

THIRD TERM

WEEKLY LESSON NOTES – B8

WEEK 10

Week Ending: 01-09-2023	DAY:	Subject: Computing	
Duration: 60mins		Strand: Computational Thinking	
Class: B8	Class Size:	Sub Strand: Robotics	
Content Standard: B8.4.3.1. Discuss Robot Intelligence Concepts		Indicator: B8.4.3.1.1 Describe the principles underlying the operation of the components of a robot (Controller Mechanical, Sensors	Lesson: 1 of 2
Performance Indicator: Learners can explain the controller's function in a robot and demonstrate understanding of the mechanical parts that enable robot movements.		Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum Pg. 38			
Activities For Learning & Assessment		Resources	Progression
<p>Starter (5mins)</p> <p>Revise with learners to review their understanding in the previous lesson. Start with a question: "What makes a robot function?" Briefly discuss the importance of robotic components.</p> <p>Share performance indicators and introduce the lesson.</p> <p>Main (35mins)</p> <p>Explain the concept of the controller as the “brain” of the robot.</p> <p>Discuss its role in interpreting and executing commands. Use diagrams or the actual robot/robotic kit to demonstrate.</p> <p>Describe the different mechanical parts: motors, pistons, grippers, wheels, and gears.</p> <p>Explain how they help the robot move, grab, turn around, or lift objects.</p> <p>Demonstrate, using the robot/robotic kit, the function of each component.</p> <p>Play video clips or show pictures illustrating various parts of a robot in action.</p> <p>Encourage learners to identify each component and its function as they watch.</p> <p>Divide learners into small groups. Provide each group with pictures or diagrams of various robotic components.</p>		Diagrams of robotic components	Describing the Internet, world wide web (www) and Internet Protocol (IP) addresses

Ask groups to identify and explain the function of each component.

Assessment

1. What is the primary function of the controller in a robot?
2. Briefly explain the difference between a gripper and a wheel in terms of their functions on a robot.
3. True or False: All robots need pistons to operate.

Reflection (10mins)

Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.

Take feedback from learners and summarize the lesson.

Homework/Project Work/Community Engagement Suggestions

- Which component is most likely responsible for a robot turning around?
- Describe how a motor contributes to a robot's movement.

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

None

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Performance Indicator: Learners can describe a range of sensors used in computing and explain their real-life applications.		Core Competencies: CC8.2: CP6.1	
Reference: Computing Curriculum Pg. 38			
Activities For Learning & Assessment		Resources	Progression
<p>Starter (5mins)</p> <p>Revise with learners to review their understanding in the previous lesson. Begin with a question: "How do devices 'sense' changes in their environment?" Briefly explain the concept and importance of sensors in computing.</p> <p>Share performance indicators and introduce the lesson.</p> <p>Main (35mins)</p> <p>Describe different sensors: light, temperature, magnetic field, gas, pressure, moisture, humidity, pH, and motion.</p> <p>Explain how they function to detect specific changes. Show actual sensors or images for better visualization.</p> <p>Discuss how sensors are used in real-life scenarios:</p> <ul style="list-style-type: none"> • Street lights (light sensors) • Security devices (motion sensors) • Pollution control (gas sensors) • Games (motion sensors) • Household and industrial applications (temperature, pressure, etc.) <p>Use video clips or pictures to illustrate these applications.</p> <p>Divide learners into small groups. Provide each group with a list of everyday devices.</p> <p>Ask them to identify which sensor might be used in each device and explain its function.</p>		Diagrams of robotic components	Describing the Internet, world wide web (www) and Internet Protocol (IP) addresses

<p><u>Assessment</u></p> <ol style="list-style-type: none"> 1. Which sensor is most likely used to detect changes in light conditions? 2. True or False: Motion sensors are commonly used in video games to detect player movements. 3. Explain how a temperature sensor might be used in a household application. <p>Reflection (10mins) Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>		
<p>Homework/Project Work/Community Engagement Suggestions</p>		
<ul style="list-style-type: none"> • Which sensor would most likely be used in an app that checks for potential rain based on atmospheric moisture? • Describe a scenario in which a gas sensor might be crucial for safety. 		
<p>Cross-Curriculum Links/Cross-Cutting Issues</p>		
<p>None</p>		
<p>Potential Misconceptions/Student Learning Difficulties</p>		
<p>None</p>		