Learning Objectives Report
October 19, 2025 - October 25, 2025

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Engineering (EDP)

Date: Monday, October 20, 2025
Slide: Sketching VEX Sub-Assemblies - Learning Objectives
Learning Objectives:
We will:
• We will collaboratively analyze examples of orthographic and pictorial sketches to understand their differences and uses.
I will:
• I will create a freehand sketch of a VEX sub-assembly, accurately label its components, and identify whether the sketch is orthographic or pictorial.
Essential Question:
How do different types of sketches help in effectively communicating design ideas in robotics?

Date: Tuesday, October 21, 2025
Slide: Fusion 360 Account Setup and Verification
Learning Objectives:
We will:
• We will collaboratively navigate the process of setting up and verifying Fusion 360 accounts, ensuring everyone successfully installs the software and accesses educational resources.
I will:
• I will create my own Fusion 360 account, successfully log in, and confirm my educational access by completing a verification checklist.
Essential Question:
How can I use Fusion to enhance my planning?

Date: Wednesday, October 22, 2025
Slide: Introduction to VEX Robotics Design Software
Learning Objectives:
We will:
• We will collaboratively import VEX part files into our design software and explore the ViewCube and browser features to understand their functionalities.
I will:
• I will individually practice navigating the ViewCube and browser to manipulate part views, create basic joints between parts, and save the project's structure correctly.
Essential Question:
How does understanding the tools and features of Fusion enhance our ability to create and modify robotic designs effectively?

Date: Thursday, October 23, 2025
Slide: Assembling a Wheel, Shaft, and Spacer Stack
Learning Objectives:
We will:
• Work together to understand the process of assembling a wheel, shaft, and spacer stack, ensuring each component is correctly aligned.
I will:
• Individually assemble a wheel, shaft, and spacer stack, capture a clear screenshot of my completed assembly, and upload it to Schoology.
Essential Question:
Why is precise assembly important in mechanical structures, and how does documenting our work help us improve our skills?

Date: Friday, October 24, 2025
Slide: Mini Sub-Assembly and Design Note - Learning Objectives
Learning Objectives:
We will:
• Collaboratively assemble a mini sub-assembly and apply constraints using design software.
I will:
• Individually complete the mini sub-assembly, add necessary constraints, capture two screenshots, and write a three-sentence design note explaining my approach and decisions.
Essential Question:
How do constraints affect the functionality and design of an assembly in engineering projects?

Engineering (PAE)

Date: Monday, October 20, 2025
Slide: Understanding Daily Physical Activity and Pedometer Usage
Learning Objectives:
We will:
• Discuss the impact of childhood obesity and how daily physical activity can improve health. We will also learn how to use pedometers to track our steps.
I will:
• Learn how to record my daily step counts using a pedometer and ensure I meet the required number of log entries for a completion grade by Friday. I will also read and summarize key points from chapter 8.
Essential Question:
How can tracking daily activities with a pedometer influence our understanding and habits related to physical health?

Date: Tuesday, October 21, 2025
Slide: Understanding Key Terms in Chapter 8 - Learning Objectives
Learning Objectives:
We will:
• Read Chapter 8 independently and discuss the importance of key terms in understanding the text.
I will:
• Individually identify and document at least five key terms and their meanings in context from Chapter 8 in my notebook.
Essential Question:
How do key terms enhance our understanding of a text?

Date: Wednesday, October 22, 2025
Slide: Independent Reading and Note-Taking - Learning Objectives
Learning Objectives:
We will:
• Read Chapter 8 and identify key terms and examples that enhance our understanding of the material.
I will:
• Continue reading Chapter 8 independently and add at least three new key terms and two examples to my notebook entries.
Essential Question:
How do key terms and examples enhance our understanding of a text?

Date: Thursday, October 23, 2025
Slide: Chapter 8 Reading and Step Data Verification - Learning Objectives
Learning Objectives:
We will:
• Read Chapter 8, then discuss key themes and vocabulary to ensure understanding.
I will:
• Individually document vocabulary terms from Chapter 8 and verify my step data for the past three days to prepare for Friday's check.
Essential Question:
How do the key concepts and vocabulary from Chapter 8 relate to our daily lives and physical activities?

Date: Friday, October 24, 2025
Slide: Physical Activity Assessment and Reflection - Learning Objectives
Learning Objectives:
We will:
• Discuss our results and reflections from the Chapter 8 Test and pedometer logs, sharing insights about our daily physical activity levels.
I will:
• Complete the Chapter 8 Test and submit my pedometer logs, then reflect on my physical activity habits and identify one area for improvement.
Essential Question:
How does tracking our daily physical activity help us understand and improve our overall health and fitness?

W.I.N. Robotics

Date: Monday, October 20, 2025
Slide: Introduction to VEX VR Programming
Learning Objectives:
We will:
• Explore the VEX VR platform together, write and run a basic script using drive_for(), and discuss the importance of indentation, comments, and the run/stop behavior of the script.
I will:
• Individually write and execute a basic VEX VR script using drive_for(), correctly use indentation and comments, and explain the sequence of operations and their outcomes.
Essential Question:
How does proper use of indentation and comments enhance the readability and functionality of a VEX VR script?

Date: Tuesday, October 21, 2025
Slide: Tracing a Square with turn_for() and drive_for() - Learning Objectives
Learning Objectives:
We will:
• We will collaboratively program a robot to trace a square path using turn_for() and drive_for() functions, discussing the difference between using degrees for turns and rotations for driving.
I will:
• I will individually write a program that instructs a robot to trace a perfect square by calculating the correct degree turns and rotations needed for each side.
Essential Question:
How do degrees and rotations affect the movement of a robot when programming it to trace a geometric shape like a square?

Date: Wednesday, October 22, 2025
Slide: Refactoring Code with Functions and Loops - Learning Objectives
Learning Objectives:
We will:
• Refactor a code block that draws a square into a reusable function and introduce a for loop to repeat the square-drawing action.
I will:
• Refactor my existing square-drawing code into a function and use a for loop to draw multiple squares with varying sizes.
Essential Question:
How can using functions and loops make my code more efficient and easier to read?

Date: Thursday, October 23, 2025
Slide: Functions and Code Clarity - Learning Objectives
Learning Objectives:
We will:
• We will collaboratively explore and discuss the process of creating functions that calculate the area of a square and a triangle, and how to improve code clarity.
I will:
• I will individually write a function in a programming language of my choice that calculates the area of a square and a triangle, and then pair with a peer to share and refine my code for clarity.
Essential Question:

How does writing clear and concise code improve collaboration and understanding in programming?

Date: Friday, October 24, 2025
Slide: Demo Day - Challenge Solution and Reflection on Loops/Functions
Learning Objectives:
We will:
• Collaboratively present and discuss our coding challenge solutions, focusing on how loops and functions were utilized.
I will:
• Individually run my coding project to demonstrate how I used loops and functions effectively, and write a short reflection on their impact on my solution.
Essential Question:
How do loops and functions enhance problem-solving in coding projects?