

# FIRST® LEGO® League Explore UNEARTHED™ Building Instructions

## Build 1

This build is 55 pieces, and 20 building steps.

Welcome to text-based instructions from Bricks for the Blind. Before you start building, here are some terms we'll be using:

- In Front of/Front: towards you.
- Behind/Back: away from you.
- Up: towards the ceiling.
- Down: towards the floor.
- Stud: the bump on a LEGO brick. Example: A 2x1 brick has two studs on it.
- Vertically: going from front to behind.
- Horizontally: going from left to right.
- Upright: pointing up towards the ceiling.
- That one/ppp: previously placed piece.
- Plate: piece with studs.
- Tile: smooth piece without studs (unless otherwise specified)
- Symmetrically: a mirror image. Example: If you place a 2x1 brick with technic connector on the front wall at the right, connector to the front, and then place another such piece symmetrically on the back wall, at the right, the technic connector of the second piece should point to the back, since it will be placed symmetrically.
- Centered-vertically: even amount of space in front of and behind the piece
- Centered-horizontally: even amount of space left and right of the piece.
- Row: studs lined up horizontally (left to right/side to side).
- Column: studs lined up upright or vertically (top to bottom/back to front).
- Standing upright: the piece is perpendicular to the ground, like a wall.
- Lying flat: the piece is parallel to the ground, like a piece of toast which fell off the table.
- Anti-stud: the portion of a piece which accepts studs, like the bottom of a plate.
- Jumper plate: a 1x2 plate with a single stud on top, or a 1x3 plate with only two studs on top.

For builders with low vision, or a sighted building partner who may want to follow along with the printed visual instructions that come with each set. As low vision users may benefit from viewing the instructions on a personal device where they can zoom in on content and use assistive technologies to enhance the visuals.

### Sorting Instructions:

This LEGO set comes in the bag labeled 1 and uses some large pieces from bag 0. Sort the pieces into groups as described below. Note that where there are multiple colors of the same brick in a step, the colors will be split across two groups to make telling the difference easier for the builder! LEGO includes a few spare parts in case you lose something. Set these into their own group away from the rest, in case you need them later.

### Build 1 (4 groups of bricks)

Minifigure group 1 contains the pieces to build the adult minifigure on page 5, including the torch and binoculars.

Minifigure group 2 contains the pieces to build the child minifigure on page 5.

Group 1 contains the pieces for steps 1-10.

Group 2 contains the pieces for steps 11-18.

Group 3 contains the electronic pieces from steps 19-20.

### Building Instructions:

Bag 1.

Minifigure group 1.

Assemble the first minifigure by placing the torso on the legs, the head on the torso, and the hat on the head. This minifigure has light brown overalls, brown boots, and a teal long sleeve shirt. She's wearing light pink lipstick and a dark brown cowboy hat.

Assemble a torch by placing a black telescope, with the stud on the right, in front of you, then placing the stud of a transparent yellow 1x1 round plate into the anti-stud on the left side of the telescope.

Clip the telescope into the minifigure's right hand and a pair of binoculars into her left hand.

Minifigure group 2.

Assemble the first minifigure by placing the torso on the legs, the head on the torso, and the hair on the head. This minifigure has blue pants, and a white shirt with long green sleeves. His hair is dark brown. The shirt has a picture of a LEGO astronaut minifigure on the front.

Group 1.

Main Build:

1.1. Now we'll start the first build. This is a cart-like assembly with two wheels. Place a black 4x12 plate vertically in front of you.

1.2. Place the left four studs of a yellow 1x8 brick, horizontally, on the back row of the previous piece. This piece will overhang four studs to the right.

2. Place the back row of a black 4x12 plate, vertically, under the overhanging studs of the previous piece. It should be to the right of the first 4x12 plate.

3.1. Place a yellow 1x8 brick, vertically, in front of the horizontal 1x8 brick on the rightmost column of the previous piece. There should be three free studs in front of this piece. Repeat symmetrically on the left side.

3.2. Place a white 2x2 tile, centered horizontally, on the second and third rows from the back of the cart.

4.1. Place a tan 2x2 brick in front of the previous piece.

4.2. Place a yellow 1x4 brick, horizontally and centered horizontally, on the front row of the cart.

5.1. Now we'll start building the handles for the cart! Place a white 1x3 technic brick, vertically, in front of you.

5.2. Push a tan 3L pin, with the stop ring at the right, from the right into the middle hole of the previous piece. Push it all the way in so it extends 1L to the left and right of the brick. This pin does not have friction ridges so it should spin easily.

5.3. Push a yellow 2L pin, from the right into the hole behind the previous piece. This pin does not have friction ridges so it should spin easily.

5.4. Find a black 4x6 bent liftarm. This looks like a 6L liftarm and 4L liftarm connected at a 135 degree angle. It looks kind of like a hockey stick. The holes at each end are axle holes. Rotate this so the 4L side is vertically pointing to the front and the 6L side points up and away from you. The holes should face left and right. Push the second and third holes from the front, from the right, onto the pins from the previous two steps.

