FIRST® LEGO® League Challenge UNEARTHED™ Building Instructions Build 6: Mine

This build is 351 pieces, and 120 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.

A note on LEGO Technic™ part names. These parts are somewhat different from regular LEGO bricks. Here are some definitions in case the builder or helper is not familiar with LEGO Technic™.

Axles - An axle is a connector which has an X shaped cross-section. Because their cross section is not round, anything connected to an axle using an axle-hole will rotate with that axle. Axles are longer than they are wide, and the length of an axle corresponds with how many bricks long it is. Aka a 3L axle is three bricks long. Axles come in a variety of lengths, with a 2L axle being the shortest available. They may be combined with pins, or have circular stops on them. A stop prevents the axle from sliding through an axle-hole at a specific point on the axle.

Pins - A pin is a connector which has a circular cross section and a flanged notch out of one or both ends. This flanged notch allows them to click into bricks with a pin-hole. Pins come with and without friction ridges, which are small bumps on the pin which prevent them from rotating freely. For standard pins, black is a high friction pin, and gray is a low friction pin. A standard length pin is two brick lengths long, with a stop in the middle. This prevents a brick from being pushed from one side of the pin to the other. A 1L pin is one brick long and still retains the stop, however it also includes a hollow stud at the other end. A 3L pin is three bricks long, and only contains a stop at one side, allowing two bricks to be pushed onto the other side of the pin. Pins may also have one side which is an axle.

Lift-arms - A lift-arm is a basic structural element, similar to a brick or a plate, but usually without any studs. It is a beam with rounded ends and with holes in it, with the same spacing as the studs on a LEGO brick. lift-arms come in a variety of lengths, including a 1x1 lift-arm which looks like a cylinder. Thick lift-arms are as wide as a LEGO brick, and thin lift-arms are half as wide as a LEGO brick, but not the same thickness as a LEGO plate! The holes in a lift-arm arm may accept axles or pins. They also come in a variety of shapes, including tees, ells and triangles.

Gears - A gear is a functional element. They are typically discs with teeth on the outside, there are also worm gears which look like a spiraling cylinder! Gears connected by axles transmit or even transform rotational motion!

Axle and Pin Connectors - These elements are typically smaller than lift-arms and are used to connect some combination of pins or axles. They might have pins or axles, as well as axle or pin-holes. They have a lot of different angle combinations! The simplest just connects two axles or pins together in a straight line.

Bushes/Bushings - LEGO Technic™ uses bushes largely as spacers, but they also can reduce friction between rotating parts, or can form useful elements such as handles. Bushes are typically light gray, generally cylindrical, and have an axle-hole running through the middle. They have a flange at the front and back to make them easier to pull on and off.

Technic™ Bricks and Plates – There are also regular bricks and plates that are adapted for use with Technic™ elements. Technic™ bricks have holes for either pins or axles on the sides and are only one brick wide. One of the most common of these is a 1x2 brick with a single pin hole. Most often, these bricks have pin holes, not axle holes. Technic™ plates have holes on the flat surface between the studs and are a minimum of two bricks wide. The holes in these plates can accept pins or can allow an axle to pass through and still spin.

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 bags labeled 8, 9, 10 and 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 6
Group A contains all of the black 2L pins from this bag. These pins have friction ridges.
Group B contains all of the blue 3L pins from this bag. These pins have friction ridges.
Group C contains all of the blue 2L axle/pin combos from this bag. These pins have friction ridges.

Bag 8 (6 groups of bricks)
Main Build: Base
Group 1 contains the pieces for steps 1-3. Include two red 1L pins with studs on one side from step 5.
Group 2 contains the pieces for steps 4-12.
Group 3 contains the pieces for steps 13-19.
Group 4 contains the pieces for steps 20-26.
Group 5 contains the pieces for steps 27-37.
Group 6 contains the pieces for steps 38-44.

Bag 9 (6 groups of bricks)
Group 7 contains the pieces for steps 45-56.
Group 8 contains the pieces for steps 57-65.
Group 9 contains the pieces for steps 66-74.
Group 10 contains the pieces for steps 75-77.
Group 11 contains the pieces for steps 78-80.
Group 12 contains the pieces for steps 81-89.

Bag 10 (8 groups of bricks)
Group 13 contains the pieces for step 90. Include the dark gray 1x2 slope brick from step 91.
Group 14 contains the pieces for steps 91-92.
Group 15 contains a single light blue 1x2 slope brick from step 93.
Group 16 contains the pieces for steps 93-102. Include a black 2L axle connector from step 103.
Group 17 contains the pieces for steps 103-107.
Group 18 contains the pieces for steps 108-109.
Group 19 contains the pieces for steps 110-116.
Group 20 contains the pieces for steps 117-120.

Building Instructions:

Groups A, B, C and 1. You will use the pins from groups A, B and C throughout the build.

Main Build

1.1. We'll start building the main part of the mine! Find a dark gray 11x15 hollow frame. This looks like two 15L liftarms connected by two 11L liftarms, forming an open rectangle. Place this in front of you with the 15L liftarm sides at the front and back and the 11L liftarms on the left and right.

