HOWARD B. OWENS SCIENCE CENTER

Robo Wunderkind

GRADE 1

Computer Science Robotics Program

Pre-Visit Resource Packet

Fall 2019

Dear Visiting First Grade Classroom Teacher,

Soon you and your students will visit the Science Center to participate in our brand new "**Robo Wunderkind**" first grade computer science robotics program.

During your visit, the students will work in teams of four to design, build and code a Robo Wunderkind robot for specified mission tasks identified by the HBOSC instructor. Therefore, it will be important for the students to be able to work together. Let the HBOSC Instructor know if you have pre-grouped the students when you arrive before seating.

The two activities provided in this Pre-Visit Resource Packet are designed to assess students' prior knowledge about robots, get them thinking about robotic design and to become familiar with Robo Wunderkind robotic block module parts and functions.

I've also included a "Field Trip" Calendar Reminder that you can write the weekday, Month and date and post in the classroom for the students.

The Science Center Staff looks forward to your upcoming visit, please do not hesitate to contact me with any questions or concerns.

Sincerely,

Sallie M. Smith

Sallie M. Smith, HBOSC Science Instructor
Robo Wunderkind Program Designer and Lead

Pre-Visit Activity # 1: "What's a Robot?"

Engage: *Lead students in a whole class discussion to assess the students' knowledge of what a "robot" is and if anyone has seen a robot.*

Explore: *Display pictures of robots and ask the students what they think the robot was built to do?*

Explain: *Guide students to notice that the robot has special parts to do a specific job an "engineer" designed and built the robot to do.*

Elaborate: *Invite the students to ponder what it would be like to have their own robot and to think about what they would want it to do. Finally, invite students to draw a picture of their own robot.*

Evaluate: *Invite students to share their robot designs with the class and assess if the robot design has the parts necessary to complete the intended performance task shared by the student.*

Note: STUDENTS ARE INVITED TO BRING THEIR ROBOT DESIGNS to the Howard B. Owens Science Center the day of their field trip.

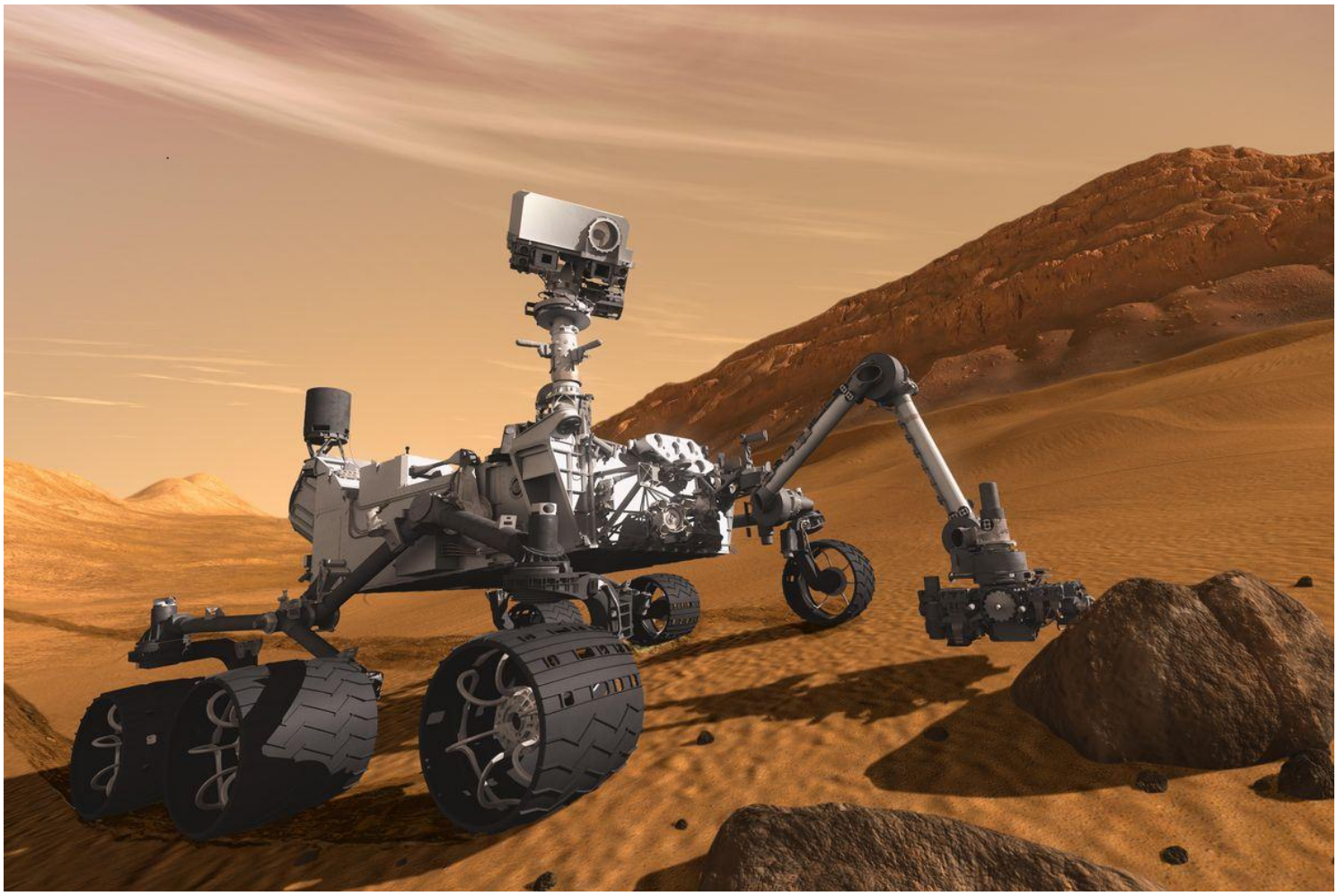
Q. What do you think this robot was designed and built to do?

