

The Clean-up Conundrum

Red- Red Alliance Mobile Goals

Blue- Blue Alliance Mobile Goals

Yellow- Neutral Mobile Goals

Purple- Rings

Green-Balance Platforms

Two companies are comparing their remote-control recycling trucks with a clean-up competition. The winner gets to be the recycling company for the school. The two companies are the Red Recycling Co. and the Blue Recycling Co. Both companies want to prove their trucks are more efficient than the other. They will do this by seeing who can collect the most recycling in the time limit of 2 minutes. The winner gets to work for the school. The school has decided on an area for them to compete.

The remote-control recycling trucks are put in their company's area. The Red Company on the side with the Red **Recycling Plant** and the Blue Company on the opposite. The **Recycling Plants** are where the recyclables are re-purposed and are worth more recycling points for the companies if they get to them. The Red Company has **Aluminum bins** closer to their recycling plant and the Blue Company have **glass bins** closer to their recycling plant. The **paper bins** are right in the middle of both home zones. There are also **pre-collected recyclables** which the trucks must bring to their bins. The bins only count if they are in the company's home zone. There are also normal **recyclables** all around the area for the trucks to collect on the way to the bins or during the test run. The **recyclables/pre-collected recyclables** can be put into any bins at any time during the 2:00 minute time limit.

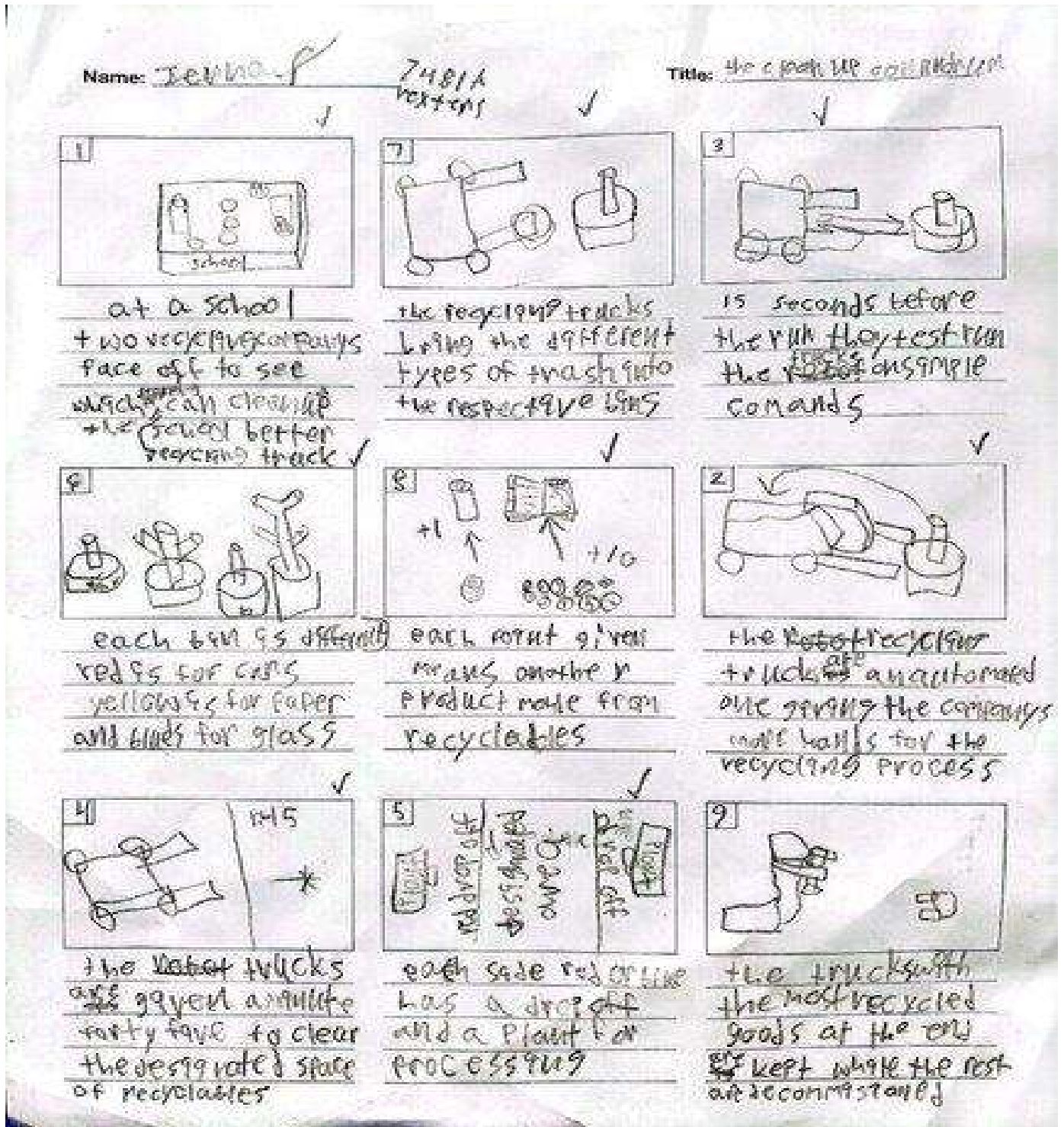
The recycling trucks are then put on a test run with only simple commands (pre-issued) for a total of 15 seconds. This is a demonstration of their pre-made strategies to collect more recycling without knowing what is happening.

The trucks then have 1:45 to collect the bins from area and to get as many as they can. However, they can cross into the other company's property and take the bins they have collected, gaining more recycling. The company can then bring the goal/s they collected back to their home zone. That company will gain points even if there are no recyclables in the bin. This is because the robot can pick up the bin and carry it. In a normal situation, there would be recyclables in the bins, nonetheless.

If a truck is in their **Recycling Plant**, then they get credit for that since they proved that their truck could get to their plant. It is even better if the truck gets there with one or more bins. **Recycling Plants** can be used at any point in the 2 minutes; however, the truck must choose to remain stationary in the exact middle of the plant so the process will not be disturbed.

There are also some rules the trucks must follow to show the school how well their truck can operate. One is that the trucks cannot touch the other teams **Recycling Plant**. This is because interfering or touching the other team's Plant may disrupt or damage the process of their machinery. Another rule is that the trucks cannot keep more than one bin in a corner since this may damage the bins from being too compacted. Hooking on, or snagging the other company's truck/trucks can mean

that the offender's trucks are a safety hazard to passing cars that could be carrying students and parents.



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