## **Exploring Innovative Transportation**



## **LEGO® Education SPIKE™ Essential Lesson Recommendations**

LEGO Education Lesson	Grade	Topic Content Considerations		
Recommendation	Grade Level	Topic	Content Considerations	
Arctic Ride	1-2	Automated Vehicles and Delivery Robots	Explore navigation in automated vehicles and consider travel across different terrain	
Cave Car	1-2	Automated Vehicles and Delivery Robots	Explore the features of vehicles that enable safe travel	
The Fast Lane	1-2	Connected Vehicles and Intersections	Explore and discuss the use of sensors to automate processes in connected vehicles	
Preparing for Weather	3	Smart City Planning	Explore and discuss smart city planning to prepare for weather conditions and build sustainability	
Solving Problems When Environments Change	3	Smart City Planning	Explore and discuss smart city planning considering how new construction will impact the environment	
How Eyes See	4	Connected Vehicles and Intersections	Explore the features of vehicles that enable safe travel	
Energy Resources	4	Smart City Planning	Explore and discuss smart city planning and how cities use and produce energy	
<u>Trash Monster Machine</u>	3-5	Smart City Planning	Explore and discuss smart city planning and how cities process waste and recycle	
Taxi! Taxi!	3-5	Automated Vehicles and Delivery Robots	Explore and discuss navigation using automated vehicles	
Hovering Helicopter	3-5	Drones, Advanced Air Mobility, and Vertiports	Explore and discuss air mobility and vertiport planning	
<u>Cable Car</u>	3-5	Smart City Planning	Explore and discuss smart city planning and alternative transportation mechanisms	
Big Bus	3-5	Electric Vehicles and Charging Stations	Explore and discuss smart city planning and how cities use and produce energy	
Get Around Town	3-5	Electric Vehicles and Charging Stations	Explore and discuss navigation using automated vehicles	
Safe Crossing	3-5	Smart City Planning	Explore and discuss smart city planning with a focus on mitigation of human impact on the environment	





## **LEGO® Education SPIKE™ Prime Lesson Recommendations**

LEGO Education Lesson Recommendation	Grade Level	Topic	Content Considerations
Hopper Race	6-8	Automated Vehicles and Delivery Robots	Explore and discuss the engineering of delivery robots and prototyping locomotive features
Out of Order	6-8	Automated Vehicles and Delivery Robots	Explore and discuss engineering of automated vehicles and the debugging process
Track Your Packages	6-8	Automated Vehicles and Delivery Robots	Explore and discuss delivery robots and the tracking of deliveries
Automate It	6-8	Automated Vehicles and Delivery Robots	Explore and discuss the use of automation in the shipping process
Training Camp 1: Driving Around	6-8	Automated Vehicles and Delivery Robots and Connected Vehicles and Intersections	Explore and discuss automated vehicles and the associated programming
Training Camp 2: Playing With Objects	6-8	Automated Vehicles and Delivery Robots	Explore and discuss the use of sensors in programming automated vehicles
Training Camp 3: Reacting to Lines	6-8	Automated Vehicles and Delivery Robots	Explore and discuss the use of sensors in programming automated vehicles
This is Uphill	6-8	Vehicles and Charging Stations	Explore and discuss potential and kinetic energy associated with vehicle movement
Going the Distance	6-8	Automated Vehicles and Delivery Robots	Explore and discuss the programming and use of sensors in automated vehicles
Smart House: Go Green	Grades 6-8	Smart City Planning	Explore and discuss smart city planning to minimize human impact on the environment





## Additional LEGO® Education Resources

LEGO Education Lesson Recommendation	Grade Level	Topic	Content Considerations
Build to Launch	All grade levels; Focus on Grades 3-8	Automated Vehicles and Delivery Robots	Explore and discuss automated vehicles used in space missions
Rebuild the World: Career Toolkit (all) Racing	All grade levels; Focus on Grades 3-5	Electric Vehicles and Charging Stations	Explore and discuss career connections in transportation
Build The Change: Thinking Outside the Bus	Grades 3-5	Electric Vehicles and Charging Stations	Explore and discuss the circular economy of electric school buses in the United States