Image Credit: http://best-lawn-mower-review.com/best-robot-lawn-mower/robomow-rs630-amazing-robot-lawn-mower-review/

ROBO MOW

RS630

Q. What do you think this robot was designed and built to do?



MARS CURIOSITY ROVER

Q. What do you think these robots were designed and built to do?

Image credit: https://www.silicon.co.uk/wp-

GENERAL MOTORS AUTOMOTIVE ROBOTS

UNDERWATER ROBOTIC EXPLORER

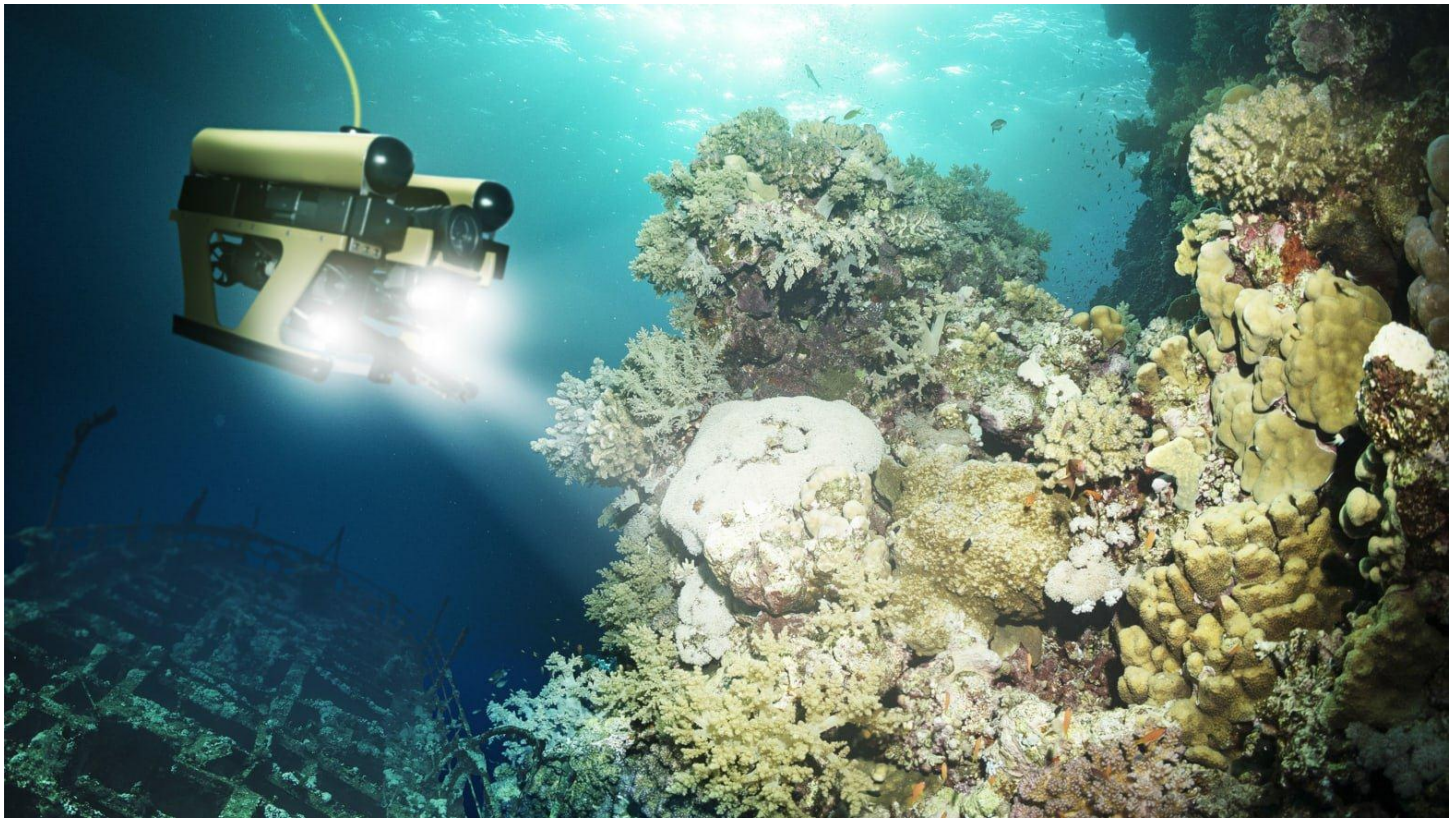


Image Credit: https://www.thedailybeast.com/how-subsea-robots-will-explore-earths-final-frontier

NAME: _____

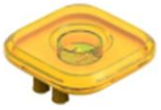
“My Robot”

Pre-Visit Activity # 2:
"ROBO Wunderkind Robot Parts"

"Robo Wunderkind" parts can make many different kinds of Robots. Color and learn about the different parts that your team will use to design and build robots on your field trip at the Howard B. Owens Science Center**.**

Main Block – "Power"

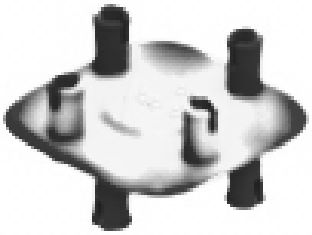
Distance Sensor



NAME: _____

<u>Directions</u>: Color and Learn about "Robo Wunderkind" robot parts as your teacher reads aloud the description.

