# Automotive Electrical and Engine Performance - 9th edition
# Ch31: Temperature and Throttle Position Sensors
# Lesson Plan

**CHAPTER SUMMARY:**

1. Engine Coolant Temperature Sensors and Testing the Engine Coolant Temperature Sensor
2. Intake Air Temperature Sensor, Other Temperature Sensors, and Throttle Position Sensor Construction
3. TP Sensor Computer Input Function and PCM Uses for the TP Sensor
4. Testing the Throttle Position Sensor

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**OBJECTIVES:**

1. Describe the purpose and function of engine coolant temperature sensors.
2. Describe how to inspect and test temperature sensors.
3. Explain the function and testing of intake air temperature sensors, including sensor DTCs.
4. Discuss the other temperature sensors that may be found on vehicles.
5. Describe the construction and function of a Tm sensor.
6. Discuss Tm sensor input.
7. Discuss the PCM uses for the Tm sensor.
8. Describe how to test the Tm sensor, including sensor DTCs.

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**RESOURCES:** (All resources may be found at jameshalderman.com)

1. Task Sheet: Temperature Sensor Scan Tool Diagnosis
2. Task Sheet: Throttle Position Sensor Scope Test
3. Crossword Puzzle and Word Search
4. Videos: (A8) Engine Performance Videos
5. Animations: (A8) Engine Performance Animations

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**ACTIVITIES:**

1. Task Sheet: Temperature Sensor Scan Tool Diagnosis
2. Task Sheet: Throttle Position Sensor Scope Test
3. Crossword Puzzle and Word Search
4. Chapter PowerPoint
5. Crossword Puzzle and Word Search

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**ASSIGNMENTS:**

1. Chapter crossword and word search puzzles from the website.
2. Complete end of chapter quiz from the textbook.
3. Complete multiple choice and short answer quizzes downloaded from the website.

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**CLASS DISCUSSION:**

1. Review and group discussion chapter Frequently Asked Questions and Tech Tips sections.
2. Ten (10) question end of Chapter Quiz.
3. Five (5) end of chapter Review Question for class discussion.

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**NOTES AND EVALUATION:**

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