

Creating puzzles related to "Engineering Ethics" can be a fun and engaging way to explore complex ethical concepts and dilemmas. Here are a few puzzles designed to help students think critically about different aspects of engineering ethics:

1. Ethical Dilemma Puzzle

Scenario:

An engineering team is working on a new product that could revolutionize the industry. During testing, they discover a significant flaw that could potentially lead to safety issues. The product is almost ready for launch, and delaying the release would cost the company millions and impact the team's reputation. The company executives insist on moving forward despite the flaw, arguing that the potential benefits outweigh the risks.

Puzzle:

- **Question 1:** What are the key ethical issues in this scenario?
- **Question 2:** Using Kohlberg's stages of moral development, which stage might the executives be operating from? What about the engineers?
- **Question 3:** How might Gilligan's ethics of care influence the decision-making process in this scenario?

Hints:

- Consider the potential harm to users versus the benefits to the company.
- Reflect on the perspectives of both the engineers and the executives.
- Think about how care-based ethics might prioritize stakeholder well-being.

2. Code of Ethics Crossword

Create a crossword puzzle with clues related to key principles and terms from engineering codes of ethics. Here are some example clues and answers:

- **Across**
 - **3 Across:** The principle of acting with honesty and integrity. (Answer: **Integrity**)
 - **5 Across:** An obligation to ensure the safety and welfare of the public. (Answer: **Safety**)
- **Down**
 - **1 Down:** This principle involves being fair and impartial in all professional matters. (Answer: **Justice**)
 - **2 Down:** The duty to disclose any conflicts of interest. (Answer: **Disclosure**)

Hint:

- Review common ethical principles from engineering codes such as ASCE, IEEE, or NSPE for answers.

3. Plagiarism Detectives

Scenario:

A recent engineering conference features several papers on innovative engineering techniques. A researcher finds that parts of their paper have been copied verbatim into another presentation without proper attribution.

Puzzle:

- **Question 1:** What are the ethical implications of this situation?
- **Question 2:** How should the original researcher respond to this issue according to professional ethical standards?
- **Question 3:** Identify three strategies that can be employed to prevent plagiarism in engineering research.

Hints:

- Think about the principles of academic integrity and professional conduct.
- Consider the role of proper citation and the impact on intellectual property.

4. Ethical Decision-Making Flowchart

Puzzle:

Create a flowchart that helps an engineer decide the ethical course of action when faced with a moral dilemma. The flowchart should include questions and decision points such as:

- **Question 1:** Is the action legal? (Yes/No)
- **Question 2:** Does the action adhere to the code of ethics? (Yes/No)
- **Question 3:** What are the potential impacts on stakeholders?

Hint:

- Ensure the flowchart guides users through evaluating both legal and ethical aspects of their decisions.

5. Case Study Riddle

Scenario:

In a hypothetical engineering company, a senior engineer discovers a flaw in a critical system but is pressured by management to overlook it to meet a tight deadline. The engineer is faced with a choice: report the flaw and delay the project or remain silent and risk potential harm.

Riddle:

- **Question:** What is the ethical principle most in conflict in this scenario? (Answer: **Public Safety vs. Professional Duty**)

- **Follow-Up:** What action should the engineer take based on the principle of beneficence?

Hints:

- Think about the balance between professional obligations and the potential risks to the public.

These puzzles are designed to provoke thought and discussion about various aspects of engineering ethics, including decision-making processes, codes of ethics, and the impact of unethical behavior.