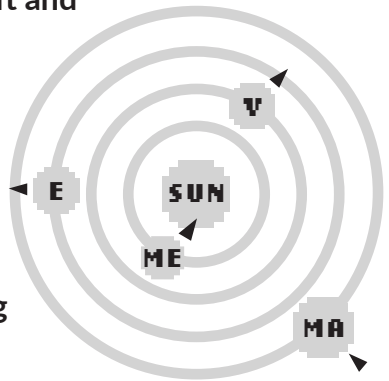
DEBUGGING SPACECRAFT CHALLENGE TEACHER GUIDE

In this activity, you will debug (identify and fix) errors in a program to help your bot mimic a spacecraft and complete a mission.



STEPS

1. Place each planet model on its pathway next to the orange triangle on the board like in the picture to the right.
2. Choose and read a mission.
3. Think about the route your spacecraft will need to take.
4. Connect your bot to Ozobot Blockly. Then, put your bot in the dotted circle on Earth's path facing down for Mars, right for Venus, and down for Mercury.
5. Run the program once. Then, make changes to the program to successfully complete the mission.
6. Record the changes you made and check your answer.

MISSION 1

Travel from Earth to Mars (MA) slowly. Complete a u-turn to return to Earth quickly. Report its color.

URL: https://ozo.bot/b/2xjkya

What did you change in the program?

The speed blocks in the first loop were changed to slow. The speed blocks in the second loop were changed to very fast . The say block was changed to "red".

Solution: https://ozo.bot/b/h4so93

MISSION 2

Travel from Earth to Venus (V). Zig zag and wait on the way there and back to avoid meteors. Report how hot it is from 1 (coldest) – 10 (warmest).

URL: https://ozo.bot/b/knxr9j

What did you change in the program?

A wait block was added after each zigzag block. The say block was changed to 10.

Solution: https://ozo.bot/b/qvujnc

MISSION 3

Travel from Earth to Mercury (ME). Circle the planet one time. Return to Earth to report its order in the solar system.

URL: https://ozo.bot/b/ooq88g

What did you change in the program?

The first rotate block was changed to left. The say block was changed to 1.

Solution: https://ozo.bot/b/2tcasj