerning vaccines (esp in relation to a rational approach to risk e.g. likelihood of side effects with vaccines vs effects of getting the disease).  3. Identify trusted sources of information to continue our research and discussions on vaccines. | | | | | | | |
| **NGSS links / NYAS STEM Education Framework (key skills and competencies developed)** | | | | | | | |
| A.1.1 Critical Thinking  A.2.4 Leadership  A.2.5 Ethics  B.3 Real-world Application | | | | | | | |
| **Plan of activities** | | | | | | | |
| Time | | Teacher Activity | | Learner activity | | | Resources / other info |
| *Prior to session: -* | | *Are there spare activities for those who finish early?* | | *Can this be done remotely and in person? Are there alternative approaches?*  *Differentiation?* | | | *What resources are needed to be inclusive to all students?* |
| **5 mins**  Intro and recap | | Teacher introduces the LOs and sets the context of the lesson with the scenario. It is also important for the teacher to set group discussion norms (e.g. listening to others, respecting different opinions even in disagreement etc) as this lesson can get heated. | | Student reads the scenario to set the scene for the lesson. Students should recognise that the science that surrounds vaccinations, and in particular with COVID-19, is set within broader social contexts. | | | PPT |
| **10 mins**  Discussing what ethical considerations are involved | | Teacher introduces what we mean by ‘ethics’ and asks students to do the ‘think, pair, share’ activity (teacher to verbally give one of two examples to start off). Teacher then chooses one person from each pair to share one answer to be recorded down (on board, in the chat box, or annotated on the screen). | | Each student reflects on their own ‘ethics’ re: vaccination as well as the considerations surrounding vaccinations that they may have heard from family and friends. Students are paired up (in person or in breakout rooms if virtual) and then one person from each pair shared one consideration. | | | Definition of ethics taken from BBC: <http://www.bbc.co.uk/ethics/introduction/intro_1.shtml> (this is a useful prime for teachers to read as no doubt many questions re: applications of ethics will come up). |
| **15 mins** | | Teachers read out the following students to students to get them to indicate their personal positioning. Important to stress that in this task, not necessarily trying to extol a clear right or wrong answer, trying instead to understand the range of opinions that may exist. Teacher should reiterate the discussion norms before starting this task.  STATEMENTS:  1. If a treatment for a disease is known, should all persons with the disease have access to the  treatment?  2. A researcher knows that a drug will benefit children with a disease. The media has announced this drug, and patients are interested in receiving the drug. Should the researcher alert the public that the  science is still unclear about adverse events?  3. Should a researcher stop an experiment when a clearly better drug or technique is discovered?  4. A parent refuses to give a child a drug that can save the child’s life. Should a judge force the parents to provide the treatment?  5. If the child in Question 4 is not given the drug, the illness will spread to other persons. Does this change your opinion? | | Students should respond to each statement by either moving their body along the ‘spectrum’ (in-person teaching) or raising their hand up and down along the virtual spectrum (if class is done online). Alternatively, students can ‘annotate’ their positions using text (if class is conducted on zoom i.e. their names or anonymous stamps depending on how the teacher sets it up) using the visual spectrum shown on slide 5. | | | If done in person, teachers should demonstrate how students move their body along the spectrum (teacher should indicate which side of the classroom is agree, which is disagree).  If this lesson is done virtually, students can indicate their position by using their hand (horizontal and flat) and moving their hand towards the top of their screen (AGREE) or to the bottom of the screen (DISAGREE). Teachers should have the view on ‘gallery’ mode to see everyone’s position.  ALTERNATIVELY, students can annotate this screen using the [‘annotate’ function on zoom](https://support.zoom.us/hc/en-us/articles/115005706806-Using-annotation-tools-on-a-shared-screen-or-whiteboard) (see notes on slide 5).  Statements taken from: [CDC Science Ambassador workshop](https://www.cdc.gov/careerpaths/scienceambassador/documents/hs-rage-outbreak-cleared.pdf) 2015) |
| **25 mins** | | Teachers introduce just one of the ethical debates regarding vaccination: that of national mandates for vaccinations.  Each student will be given one of 4 ‘ethical positioning’ cards (alternatively, teacher will send the document out in advance and then in class allocate students to a number). Teachers should encourage students to read independently before putting students in groups of 4 (at least one from each to discuss). | | Students have to read their allocated ‘position’ and reflect on the questions before discussing in groups. Students should spend half the time sharing and listening to the 4 ‘positions’ and then the second half discussing their personal opinions. The task is not to come to a consensus but just experiencing discussions about vaccination ethics. | | | Ethical positioning cards (printed out or sent to all students via email).  Useful context for the teacher (particularly of the various positions that different religions can take) can be found [here](https://med.nyu.edu/highschoolbioethics/sites/default/files/highschoolbioethics/EthicsofVaccinations_Module.pdf). The document from NYU School of Medicine (where this activity is taken from) also contains a lot of alternative discussion questions and extended activities to facilitate (will require longer/more lessons). |
| **5 mins**  Plenary | | Teacher should collect ‘exit tickets’ (in person or via email) to assess student’s ability to reason their own position. | | Students to complete an ‘exit ticket’ based on the scenario outlined. | | | Students can hand in on paper or send via email (or chat box – direct to teacher) if the lesson is done online. |
| **Total time = 60 mins** | |  | |  | | |  |
| **Preparation for next lesson (teacher self-reflection) Gather student feedback to**  **incorporate into your next session** | | | | | | | |
| Which aspects of the lesson went well? Which aspects could be improved upon?  What misunderstandings still need to be cleared up?  Actions for the future: | | | | | | | |