

Worksheet 1: "Exploring Hercules ROV - Fun Facts"

Objective: Investigate the features and capabilities of the Hercules robot, a Remotely Operated Vehicle (ROV).

Fact Exploration:

Watch the "X-STEM Robots" video segment about the Hercules ROV.

Fill in the blanks with the missing information about the Hercules robot's features.

- a. Hercules has a predator arm that is used to pick up _____ and install things.
- b. It can rotate in _____ directions.
- c. Hercules can carry upwards of _____ lbs worth of samples to and from the ocean floor.
- d. The robot is remotely controlled by a team from a control room, and it can move at speeds of _____ m/s.
- e. Hercules has lights, camera, and action to share discoveries with the world, featuring LEDs all over its frame to capture visuals of _____ activities.

Visual Representation:

Create a visual representation (drawing, diagram, or infographic) of the Hercules ROV, highlighting its key features and capabilities.

Include captions or labels to explain each of the three fun facts.

Worksheet 2: "Role of Robots in Our Lives"

Objective: Understand the purpose and significance of designing robots to perform tasks that are challenging for humans.

Reflection and Writing:

Reflect on the information from the "X-STEM Robots" video regarding the Hercules ROV. Write a short essay or reflection discussing how robots like Hercules make our lives easier and contribute to tasks that are difficult for humans.

Worksheet 3: "Real World Robots"

Real-World Application:

Identify and research one real-world example where a robot is used to perform a task that is challenging or risky for humans.

Present your findings through a short paragraph and, if possible, include images or illustrations.