

What Are Gears? What Do They Do? Post-Quiz

1. What is a gear?

A gear is a wheel with teeth that meshes together with other gears. It is usually made of metal or plastic.

2. How do we select the gear ratio for a particular application?

Some applications (machines) may need to be fast, while other machines may need to be strong. When designing gears for a machine, it's important to know whether speed or torque (strength) is more important. Remember that $\text{power} = \text{torque} \times \text{speed}$. So, if the NXT motor power setting is kept fixed, then increasing the torque decreases speed, and vice versa. In general, if you need to have more torque, select a large gear ratio. If you need to move fast, then use a smaller gear ratio.