1.2. Find a light gray 3x3 perpendicular pin connector. This looks like two 3L liftarms which form a 90 degree angle. There are two pins each on the outer sides of the liftarms. Push this piece, with one pair of pins pointing right and one pair pointing to the front, from the left into the front two pin holes on the left side of the left 11L liftarm from the previous piece. Repeat symmetrically on the back side.

2. Find a light gray 3L pin connector with two pins. This looks like a 3L liftarm where the middle pin hole is perpendicular to the end holes. There are also two pins extending parallel to the middle pin hole on one side of the piece. When viewed from the front, it looks like a letter C. Push this, horizontally with the pins pointing to the back, from the front into the third and fourth holes from the left of the back 15L liftarm on the hollow frame.

Repeat symmetrically on the front side.

3. Push a red 1L pin with stud on one side, with the stud on top, into the top holes of both previous pieces. Push another into the right two holes of each 3x3 perpendicular pin connector from step 1.2. You'll place a total of eight pins in this step. These pins have friction ridges so they should not spin freely.

You will have two red 1L pins with studs on one side leftover when you finish this group.

Group 2.

4. Push a white 1L pin with a stud on one side, with the stud on top, into the third hole from the right on the top of the front and back 15L liftarms on the hollow frame. These pins do not have friction ridges so they should spin freely. These are not the leftover pieces.

5.1. Place a light gray 5L liftarm, horizontally with the holes facing the front and back, in front of you. Push a black 2L pin from group A, from the front, into the second holes from the left and right of the previous piece.

5.2. Find a light gray 2x5 L-shaped quarter ellipse. This looks like a 2x5 L-shaped liftarm, where the space between the legs is filled in with a curve. Push the rightmost and third hole from the right, with the short leg upright at the left and the long leg on the bottom pointing horizontally to the right, onto the two pins from the previous step. The curved section should be on top.

5.3. Push a leftover red 1L pin with a stud on one side, with the stud at the front, into the top and second hole from the left on the front side of the previous piece.

5.4. Keeping the 5L liftarm at the bottom, rotate the assembly we just made 180 degrees so the studs of the previous pieces are at the back. Push the rightmost and third from the right holes of the 5L liftarm, from the back, onto the two pins on the back side of the base. These are on the 3x3 perpendicular pin connector on the left side.

6.1. Find a dark gray 3x3x1 square liftarm. This piece is shaped like a square with five holes forming a cross on the flat sides. Two sides are rounded, and the other two sides have two holes each. Place this in front of you, laying flat with the rounded sides on the left and right.

6.2. Push a black 2L pin from group A, from the front, into each hole on the front side of the previous piece.

6.3. Repeat steps 6.1-6.2.

6.4. Push the pins on one of the 3x3 square liftarms, from the back, into the rightmost two holes on the back side of the back 15L liftarm of the 11x15 hollow frame. Repeat symmetrically on the front side with the other 3x3 square liftarm.

7.1. We'll make a small assembly here. Find a light gray 3L axle and pin connector with a perpendicular pin hole. This looks like a 3L liftarm where the center hole is perpendicular to the two end holes. The end holes are both axle holes. Place this, vertically with the pin hole on the top, in front of you.

7.2. Push the axle of a blue 2L axle/pin combo from group C, with the axle on the right, from the left into each of the axle holes of the previous piece.

7.3. Rotate this assembly so the pins of the previous two pieces point down and push them into the front and back holes on top of the back 3x3 square liftarm from step 6.1.

8.1. We'll make another small assembly here. Find a dark gray 3L axle and pin connector with two perpendicular pin holes. This looks like a 3L liftarm, except that the hole on one end is an axle hole that is perpendicular to the two pin holes. Place this in front of you, vertically with the axle hole at the front facing left and right and the pin hole facing up and down at the back.

8.2. Push a black 2L pin from group A, from the bottom into each of the pin holes on the previous piece.

8.3. Push the pins, from the top, into the back two holes on top of the front 3x3 square liftarm from step 6.1.

9.1. Place a tan 6x10 plate in front of you, upside down and vertically. Find the small circles which are now on top of the 6x10 plate. These are anti-studs which are offset from the normal anti-studs. There are five rows of five of these circular anti-studs.

Place a light blue 2x2 plate, upside down, on the four circular anti-studs on the back and front right corners of the 6x10 plate. It should be offset by a half stud in front the back and front right corners of the plate.

9.2. Keeping the 2x2 plates on the right, flip the 6x10 plate rightside up. Now we will place it on the left four studs on top of the base. The 2x2 plates will sit against the inside of the front and back left corners of the 11x15 hollow frame.

10.1. Place a light blue 1x1 slope tile, with the tall side at the back, on the third stud from the front on the third column from the right of the 6x10 plate.

10.2. Place a tan 1x1 tile with a clip on top, with the clip fingers at the front and back, on the third and sixth studs from the front on the third column from the left of the 6x10 plate.

11.1. Clip the handle of a dark gray shovel, with the blade at the right, onto the back clip from the previous step. The handle should be centered on the clip.

