

Robot Mission Menu – A La Carte – EV3

Done	#	Mission
		Sensor (Mostly) Challenges
	40	Color Sensor: Have robot follow line without zig-zagging across edge
	41	Color Sensor: Read graphic pattern on paper and show on screen
	42	Color Sensor: Read graphic pattern on paper and reproduce it on another sheet of paper
	43	Color Sensor: Read graphic pattern on paper and show on screen of another EV3
	44	Color Sensor: Read character on paper, recognize which character, and display on screen
	45	Color Sensor: Read binary bar code and convert it to decimal
	50	Color Sensor: Identify and announce (on screen or audibly) the color of objects
	51	Color Sensor: Sort and store items by color
	60	Sound Sensor: Have robot move toward (or away from) sound
	71	Gyro Sensor: Turn 90° to the right in a spin
	72	Gyro Sensor: Turn 90° to the left in a pivot
	73	Gyro Sensor: Complete a Figure 8 course
	74	Gyro Sensor: Start and/or stop robot motion using a Gyro “switch” (a lever or knob).
	75	Gyro Sensor: Move robot following “True North” directions and report final bearing
	76	Gyro Sensor: Move robot following “True North” directions, then turn to face “True North”
	80	Infrared Sensor: Turn to locate beacon and move toward it, with beacon not moving
	81	Infrared Sensor: Turn to locate beacon, move toward it and follow it, with beacon moving
	82	Infrared Sensor: Use beacon as remote control and direct robot through obstacle course
	90	Measure light, sound, distance, touch or angle over a time period and display it as a bar graph
	91	Measure light, sound, distance, touch or angle and display it in BIG numerals
	92	Use one sensor to go around a circular object (like a trash can) staying within 12 inches of it
	93	Use each sensor to go around a circular object (like a trash can), staying within 12 inches of it
	94	Use one sensor to follow a wall, staying within 12 inches of it
	95	Use each sensor to follow a wall, staying within 12 inches of it
	96	Have robot move constantly on round table without falling off (be sure to catch it if it fails!)
	97	Start with touch, go forward, stop on either blue line or touch, whichever appears first
	98	Have robot move constantly and avoid all obstacles
	99	Have robot find and approach other robots and stay close to them, but not touch them

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		Control (Mostly) Challenges
	110	Control robot movement with EV3 buttons choosing menu items
	111	Control robot movement with touch sensors and/or EV3 buttons
	112	Control robot movement with remote EV3 buttons choosing menu items
	113	Control robot movement with remote EV3 buttons
	114	Control robot movement with remote EV3 having throttle and steering wheel/lever
	115	...(one of above, but have robot override remote control when too close to (or touching) objects)
	116	Have robot that moves constantly and avoids obstacles report sensor readings to remote EV3
	117	Control both robot movement and grasping/lifting/carrying with remote EV3
	118	Do video retrieval mission using remote controller
	119	Do video retrieval mission using remote program downloads
	120	Display a timer's value as clock hand(s)
	121	Display a timer's value as BIG numerals
		Mobility Challenges
	140	Climb over juice box's low side
	141	Climb over juice box's high side
	142	Climb over ridge
	143	Climb steep slopes
	144	Climb and descend stairs gracefully
	145	Pass through pit full of Legos
	146	Build a steering mechanism and use it to navigate a maze
	147	Have robot sense whether upright or flipped over and run forward in either orientation
		Object Moving Challenges
	160	Plow square (or circle) without going out of it
	161	Find object in square (or circle) and push it out, without leaving the square or circle
	162	Loading dock challenge (touch button and remove object from 'garage')
	163	Carry object out of square (or circle)
	164	Find object in square (or circle) and carry it out
	165	Find object in square (or circle) and carry it to designated storage place
	166	Find object in square (or circle), ID it, and carry it to designated place only if it matches criteria
	167	Pull or push sled holding juice pouches
	168	Grasp, lift and/or carry objects (you define further)
	169	Build and operate an elevator or another type of lifting mechanism
	170	Build and use arm with 1 degree of freedom (1 joint moving in 1 way)
	171	Build and use arm with 2 degrees of freedom (2 joints moving in 1 way, or 1 moving in 2 ways)
	172	Build and use arm with 3 degrees of freedom (3 joints moving in 1 way, etc.)
	173	Build a Great Ball Contraption module