 **1. Color "Orange".**	The **"Main Block"** turns Robo Wunderkind robots "**on**" and "**off**". It has a battery inside to give the robot energy.
 **2. Color "Red".**	The **"Distance Sensor"** measures how far away objects are in front of Robo Wunderkind Robots.
 **3. Color "Blue".**	The two **"Motors"** have moving parts on them that spin which makes it possible for Robo Wunderkind robot wheels to move.

 **4. Color “Green”.**	**“Wheels”** make it possible for the Robo Wunderkind robot to move from place to place.
 **5. Color “Green”.**	**“Connectors”** are used to attach robot blocks together.
 **6. Color “Red”.**	A **“Push Button”** can be programmed to turn on Robo Wunderkind lights and sounds.
 **7. Color “Yellow”.**	A **“Light”** can be added to Robo Wunderkind’s orange main block and programmed to turn “on”, “off” and light different colors.

NAME: _____ DATE: _____

Pre-Visit Activity # 3: "What's Different?"

When you come to the science center you will look at pictures to build your robot. Let's see if you notice what new parts have been added to the robots in the second picture.

Directions: Look at picture # 1 and picture # 2. Circle the new part that was added in picture # 2.

Picture # 1

Picture # 2

Picture # 1

Picture # 2

Picture # 1

Picture # 2

FIELD TRIP REMINDER

Our class RoboWunderkind Field Trip at the Science Center is scheduled for:

_____

_____

_____

SEE YOU SOON!