11.2. Clip the handle of a dark gray pick, with the head at the right, onto the remaining clip.

12.1. Assemble a bucket by clipping the gold U-shaped handle onto the two small bumps on a light gray bucket.

12.2. Place the bucket on the second stud from the back on the second column from the left of the 6x10 plate. Set the base aside for now.

Group 3.

13.1. Now we'll build the actual hole being dug in the mine. Place a tan 6x10 plate horizontally in front of you.

13.2. Place a tan 1x2 slope tile, horizontally with the tall side at the front, centered horizontally on the back row of the previous piece.

14.1. Place the back stud of a tan 1x2 slope brick, vertically with the slope at the back, to the left of the previous piece.

14.2. Place a light gray 1x1 slope tile, with the tall side at the front, to the left of the front stud of the previous piece.

15.1. Place the left stud of a tan 1x2 brick, horizontally, in front of the previous piece.

15.2. Place the middle row of a tan 2x3 brick, vertically, to the right of the previous piece.

15.3. Place a tan 1x4 slope brick, horizontally with the slope on the right, to the right of the back row of the previous piece.

16.1. Place a tan 1x1 slope tile, with the tall side at the back, in front of the second stud from the right of the previous piece.

16.2. Place the back row of a tan 2x2 brick to the left of the previous piece.

16.3. Place a tan 1x2 slope brick, horizontally with the slope on the left, to the left of the front row of the 2x3 brick from step 15.2.

17.1. Place the right two studs of a tan 1x4 slope brick, horizontally with the slope on the left, in front of the previous piece.

17.2. Place the back row of a tan 2x2 slope brick, with the slope at the front, to the right of the previous piece.

17.3. Place a tan 1x2 slope brick, horizontally with the slope on the right, to the right of the back row of the previous piece.

18. Place a tan 1x2x2 tall slope, horizontally with the slope on the left, on the third and fourth studs from the left on the front row of the 6x10 plate.

19.1. Find an orange 2x2 rounded corner tile. This tile is cut out so it looks like a macaroni noodle, I'll call it a "2x2 macaroni tile" from now on. Place the left column of this piece, with the straight sides on the right and back, behind the right stud of the previous piece. Place another, with the straight sides on the left and back, to the right of the first.

19.2. Repeat the previous two pieces symmetrically on the back side so there is now a circle of tiles.

Group 4.

20.1. There is a column of two studs on the bricks to the right of the right two macaroni tiles. Place a light gray 1x2 slope tile, vertically with the tall side on the left, on these studs.

20.2. There is a single stud to the left of the back left macaroni tile. Place a tan 1x1 slope tile, with the tall side on the right, on this stud.

21. Place the rest of the mining base in front of you, with the first 6x10 plate vertically on the left. Rotate the second 6x10 plate 90 degrees clockwise and place it on the base to the right of the first 6x10 plate.

22.1. Place a light gray 9L liftarm in front of you, horizontally with the holes facing the front and back.

22.2. Push a black 2L pin from group A, from the back, into the rightmost hole of the previous piece.

22.3. Push a red 1L pin with a stud on one side, with the stud at the front, from the front into the second, fourth, and sixth holes from the right of the 9L liftarm.

22.4. Rotate the liftarm so it stands upright with the 2L pin at the back on the bottom. Keeping the studs on top, rotate the base 180 degrees so the two 6x10 plates are on the right side. Find the 3x3 square liftarm on the front side of the base, it is on the front left corner. Push the bottom pin on the 9L liftarm into the hole on the base to the right of the square liftarm.

23.1. Place a light gray 9L liftarm in front of you, horizontally with the holes facing the front and back.

23.2. Push a black 2L pin from group A, from the back, into the rightmost hole of the previous piece.

23.3. Push a red 1L pin with a stud on one side, with the stud at the front, from the front into the second hole from the right and the third hole from the left of the 9L liftarm.

23.4. Rotate the liftarm so it stands upright with the 2L pin at the back on the bottom. Find the 2x5 quarter ellipse liftarm on the front of the base. Push the bottom pin on the 9L liftarm into the hole on the base to the left of this piece on the base.

24.1. Place a brown 11L liftarm in front of you, horizontally with the holes facing the front and back.

24.2. Push a black 2L pin from group A, from the front, into the leftmost and rightmost holes on the previous piece.

24.3. Rotate the 11L liftarm so it is horizontal with the pins facing the front. Find the two upright 9L liftarms on the front side of the base. Push the left pin on the 11L liftarm into the top pin on the left upright 9L liftarm, and then push the right pin into the bottom free hole on the right 9L liftarm. Once you do that, the three liftarms will look kind of like a capital letter N.

25.1. Place a dark gray 2x6 wedge plate, vertically with the longest column on the right, in front of you.

25.2. Place a light gray 1x3 slope brick, vertically with the slope at the back, on the front four studs of the right column of the previous piece.

25.3. Keeping the longest column on the right, rotate the 2x6 wedge plate so it stands upright with the slope brick at the bottom. Place it on the three studs on the left upright 9L liftarm. The top stud of the wedge plate attaches to the top stud.

26.1. Place a dark gray 3x8 wedge plate in front of you, vertically with the longest column on the left.

26.2. Place a light gray 1x2 slope brick, with the slope at the back, on the front two studs on the left column of the previous piece.