5.5. Rotate the base of the cart 180 degrees so the back row has just the 1x4 brick on it. Place the 1x3 technic brick on the back three studs on the leftmost column of the cart. The bent liftarm should still point up and away from you.

6.1. Now we'll mirror the first handle! Place a white 1x3 technic brick, vertically, in front of you.

6.2. Push a tan 3L pin, with the stop ring at the left, from the left into the middle hole of the previous piece. Push it all the way in so it extends 1L to the left and right of the brick. This pin does not have friction ridges so it should spin easily.

6.3. Push a yellow 2L pin, from the left into the hole behind the previous piece. This pin does not have friction ridges so it should spin easily.

6.4. Find a black 4x6 bent liftarm and rotate it so the 4L side is vertically pointing to the front and the 6L side points up and away from you. The holes should face left and right. Push the second and third holes from the front, from the left, onto the pins from the previous two steps.

6.5. Place the 1x3 technic brick on the back three studs on the rightmost column of the cart. The bent liftarm should still point up and away from you. There should be a pin extending 1L past both the left and right sides of the cart near the back.

7. Place a black 4x12 plate, vertically, on the left four columns of the cart. Place another to the right of the first. These should cover all of the interior of the cart.

8.1. Place a yellow 1x8 tile, horizontally, on the back row of the cart.

8.2. Place a light gray 2x2 tile with a pin sticking up on the left two columns in front of the previous piece. Repeat symmetrically on the right side.

8.3. Place a yellow 1x8 tile, horizontally, in front of the previous two pieces. Place another in front of the first.

9. Place a black 1x4 low fence panel, vertically with the fence on the left, on the left row in front of the front previous piece. Repeat symmetrically on the right side.

10. Place a yellow 2x2 chair, with the back of the chair at the back, to the right of the middle two studs of the left previous piece. Repeat symmetrically on the right side. There should be two free studs between the chairs and four free rows in front of them.

Group 2.

11. Place a yellow 1x1 round brick with a control lever on each of the middle two studs on the row in front of the chairs. The left lever should be free to move left and right and the right lever should be free to move front to back. There should be two free studs to the left of the left one and two to the right of the right one.

12.1. Place a light gray 1x2 brick with a pin on one long side, horizontally with the pin at the front, on the third and fourth studs from the left on the front row. Repeat symmetrically on the right side.

12.2. Place a yellow 2x4 slope brick, horizontally with the slope at the back, behind the previous two pieces.

13. Place a black 2x4 plate, horizontally, on the previous three pieces.

14. Keeping the handles at the back, flip the cart upside down. Place a white 2x2 rounded plate with a rounded bottom, upside down and centered horizontally, on the front two rows of the cart.

15. Keeping the handles at the back, flip the cart rightside up. Push a red 6L axle, from the left, into the back hole of the left handle. Only push it in until the right side of the axle is even with the right side of the handle. Repeat symmetrically on the right side.

16. Find a black 3L axle connector. This piece is a cylinder which has an axle hole on each side. Its cross section is vaguely cross shaped. Place the right axle hole of this piece, horizontally, to the left of the right previous piece. Keeping the 3L axle up against the handle, push the right axle to the left so it fully connects to the 3L axle connector.

17.1. Find a 3L perpendicular axle and pin connector. This piece looks like a 3L liftarm with a perpendicular bushing on one long side. Place this horizontally, with the holes facing up and down and the bushing at the back, in front of you.

17.2. Push a yellow 2L pin, from the top, into the left and right holes of the previous piece.

17.3. Keeping the bushing at the back, rotate this so the pins point up and slightly away from you. Place it to the right of the left handle. Push the left axle to the right so it goes through the bushing and fully connects to the left axle hole of the 3L axle connector from step 16.

18.1. Assemble two wheels by pushing a yellow wheel hub into a black tire.

18.2. The wheels have one recessed side and one flat side. With the flat side on the right, push the hole of one wheel onto the pin on the left side of the base of the cart. Repeat symmetrically on the right side.

Group 3.

19. Find a yellow 5x7x4 small electric hub. This looks like a box. Find the side that has holes in only two corners. Rotate the hub so this side is at the front with the holes at the bottom. On top of the hub there should be two round holes, and two flat square holes for connecting cables. Push the two holes on the bottom of the hub down onto the two pins on the second and third rows from the back on the cart.

20.1. Find an electric color sensor. This is a black and white 3x3x3 cube with a cable on one side and a window on the opposite side. Rotate it so the cable is on the top and so there are two pin holes on both the left and right sides. The window should be on the bottom. Push the two pin holes on the right side onto the two pins on the left side of the cart. Attach the free end of the cable to the front rectangular hole on top of the 5x7x4 hub.

20.2. Find a 3x3 color matrix. This is a teal and white 3x3 cube with a cable on one side and a grid of three colored lights on the opposite side. We will place this on the two pins on the handle. Rotate the color sensor so the cable is at the bottom and so there are two pin holes on both the front and back sides. Attach the pin holes on the back to the two pins on the handle. Attach the free end of the cable to the remaining rectangular hole on top of the 5x7x4 hub.

Congratulations! Now this build is complete!

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