Lesson Planning Routes

Route 1: Getting Started Experience (4 hours)

- The Getting Started Experience guides users through the creation of a basic chassis using TETRIX® elements in Lesson 1. In Lesson 2, users add wheels and motors to the chassis to create the foundation for the R/C Ranger Bot and add the communication and electrical systems. In Lesson 3, users make the R/C Ranger Bot move.
- All students should complete this experience in approximately four hours. This experience also serves as the foundation for the remaining experiences.

Route 2: Build and Expand Experience (5.5 hours)

- The Build and Expand Experience uses the R/C Ranger Bot build created in the lessons and adds to its functionality. Here students can choose from a variety of modular extension builds to create an R/C Ranger Bot with additional functions. This Bot will be able to reach out and grasp an object (Arm and Gripper); pick up and move objects (Harvester and Transporter); or deposit an object that has been pre-loaded (Dispenser).
- Extensions can be combined to expand the capabilities of the R/C Ranger Bot. Each Extension activity can be completed in approximately one and a half hours.
- Educators may wish to have students work in small groups with each group completing a different extension. This will allow students to share their success with each other and demonstrate what they have learned.

Route 3: Complete Classroom Experience (12.5+ hours)

- The Complete Classroom Experience provides a challenging path that culminates in an opportunity for students to experiment with a variety of extensions and then complete a final challenge. Students may complete a Competition Challenge, a Driving Challenge with real world applications, or a Creative Challenge that uses robotics in an innovative way.
- While support resources, including sample Building Guides, have been provided for the Competition and Driving Challenge, they should serve as a starting point. Students should be given time to experiment with and expand on the modular extension builds and create their own solutions to the tasks described in the Challenge overviews.
- Each Challenge activity may take four to six hours to complete, depending on the experience of students and the time allowed for experimentation and original builds.

Note: The Innovation and Inspiration suggestions, located at the end of each Reference Guide, provide additional suggestions for variation, experimentation, and innovation.

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