26.3. Place a light gray 1x1 slope tile, with the tall side on the left, to the right of the front stud of the previous piece.

26.4. Keeping the longest column on the left, rotate the 3x8 wedge plate so it stands upright with the slope brick at the bottom. Place it on the two studs on the right upright 9L liftarm. The top stud of the wedge plate attaches to the top stud.

Group 5.

27.1. Now we'll work on the side of the base! Set the rest of the base aside for now. Place a black 1x10 technic brick, horizontally, in front of you.

27.2. Push a black 2L pin from group A, from the front, into the rightmost and second from the left holes of the previous piece.

28. Push the second from the left hole of a brown 11L liftarm, horizontally with the holes facing the front and back, onto the left pin from the previous step. The right pin will connect to the third hole from the right on the 11L liftarm.

29.1. Push a black 2L pin from group A, from the front into the rightmost hole of the previous piece.

29.2. Push a blue 3L pin from group B, with the stop ring at the front, into the leftmost hole of the 11L liftarm. This pin will extend 2L to the front.

30. Push a light gray 1L liftarm, from the front, onto the previous piece. Push it all the way back.

31. Place the frontmost stud of a dark gray 3x8 wedge plate, vertically with the longest row at the right, on the leftmost stud of the 1x10 technic brick.

32.1. Place a dark gray 2x8 plate, vertically, to the right of the previous piece.

32.2. Place two dark gray 4x8 plates, vertically, to the right of the previous piece so the entire 1x10 technic brick is covered. The right plate should overhang one column to the right.

33.1. Keeping the wedge plate on the left, flip the side assembly upside down. Place a light blue 2x2 plate, upside down, in front of the left two studs of the 1x10 technic brick.

33.2. Place a light blue 2x3 plate, upside down and vertically, in front of the previous piece.

34.1. Now we'll build the other side of the side assembly. Place a black 1x10 technic brick, horizontally, in front of you.

34.2. Push a black 2L pin from group A, from the front, into the leftmost and second from the right holes of the previous piece.

34.3. Push the second from the right hole of a brown 11L liftarm, horizontally with the holes facing the front and back, onto the right pin from the previous step. The left pin will connect to the third hole from the left on the 11L liftarm.

34.4. Push a black 2L pin from group A, from the front into the leftmost hole of the previous piece.

34.5. Push a blue 3L pin from group B, with the stop ring at the back, into the rightmost hole of the 11L liftarm. This pin will extend 2L to the front.

34.6. Push a light gray 1L liftarm, from the front, onto the previous piece. Push it all the way back.

34.7. With the rest of the side assembly still upside down, flip the technic brick and liftarm assembly upside down so the 3L pin with the 1L liftarm is at the front, and place it on the front row of the side assembly so it is symmetrical with the first technic brick and liftarm. There should be one free anti-stud to the right of the 1x10 technic brick.

35.1. Keeping the wedge plate on the left, flip the side assembly right side up. Place a dark gray 1x8 brick, horizontally, on the back row so the right sides are even.

35.2. Place the back stud of a light gray 1x2 slope brick, vertically with the slope at the front, to the left of the previous piece.

35.3. Place a tan 1x4 slope brick, horizontally with the slope on the left, on the back row to the left of the previous piece.

36.1. Place a tan 1x2 brick, horizontally, in front of the right two studs of the 1x8 brick from step 36.1.

36.2. Place a light gray 1x3 slope brick, vertically with the slope at the front, in front of the right stud of the previous piece.

Group 6.

37. Place the front right stud of a light gray 3x8 wedge plate, horizontally with the longest row at the back, on the previous piece. The corner of the wedge plate should align with the corner of the side assembly.

38.1. Place a light gray 1x3 plate, vertically, on the front three studs of the rightmost column of the side assembly.

38.2. Place a tan 3x6 wedge plate, horizontally with the longest row at the front, to the left of the previous piece.

38.3. Place a green 2x4 wedge plate, horizontally with the longest row at the front, on the front two rows to the left of the previous piece.

39. Set the base back in front of you with the N-shaped set of liftarms at the front. Find the rightmost hole on the front of the base. This is to the right of the quarter ellipse liftarm. Push the right pin on the front side of the side assembly, from the back, into this hole. You will have to tilt the right side of the side assembly down for this. Then push the left pin into the top hole of the right upright liftarm of the N-shaped set of liftarms.

40. Keeping the studs facing up, rotate the base 180 degrees so the side assembly is on the left. The bottom row of the base should have three front-facing pins near the left side. Push a light gray 5L liftarm, horizontally with the holes facing the front and back, onto these three pins.

41. Push a black 2L pin from group A, from the front, into the hole on the base to the right of the previous piece. Push another into the hole to the left of the 3x3 square liftarm on the front side of the base. There should be three holes between these two pins.

42. Find a dark gray 11L liftarm with perpendicular holes. This looks like a normal 11L liftarm, except that every hole is perpendicular to its neighbors. Rotate this so it is upright with the smooth sides at the left and right. Push the bottom hole onto the left pin from the previous step. Repeat with the right pin from the previous step.

