

ROBOTICS II Lesson

18 - 21 May 2020

Watch the following videos and send the answers to
larin@centralschools.org for **BW Coins**.

What is Engineering?

https://www.youtube.com/watch?v=btGYcizV0il&list=PL8dPuuaLjXtO4A_tL6DLZRotxEb114cMR&t=0s

1. What do engineers do?

2. Name two fields of engineering that have skills necessary to build robots?

a) _____

b) _____

3. Think of some problems that can be helped with robots?

a) _____

b) _____

c) _____

Mechanical Engineering

https://www.youtube.com/watch?v=A1V-QQ5wFU4&list=PL8dPuuaLjXtO4A_tL6DLZRotxEb114cMR&index=4

1. Why would robots be used instead of people?

- a) _____
- b) _____
- c) _____
- d) _____

2. What are two factors that need to be solved to improve robots?

- a) _____
- b) _____

Electrical Engineering

https://www.youtube.com/watch?v=3nB1Ntku06w&list=PL8dPuuaLjXtO4A_tL6DLZRotxEb114cMR&index=5

1. The telegraph used the symbols • (dot) and – (dash) or Morse Code. What symbols do computers use to communicate?

___ and ___

2. What did transistors replace?

3. What was developed in 1968 that makes the Arduino and Raspberry Pi possible and so small?

Cheese, Catastrophes, & Process Control

https://www.youtube.com/watch?v=BT_JUbpZ1IQ&list=PL8dPuuaLjXtO4A_tL6DLZRotxEb114cMR&index=26

- 1) What is the common concept between the cheese factory and designing robots?

- 2) The signal from an ultrasonic distance sensor on a robot would be considered a process _____.
- 3) The speed of the motor driving a robot would be considered a _____ variable.
- 4) Detecting an obstacle with the distance sensor to stop or turn the robot is an example of _____ control.

How Engineering Robots Work

https://www.youtube.com/watch?v=uNfUAJBuZ0s&list=PL8dPuuaLjXtO4A_tL6DLZRotxEb114cMR&index=34

- 1) What are the three features virtually all robots have in common?
 - a) _____
 - b) _____
 - c) _____
- 2) In the apple picking example, what are the three fundamental qualities of the robot?
 - a) _____
 - b) _____
 - c) _____