




Caring For Root





Introduction





Maximize Root's efficiency and lifespan by proper care and maintenance. Teach students proper care of the Root Robot before each lesson. Care for sensitive technology is an important part of the ADST curriculum, too!

Materials:

Ipads (enough for one to every two students), Root Robots (1:2 students), laminated mats (1:2 students. Available in LRC Root kits), dry erase markers (in LRC Root kits), dry towels or paper towel to erase lines (1:2 students), Large tables or solid, flat, clean surface to place mats.

Steps	
1	 <p>Before Using:</p> <p>Clean any surfaces on which Root will run. This means removing all dirt, debris, and materials that will clog Root's wheels or otherwise compromise Root's sensors.</p> <p>It is best to place the mats on a clean, dry, flat surface to guarantee maximum efficiency and decrease the chances that Root will break down.</p>
2	 <p>Care for Sensors:</p> <p>Roots have sensors near their wheels. The Root is programmed to stop if they sense an edge.</p> <p>Make sure the sensors are kept clean by wiping them down before and after each lesson with a clean, dry cloth. This will ensure that Root functions properly.</p>
3	 <p>Dry-Erase:</p> <p>Roots come with two dry-erase markers, 1 blue and 1 green. Keep the markers, mats, and the bots in good shape by reminding students to use a clean, DRY cloth to wipe them down when done. Use paper towel, microfiber cloths, or kleenex.</p> <p>Fingers are <u>not</u> dry-erasers!!</p>

4		<p>Charging Roots:</p> <p>Remember to charge Roots before use. If Roots are not charged properly, they will flash red to indicate low battery.</p> <p><u>Do not keep Roots on the charger at all times!</u> This will diminish the life of Root over time. Begin charging Roots a day before the lesson or the morning before the lesson to avoid over-charging.</p>
5		<p>Extend the life of the markers by:</p> <ul style="list-style-type: none"> • Making sure the lids stay with the markers at all times, • Placing the markers firmly but gently inside the Root <p>If the Root isn't operating the marker properly, chances are the problem lies with the code and not with the Root. Do not try to force the marker through the hole. The Root will grip the marker and draw it to the right height for drawing when it is instructed to do so.</p>
6		<p>Stopping a Project:</p> <p>To stop a project, remember to press the stop button in the program or press Root's nose for two seconds.</p> <p>Do not grab the Root while it is in the middle of running a program! This can disconnect the mechanism to the wheels and render the Root useless until it is fixed.</p>
7		<p>Opening and Closing Editors:</p> <p>Opening and closing the editors for each block is easy. Simply press your finger on the block to open the editor. Use your finger to manipulate the editor to the setting you want.</p> <p>Tap the editor again to close.</p>

8		<p>Folding the mats:</p> <p>It is important to fold the mats the same way each day. This reduces the likelihood that the mats will buckle over time, activating the Roots' edge sensors.</p> <p>Have students hold the open mat in front of them, with the 'outer space' side facing outwards. Fold inwards so the blank side faces in and the space side faces out. Then, fold again on the long side to create one long strip, four blocks long. At this point, have students fold the mat in an accordion shape, creating an 'M' or a 'W' before folding into one square.</p>
9		<p>Cleaning the Eraser:</p> <p>If your students have used the eraser function on the whiteboard (they cannot use it on the mats), have them remove the eraser pad underneath the Root and wash it with soap and water. Wait for the pad to dry before using the Root again.</p>
10		<p>Help With Blocks:</p> <p>Drag any block to the Help function on the upper right hand side of your project screen to see what that block can do.</p>
11		<p>Turning Root On and Off:</p> <p>Sometimes, you will need to force shutdown of Root because students are connecting and disconnecting to other team's bots. If you are concerned this is happening, just press on Root's nose for 2 seconds to turn off. This will disconnect the bot from whomever is currently connected to the bot. Wait 30 seconds and turn Root on again.</p>



Tips...

1. If student robots are moving slowly, have them go completely out of the app (press the home button) to disconnect from their robot. When they go back in, they can reconnect and the robot should go much faster.
2. For best results, have students rename their robot at the beginning of the lesson. This way, when they accidentally disconnect from their robot (as they inevitably will), they will easily be able to find their bot on the list. The robot re-naming function is available in the 'Hello' program (see below for icon)



3. Students can also use their pens to design their robot to set it apart from other bots. Just remember to wipe clean with a dry cloth afterward!