43.1. Place a brown 11L liftarm in front of you, horizontally with the holes facing the front and back.

43.2. Push a black 2L pin from group A, from the front, into the leftmost and rightmost holes on the previous piece.

43.3. Rotate the 11L liftarm so it is horizontal with the pins facing the front. Push the left pin into the bottom free hole on the back side of the left upright 11L liftarm from step 42. Push the right pin into the fourth hole from the top on the back side of the right upright 11L liftarm. These three liftarms should form a backwards capital letter N.

44. Push a black 2L pin from group A, from the left, into the second hole from the top on the left side of the left upright 11L perpendicular liftarm. Repeat symmetrically on the right upright 11L liftarm.

Bag 9.

Group 7.

45.1. Place a light gray 2x4 L-shaped liftarm in front of you, with the short leg vertically at the left pointing forwards and the long leg at the back pointing horizontally to the right.

45.2. Find a dark gray 3L axle/pin combo which has a 2L pin side, and a 1L axle side. Push the axle side of this piece, with the pin side on top, from the top into the rightmost hole of the previous piece.

45.3. Rotate the L-shaped liftarm 90 degrees so the long leg points down, the short leg points to the front, and the pin of the previous piece points to the right. Push the pin through the top hole on the left side of the right upright 11L liftarm from step 42. Push it all the way in so the pin extends 1L to the right.

46.1. Next, we'll make the N-shaped frame on the front side of the base taller. Set the base aside for now. Place a dark tan 2L liftarm with one pin and one axle hole in front of you, horizontally with the holes facing the front and back and with the axle hole on the right.

46.2. Push a blue 3L pin from group B, with the stop ring at the back, from the front into the left hole of the previous piece. It will extend 2L to the front.

47. Push the leftmost hole of a brown 7L liftarm, horizontally with the holes facing front and back, onto the previous piece. Push it all the way back so the pin extends 1L past it to the front. The liftarm will extend 5 holes to the right of the 2L liftarm.

48. Push the third hole from the right of a brown 15L liftarm, horizontally with the holes facing front and back, onto the pin. It will extend 12 holes to the left of the other liftarms.

49.1. Place a black 3L axle connector vertically in front of you.

49.2. Push a red 2L axle, vertically, into both axle holes on the previous piece.

49.3. Push a brown 2L axle connector, from the front, onto the front previous piece. Repeat symmetrically on the back side.

49.4. Push the axle side of a blue 2L axle/pin connector from group C, with the pin at the front, from the front into the front previous piece. Repeat symmetrically on the back side.

49.5. Push the back pin on the assembly we just made into the leftmost hole of the 15L liftarm from step 48.

50. Place the base back in front of you, with the sloped side of the base on the left. Find the two pins on the right side of the right upright 11L perpendicular liftarm. Rotate the extension assembly we just finished so the three axle connectors are on top pointing to the left and so the liftarms hang down. The 7L liftarm should be on the bottom and should have four free holes. Push the bottom hole onto the bottom pin on the upright 11L liftarm. The top pin should attach to the top free hole of the 7L liftarm.

51.1. Place a light gray 2x4 L-shaped liftarm in front of you, with the short leg vertically at the right pointing forwards and the long leg at the back pointing horizontally to the left.

51.2. Find a dark gray 3L axle/pin combo which has a 2L pin side, and a 1L axle side. Push the axle side of this piece, with the pin side on top, from the top into the leftmost hole of the previous piece.

51.3 Rotate the L-shaped liftarm 90 degrees so the pin of the previous piece points to the left. Push the pin through the top hole on the right side of the left upright 11L liftarm on the front side of the base. Push it all the way in so the pin extends 1L to the left.

52.1. Now we'll make the other half of the height extension. Place a dark tan 2L liftarm with one pin and one axle hole in front of you, horizontally with the holes facing the front and back and with the axle hole on the left.

52.2. Push a blue 3L pin from group B, with the stop ring at the back, from the front into the right hole of the previous piece. It will extend 2L to the front.

53. Push the rightmost hole of a brown 7L liftarm, horizontally with the holes facing front and back, onto the previous piece. Push it all the way back so the pin extends 1L past it to the front. The liftarm will extend 5 holes to the left of the 2L liftarm.

54. Push the third hole from the left of a brown 15L liftarm, horizontally with the holes facing front and back, onto the pin. It will extend 12 holes to the right of the other liftarms.

55. Find the two pins on the left side of the left upright 11L perpendicular liftarm. Rotate the assembly we just made so the 15L liftarm is upright on the right, with the 7L liftarm at the bottom. Push the bottom hole of the 7L liftarm onto the bottom pin on the upright 11L liftarm, and the top hole of the 15L liftarm onto the pin on the left side of the axle connectors on the other half of the height extension.

56. Find the two 2L liftarms on the now very tall upright frame on the front of the base. Push a brown 5L axle with a stop on one side, with the stop on the left, from the left into the bottom hole of the left one. Only push it in until it extends 1L to the left of the 2L liftarm. You should just be able to feel the right side of the axle in the holes to the right. Repeat symmetrically on the right side. Set the base aside for now.

Group 8.

57.1. Now we'll start making rails for the minecart! Place a blue 3L pin from group B, vertically with the stop ring at the front, in front of you.

