A Robot Tug-of-War?

Can we make our robots have a Tug-of-War? We will probably not stick to the 61 page official Tug-Of-War manual, let us just have some fun finding out how to make a strong robot.

Robot Tug-of-War.

What sort of robot would you use for a tug-of-war? Any robot will do, provided we make it strong so it does not fall apart during the tugging.

How would you program your robot – fast or slow – straight or crooked? Have a go with your robot now.

Robot Tug-of-War Contests.

Some people have contest rules like these:-

- If any part of a robot crosses the centerline, or any part comes off a robot, that robot loses that round.
- After being started, a robot must wait at least 5 seconds before moving.
- If, after 1 minute, no robot has crossed the centerline, the round is to be considered a draw.
- A robot must win 2 out of 3 trials.
- In the case of a draw, where neither robot is successful in pulling the other across the line, the winner is determined by holding a tie-breaking round. In this round, the winner is determined by measuring the distance of each robot from the centerline at the end of the time limit. The robot closest to the line loses.

But how you run your contests is up to you and your teacher/mentor – make up your own rules if you like!

Different Tug-of-War Robots?

You could also build different types of Tug-of-War robots that might be better than our present ones. Would your robot be better if you made it heavier or lighter? Would it be better longer or shorter? Would it be better wider or narrower? Would it be better taller or shorter? Would it be better with 1, 2 or more motors? How would you make the robots shown in the following videos better? Would more or less wheels be better? In fact, do you need any wheels at all?

So many options and so much fun to be had...

Since this is a Challenge, we will not provide detailed building instructions for your tug-of-war robot, except to say that paper clips were very useful in attaching the string to our LEGO robots. However, you may be able to gain some other hints by looking at the following videos of student Tug-of-War Challenges. Start building or modifying your Tug-of-War robot now!