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# Introduction to Sensors

## Final Assessment Participant Guide

### Introduction

The purpose of this assessment is to determine your understanding of sensors after having completed the *Introduction to Sensors Learning Module*.

1. Which of the following is a mechanical sensor?
  - a. Oxygen detector
  - b. Infrared thermometer
  - c. Barometer
  - d. Geiger counter
  
2. Which of the following BEST describes a sensor? A device that
  - a. produces a readable output representative of a change.
  - b. quantifies a value on its input and produces a readable output.
  - c. converts one form of energy to another form of energy.
  - d. converts a change on the input into a proportional movement.
  
3. What type of MEMS sensor is currently used for detecting analytes for biohazard detection, medical diagnosis, and food processing?
  - a. Mechanical Sensor
  - b. Chemical Sensor
  - c. Electrical Sensor
  - d. Thermal Sensor
  
4. An airbag deployment sensors use micro-\_\_\_\_\_ to sense a particular motion requiring the need for airbag deployment.
  - a. accelerometers
  - b. gyroscopes
  - c. photodetectors
  - d. barometers
  
5. Which of the following is NOT a sensor?
  - a. Infrared thermometer
  - b. Geiger counter
  - c. Enose
  - d. Thermocouple

6. A thermal sensor that uses a change in a coil's resistance to measure temperature uses \_\_\_\_\_ as the transducer.
- a. Infrared detectors
  - b. diaphragms
  - c. capsules
  - d. RTDs
7. A transducer is to a sensor as
- a. the sun is to a plant
  - b. a book is to its cover
  - c. an ear is to the brain
  - d. wood is to a fire
8. One of the biggest challenges of micro-sensors vs. macro-sized sensors is to develop
- a. micro-sized devices that are as durable as the macro-sized equivalents.
  - b. a cheaper process for mass production of micro-sized devices.
  - c. devices that are more accurate than their macro-equivalents.
  - d. micro-sized batteries that are as long lasting as macro-sized batteries.

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