Snail Car - NXT

Suggested Time	75 minutes
Age	8 - 13
Challenge	In this activity, design and construct an NXT car or snail which is capable of traveling extremely slowly. The cars compete in a snail race with the last car to cross the finish line crowned as the winner.
Topics	Gears, Gear Trains, Friction
Subjects	Math, Science, Engineering & Technology
Programming Themes	Motor Forward
Related Math & Science Concepts	• Wheels and Axles • Gears • Friction • Acceleration • Velocity • Torque
Materials	• NXT Car • Gears

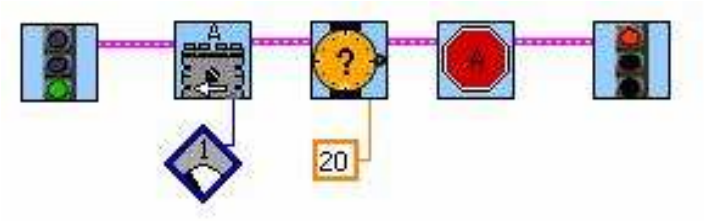
Building Instructions

1. Build an NXT car which utilizes a series of gears and axles.

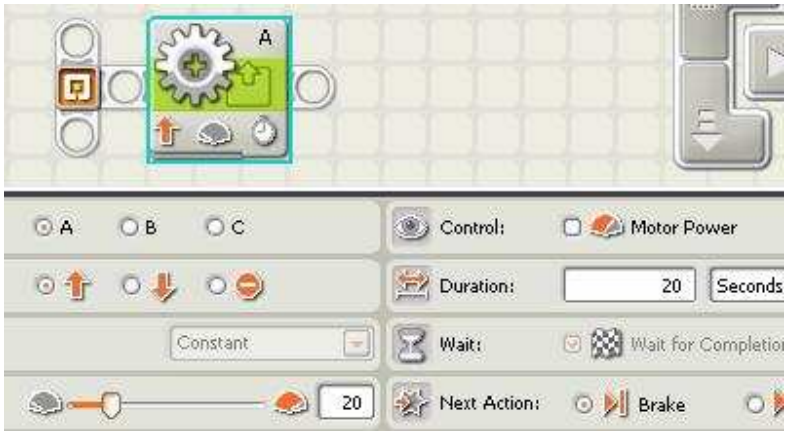
Programming Instructions

1. Choose whether to use ROBOLAB or the LEGO NXT-G software to program (follow step 2 for ROBOLAB; follow step 3 for NXT-G).

2. Using Programmer, Inventor 2, program motor A to run forward for 20 seconds.



3. Using NXT-G, program motor A to run forward at 20% power for 20 seconds.



In Action

Cars compete to see which car is the slowest. Last car to finish wins.

Related Activities

- Sturdy Car: The Drop Test
- Mountain Rescue
- Peak Performance
- Fan-tastic

Building & Programming References

- Building With Beams
- Axle Uses
- Connector Pegs & Bushings
- Hubs and Tires
- The NXT
- NXT Motors & Wires
- Gears

Classroom Managenemnt

1. Students build snail cars that are designed to move as slowly as possible. Students may use gears, friction, or any other strategies they can think of to slow their cars.
2. Place the starting line on the floor with the tape. Once the cars are built, you and the students can determine an appropriate length for the race (if the designs are successful, the racecourse may only be a few centimeters long).
3. Hand out the rules for the race.