57.2. Push a red 1L liftarm, from the back, onto the previous piece. Push it all the way forward so the pin extends 1L in front of and behind it.

58. Push a red 2L pin connector, from the front, onto the front side of the 3L pin. Repeat symmetrically on the back side.

59. Push a black 2L pin from group A, from the front, into the front piece from the previous step. Repeat symmetrically on the back side.

60. Push the leftmost hole of a red 11L liftarm, horizontally with the holes facing front and back, from the front onto the front previous piece. Repeat symmetrically on the back side.

61. Push a black 2L pin from group A, from the back, into the rightmost hole of the front previous piece. Repeat symmetrically on the back side. These two pins should point in at each other.

62. Push the second hole from the left on the front side of a dark gray 15L liftarm with perpendicular holes, horizontally with the smooth sides at the top and bottom, from the front onto the front previous piece. Repeat symmetrically on the back side. These pieces will be the rails for the minecart to roll on.

63. Push a light gray 2L pin with a bushing on one side, vertically with the bushing at the front, into the third hole from the right of the front 11L liftarm. Push it all the way back so it connects to the leftmost hole of the front 15L perpendicular liftarm. Repeat symmetrically on the back side.

64. There are seven holes on top of each 15L perpendicular liftarm. Leaving the leftmost, rightmost, and center holes free, push a black 2L pin from group A into the holes on top of each 15L perpendicular liftarm. There should be four pins on each liftarm.

65. Find a light gray 3x5 I-shaped liftarm. This looks like two parallel 3L liftarms connected by another 3L liftarm so it looks like a capital letter I. Rotate this so it is vertical with the holes on the parallel 3L liftarms facing up and down, then push it down on the left set of pins from the previous step. It will connect the two 15L perpendicular liftarms together. Repeat on the other set of pins.

Group 9.

66.1. Place a light gray 1x6 technic brick, vertically, in front of you.

66.2. Place a tan 1x2 tile with rounded ends, vertically, on the front two studs of the previous piece. Repeat symmetrically on the back side.

66.3. Push a blue 3L pin from group B, with the stop ring on the left, from the right into the front and back holes of the previous piece.

66.4. Push a light gray 1L liftarm, from the right, onto both previous pieces. Push them the way to the left so the pins extend 1L to the right.

66.5. Keeping the 15L perpendicular liftarms on the right, flip the rest of the track over so the I-shaped liftarms are at the bottom. Find the leftmost holes on top of the 15L perpendicular liftarm. Rotate the 1x6 technic brick so the pins are at the bottom and the 1x2 tiles with rounded ends face the right. Push the pins into the leftmost holes on top of the 15L liftarms. This piece is the bumper that will stop the minecart from falling off the end of the track!

67. Set the base in front of you, with the tall frame at the right and the slope side on the front. Find the two 2L liftarms on the front and back sides of the tall frame. Line up the rightmost holes on the track assembly with the 5L axle with a stop on one side which is in the bottom hole of each 2L liftarm. When it’s lined up, push the 5L axles in so they connect to the ends of the track piece. The left side of the track will rest on the shorter frame on the left side of the base.

68.1. Rotate the base 180 degrees so the tall frame is on the left. Find the two 3x3 square liftarms on the left and right sides of the base near the front at the bottom. Each of these has a 3L liftarm on top with a hole facing the front, the left one has an axle hole and the right one has a pin hole. Push the axle side of a tan 2L axle/pin combo, with the pin at the front, from the front into the axle hole of the left one.

68.2. Push a light gray 2L pin, from the front, into the pin hole of the 3L liftarm on top of the right 3x3 square liftarm. This pin does not have friction ridges and should spin freely.

69.1. Now we'll build another frame. Set the base aside for now. Place a brown 11L liftarm in front of you, horizontally with the holes facing the front and back.

69.2. Find a light gray 3x3 perpendicular pin connector. This looks like two 3L liftarms which form a 90 degree angle. There are two pins each on the outer sides of the liftarms. Push this piece, with one pair of pins pointing left and one pair pointing to the back, from the front into the leftmost and third from the left pin holes on the previous piece. Repeat symmetrically on the right side.

70. Place the third hole from the back of a brown 11L liftarm, vertically with the holes facing left and right, onto the back pin of each of the previous pieces. The fifth hole from the back of the liftarm will attach to the front pin.

71.1. Push a light gray 2L pin, from the right, into the front hole of the left previous piece. Repeat symmetrically on the right side. These pins do not have friction ridges and should spin freely.

71.2. Find a dark gray pin with a perpendicular pin hole. This looks like a 1L liftarm with a pin pointing perpendicularly to the pin holes of the liftarm. Push the hole of this piece, with the pin at the front and the hole facing left and right, from the right onto the left previous piece. Repeat symmetrically on the right side. Because the pins don't have friction ridges, these pieces will spin freely.

72.1. Find a light gray panel fairing #22, very small, smooth, short, side B. This piece has one smooth, curved side and one hollow side. It has one axle hole on the short flat side, and two pin holes on the long flat side. If you stand it up on the axle hole with the smooth, curved side at the front, the two pin holes should face right. Rotate this piece so the pin holes are on the right and the axle hole is at the front. The smooth side should be on top.

