



What's That Number?

In this activity, students will control Sphero to answer math questions. Teachers will set up number cards that will be placed throughout the classroom. Students will then be asked a question and students will drive the Sphero to the correct number card.

Materials

- Sphero Bolt Robot or Sphero SPRK + Robot
- Device to control Sphero (iPad, cellphone, etc.)
- Sphero Play or Sphero Edu App
- Internet access
- Paper or digital space to record questions/numbers

Student Objectives

- Students will be able to answer math-related questions
- Students will learn the basics of math operation skills: Addition, Subtraction, Multiplication, and Division
- Students will be able to write or verbally share question responses
- Students will collaborate with peers to move Sphero
- Students will learn programming skills to drive their Sphero robots

Teacher Technology Skills Needed

- Understanding of the Sphero Robots
- Understanding of Sphero Play/Sphero Edu App
- Understanding of how to push out content digitally to students
- Skills for driving and controlling the Sphero Bolt/SPRK+

Standards

NGSS Standards:

- NY-3.OA.1- Interpret products of whole numbers.
- NY-3.OA.4- Determine the unknown whole number in a multiplication or division equation relating three whole numbers.
- NY-3.OA.5- Apply properties of operations as strategies to multiply and divide.



- NY-3.NBT.2- Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

Procedure

1. Start the lesson by reviewing key math operations with students: Addition, subtraction, multiplication, and division.
2. Once the content has been provided to students, begin creating math equation questions. The questions can be recorded on paper (notecards). Be sure to make each question and answer on a new notecard. This can also be done digitally, depending on available resources.
3. Setup your space by writing numbers on large colored paper. These numbers will be placed throughout the room. Be sure to include the correct answers to your questions in the number cards that you create. Then, students can select a notecard question (equation) from a pile.
4. Next, students will use the Sphero to move to the correct answer choice. This will be done by using the Sphero Play App on Tilt or Drive mode. The Sphero Edu App could also be used to add code to move the Sphero.
5. Students will then drive their Sphero to the correct number choice. There are two choices for how this can be done, depending on materials available:
 - Each student can have their own Sphero to drive and whoever gets to the right answer first, earns a point.
 - Students can take turn answering questions and driving the Sphero
6. This can continue until all questions have been answered. The student with the highest number of points wins!
7. This lesson will conclude by having a review of the content learned throughout the activity as well as key concepts and findings while using the Sphero robot.

Extension Activity

- Task students with the challenge of developing additional questions for their peers to answer. This can be typed out, handwritten, or verbally shared.
- Challenge students by having them create additional twists and turns for their Sphero robot to get to the correct answer choice.
- Challenge students by having them create accompanying word problems to go along with the activity. These word problems can be written by hand or done digitally. Once they are created, students can share them out with their peers and have one another solve them.