ENGLISH:

ACT English Alignment – Autonomous Vehicle

Language & Analytical Reasoning

Students will refine their command of language by analyzing and improving technical documents related to robotic cars. Activities will focus on revising for clarity, enhancing sentence structure, and maintaining a formal tone in technical descriptions. Additionally, students will explore how language choices influence readability, comprehension, and overall effectiveness in technical and argumentative writing.

Potential ACT English Standards Covered in this Unit

This unit connects to ACT English skills in five key areas:
ACT English Rating Scale – Grammar, Usage & Logical Organization

1. **(16–19): Identifying correct sentence structure and word choice**
   - Recognize subject-verb agreement and proper punctuation in technical writing.
   - Choose appropriate vocabulary when describing robotic functions (e.g., "sensor," "motor," "calibration").
   - Correctly identify sentence fragments or run-ons in instructional texts.

2. **(20–23): Revising for clarity and precision**
   - Edit robotic procedure steps for clearer, more concise language.
   - Replace vague terms with specific technical vocabulary (e.g., "adjust the wheel speed" instead of "make it go better").
   - Improve sentence structure to eliminate ambiguity in task descriptions.

3. **(24–27): Recognizing rhetorical strategies in technical texts**
   - Identify cause-and-effect, compare-and-contrast, or sequential organization in robotic project explanations.
   - Understand how headings, transitions, and examples support understanding in manuals or reports.
   - Analyze how word choices impact clarity and tone in engineering writing.

4. **(28–32): Evaluating logical flow and argument structure**
   - Assess whether explanations about robotic systems follow a logical sequence.
   - Revise drafts for consistent tone and progression of ideas in a report or reflection.

- Rearrange sentences or paragraphs to improve coherence and effectiveness in technical communication.

5. **(33–36): Analyzing tone, perspective, and author intent**
   - Evaluate how tone (e.g., instructional vs. persuasive) affects the effectiveness of a technical or argumentative piece.
   - Distinguish between objective reporting and subjective interpretation in engineering reflections.
   - Analyze the writer's purpose in communicating design improvements or justifying robotic choices.

Why This Matters for ACT Preparation?

By engaging in writing tasks connected to the Robotic Car Kit, students:

✅ Develop their ability to explain technical concepts such as speed, distance, sensor input, and acceleration in clear, structured writing.
✅ Practice organizing logical arguments and supporting them with data from their robotic experiments.
✅ Strengthen their skills in crafting concise, evidence-based reflections, design justifications, and experiment analyses.

These activities mirror key ACT Writing competencies—such as argument development, clarity, organization, and the use of relevant examples. Through real-world robotics experiences, students improve their ability to communicate complex ideas effectively, preparing them for ACT Writing success and future STEM communication challenges.