72.2. Push a black 2L pin from group A, from the right, into each of the pin holes of the previous piece.

72.3. Push the two pins from the previous step, from the left, into the holes on the left side of the right 11L liftarm so the panel fairing fits between the 3x3 perpendicular pin connector and the pin with a perpendicular hole.

73. Now we will attach this piece to the base. Set the base in front of you, with the angled side at the back. Rotate the frame we just made so it stands upright, with the pins with the perpendicular holes pointing down. The liftarm with the fairing #22 should be on the right. Push these pins into the leftmost and rightmost top-facing holes on the front row of the base. This is very tricky, because the pins don't want to stay put on the frame. You can try taking the pins with perpendicular holes off the frame, and then reattaching the frame around them after they're in place.

74. Since it is only connected by frictionless pins, this frame is very floppy. Rotate it all the way forward so it rests on the table.

Group 10.

75.1. Now we'll make another floppy frame. Place a brown 15L liftarm in front of you, horizontally with the holes facing the top and bottom. Push a light gray 2L pin, from the top, into the leftmost and rightmost holes of the previous piece. These pins do not have friction ridges so they should spin freely.

75.2. Push a red 1L pin with a stud on one side, with the stud on top, from the top into the seventh hole from the left and right sides of the previous piece. There should be one free hole between these pieces.

75.3. Place a light blue 1x3 tile, horizontally, on the previous two pieces.

75.4. Push the back hole of a brown 11L liftarm, vertically with the holes facing the top and bottom, onto the pins on the left and right sides of the 11L liftarm.

75.5. Now, find the two front facing pins on the two 3x3 square liftarms on the bottom of the base. These are to the left and right of the first frame we made that's now laying down. Rotate the second frame so the 11L liftarms are upright at the front and the 15L liftarm is horizontally on top. Push the bottom holes of the 11L liftarms onto the two pins we just found.

76. You might notice that this frame is really floppy as well! Hold it up, then lift the first frame so it's standing upright. Let the second frame lean against the first one. This should hold both of them up, but don't shake things or they might come back down!

77.1. Place a light gray panel fairing #22, horizontally with the pin holes at the front and the axle hole on the left, in front of you. The smooth side should be on top. Push a black 2L pin from group A, from the front into each of the pin holes of the previous piece.

77.2. Push the second and third holes from the left of a light gray 5L liftarm, horizontally with the holes facing the front and back, from the front onto the previous two pins.

77.3. Push a black 2L pin from group A, from the front, into the rightmost hole of the previous piece. Push a blue 3L pin from group B, with the stop ring at the back, from the front into the hole to the left of the previous piece.

77.4. Push the second and third hole from the left of a light gray 1x6 technic brick, horizontally, onto the previous two pieces. Push it all the way back so the 3L pin extends 1L to the front.

77.5. Push a black 2L pin from group A, from the front, into the second hole from the right on the previous piece.

77.6. Rotate the assembly 90 degrees towards you so the pins face down and the studs face the front. Push the pins into the second and third free top-facing studs from the left on the front row of the base. The fairing #22 should touch the left side of the first floppy frame we made.

Group 11.

78.1. Now we'll make some rocks. Place a light gray 2x8 plate, horizontally, in front of you.

Place a light gray 2x4 slope brick, horizontally with the slope at the front, on the right four columns of the previous piece.

78.2. Place a light gray 1x3 brick, horizontally, on the back row to the left of the previous piece.

Place a light gray 1x1 brick with a stud on one side, with the side stud on the left, to the left of the previous piece.

78.3. Place a light gray 1x4 brick with four studs on one side, horizontally with the side studs at the front, in front of the previous two pieces.

78.4. Place a light gray 2x4 slope brick, horizontally with the slope at the front, on the left four columns of the assembly.

78.5. Place a light gray 1x2 slope brick, standing upright with the slope on top and the stud on the left, on the left side stud of the rocks. This piece needs to be centered on the stud, which means the hollow side stud attaches to the bar which is between the anti-studs on the bottom of the slope brick.

78.6. Place a light gray 1x2 slope tile, horizontally with the tall side at the back, on the third and fourth studs from the left on the top row of the assembly.

Place a light gray 1x3 slope brick, horizontally with the slope on the right, to the right of the previous piece.

78.7. Rotate this assembly so the anti-stud are at the back, and so the studs face the front, right, and top. The 1x2 slope brick should be on the right side. Attach the top row of anti-stud on the back side to the front-facing stud on the front row of the base. It should be almost centered on the hollow frame at the bottom of the base, but slightly closer to the left side.

79. Place the front row of a light gray 3x3 angled corner plate, with the angled corner at the back left, onto the right three studs on the top of the rock assembly we just placed.

80. Now, find the tallest frame on the base. This is on the left side. There is a single hole that extends to the left of both the front and back uprights on this frame. Push the pin side of a light gray 2L pin with a bushing on one end, with the bushing at the front, from the front into this hole. Only push it in 1L so the back side is flush with the back side of the hole. Repeat symmetrically on the back side.

Group 12.

