



Color Walk: Biographies

Using the color sensor, students will program the RVR to read a list of words related to the **Biographies** category and associated to each specific color tile. This activity encourages students to use the movement and control blocks to drive over the color tiles, pause, and list words that fit the category. This also uses speech blocks as well as the "On Color" event block.

Materials

- Sphero RVR robot
- Color squares, included with the RVR
- The website
<https://study.com/academy/topic/famous-people-for-elementary-school.html>
- Index cards or label stickers
- Floor Space

Student Objectives

- Students will research famous inventors, politicians, and others who have accomplished great things in our U.S. history.
- They will compile a set of interesting facts about their chosen individual and program their Sphero RVR robot to say those facts during a "Color Walk".
- With Sphero EDU block code, students will use control, movement and sound blocks (among others) to teach their classmates about their subject.
- Students will think like programmers: they will debrief, debug and correct mistakes in their programming to make their project effective and interesting.

Teacher Technology Skills Needed

- Understanding of the Sphero RVR color sensor and movement headings
- Understanding of the control blocks to add delays and pauses in the speech blocks of the robot
- Utilizing a web search (Google Images) to find sample pictures to save and print out for the color block labels ... and teach the students how to do this.



Procedure

1. Go to <https://study.com/academy/topic/famous-people-for-elementary-school.html> and show your students how to navigate this resource by clicking on a lesson related to a famous person. Model for them how to read some of the paragraphs and remember three interesting facts about this person.
2. Review with the Sphero RVR the movement blocks and the heading degree chart. Demonstrate a Sphero program you have built where the robot uses the color sensor to react to a color tile and speak out loud some content.
3. In this lesson, students will program the robot to pause after sensing a color, say the famous person's name and three facts about this person.
4. Explain that the students are now going to program their robots to go on a Color Walk. That means that the robot must do the following after sensing a color block on the floor:
 - Stop moving
 - Say the person's name
 - Have the RVR move on to the next color square and pause again.
 - Program the robot to speak an interesting fact about this person. Repeat this two more times, so that 4 color blocks are used altogether.
5. After they have tested their program, they share it with their teacher and present it to the class with their RVR robot.

Extension Activities

This basic programming challenge can be enhanced by having students add the following ideas to their program (assuming it works and follows the teacher's criteria):

- ✓ Add LED programming so that when the RVR stops on a color block on the floor, it flashes its lights or uses the strobe block.
- ✓ More movement blocks can be added so that the color squares on the floor can be in a pattern shape such as an equilateral triangle or square. This way, students will have to figure out the change of heading for each movement.
- ✓ At the end of the Color Walk, students can use the movement blocks and LED blocks to program a celebration dance after reading the last color.
- ✓ Add more speech blocks to have the RVR say an important quote from this person or additional facts about their fame, accomplishments and other interesting facts.