

VEX IQ Adjusting Velocity

In this Lesson: You learn about what velocity and turn velocity are, and how they can be adjusted in VEXcode IQ to help your robot accomplish a task successfully.

Definition(s):

- **Velocity:** how fast an object is moving in a straight line
- **Turn Velocity:** how fast an object rotates; also referred to as angular velocity

Notes:

- You can increase or decrease your robot's velocity or turn velocity to make your robot drive or turn faster or slower
 - **Increasing** velocity and turn velocity can be useful during a timed challenge, or when you need your robot to move more quickly.
 - **Decreasing** velocity and turn velocity can be useful during a precision-based task, like navigating a maze or picking up and moving an object.
- There is a tradeoff between velocity and precision
 - Increasing velocity can make your robot's movements faster, but less precise
 - Decreasing velocity can make your robot's movements slower, but more precise
- Drivetrain blocks to adjust drive and turn velocity will be added to the Toolbox in VEXcode IQ when a Drivetrain is added:



- The [Set drive velocity] and [Set turn velocity] blocks allow you to set the velocity or turn velocity of your robot in percentages or rpm (rotations per minute), and accept values between 0 and 100.
- The default drive and turn velocity in VEXcode IQ is 50%.

Note: To learn more about each of these blocks, you can access the Help in VEXcode IQ.

- You can set the drive and turn velocities to different values to try to balance the tradeoff of precision and time.