81.1. Now we will build some more tracks for the minecart! Set the base aside for now. Place a dark gray 11L liftarm with perpendicular holes, horizontally with the smooth side on top, in front of you.

81.2. Push a black 2L pin from group A, from the top, into the right four holes on the top of the previous piece.

82.2. Push the back 3L liftarm of a light gray 3x5 I-shaped liftarm, vertically with the holes on the parallel 3L liftarms facing up and down, onto the left pair of pins from the previous step. The front of the I-shaped liftarm should overhang 4L to the front.

82.3. Push the leftmost and third from the left holes of a light gray 9L liftarm, horizontally with the holes facing the top and bottom, from the top onto the remaining two pins.

83.1. Place a dark gray 15L liftarm with perpendicular holes, horizontally with the smooth side on top, in front of you.

83.2. Push a black 2L pin from group A, from the top, into the left two holes on the top of the previous piece.

83.3. Push the pins on the 15L liftarm, from the bottom, into the second and fourth holes from the right of the 9L liftarm from step 82.3. The right four holes on top of the 15L perpendicular liftarm should extend past the 9L liftarm.

84.1. Place a light gray 3x5 I-shaped liftarm, vertically with the holes on the parallel 3L liftarms facing up and down, in front of you.

84.2. Push a black 2L pin from group A, from the top, into the corner holes of the previous piece.

84.3. Repeat steps 84.1-84.2.

84.4. Keeping the parallel 3L liftarms at the front and back, flip the I-shaped liftarms over so the pins face down. Push the back pair of pins from one I-shaped liftarm into the holes to the right of the 9L liftarm. Push the back pair of pins from the other I-shaped liftarm into the right two top-facing holes on the 15L perpendicular liftarm.

85.1. Keeping the side with two I-shaped liftarms on the right, flip the track over. The 11L and 15L perpendicular liftarms should now be on the front row.

85.2. Place a light gray 9L liftarm, horizontally with the holes facing the top and bottom, in front of you.

85.3. Push a black 2L pin from group A, from the top, into the second and fourth holes from the right of the previous piece.

85.4. Push the left two bottom-facing holes of a dark gray 15L liftarm with perpendicular holes, horizontally with the smooth sides on the top and bottom, from the top onto the pins from the previous step.

85.5. Push the assembly we just made onto the pins on the back row of the two I-shaped liftarms from step 84. The 9L liftarm should end up to the left of the left I-shaped liftarm, and the right side of the back rail (15L perpendicular liftarm) should be even with the front rail.

86. To the left of the back 15L perpendicular liftarm, there are seven free holes, with a gap between them. Push a black 2L pin from group A, from the top, into the leftmost, third, fourth, and sixth from the left. There should be either a free hole or a gap between each of these pins.

87. Push the right four bottom-facing holes of a dark gray 11L liftarm with perpendicular holes, horizontally with the smooth sides on the top and bottom, from the top onto the four pins from the previous step.

88.1. Place a light gray 3x5 I-shaped liftarm, vertically with the holes on the parallel 3L liftarms facing up and down, in front of you.

88.2. Push a black 2L pin from group A, from the top, into the corner holes of the previous piece.

88.3. Push a light gray 2L pin connector, with the holes facing the top and bottom, from the top onto the left two pins from the previous step.

88.4. Push the right two pins on the I-shaped liftarm, from the bottom, into the leftmost bottom-facing holes on the track assembly.

89. Set the base back in front of you, with the tall frame on the left. Find the two 2L pins with a bushing that we placed in step 80. Align the rightmost hole on the track assembly with these pins, then push the pins in to connect the track in place. The left side of the track is unsupported and should slope down and rest on the table. Set the base aside for now.

Bag 10.

Group 13.

90.1. Now we'll build an attachment for the mining hole we made a while back. Place a light gray 4x4 round plate in front of you.

90.2. Place a light blue 1x1 slope tile, with the thick side at the front, on the right stud of the back row of the previous piece.

You will have a dark gray 1x2 slope brick leftover when you finish this group.

Group 14.

91.1. Place the back stud of the leftover dark gray 1x2 slope brick, vertically with the slope at the back, to the left of the previous piece.

91.2. Place a black 1x2 slope brick, horizontally with the slope on the right, to the right of the previous piece.

92. Place a gold 1x1 slope tile, with the tall side on the left, in front of the right stud of the previous piece. Place another, with the tall side on the right, on the back stud on the leftmost column of the 4x4 round plate.

Group 15 contains a single light blue 1x2 slope brick.

93.1. Place the left stud of a light blue 1x2 slope brick, horizontally with the slope on the left, in front of the left previous piece.

Group 16.

93.2. Place the back stud of a light gray 1x2 slope brick, vertically with the slope at the front, to the right of the previous piece.

94. Place a dark gray 1x1 slope tile, with the tall side at the back, to the left of the front stud of the previous piece.

95. There should only be four studs on the assembly. Place a red 2x2 round brick on these studs.

96.1. Place a light gray 4x4 round plate, centered vertically and horizontally, on the previous piece.

96.2. Place a light blue 2x2 round plate, centered vertically and horizontally, on the previous piece.

97. Push a red 2L axle down through the axle hole in the center of the previous piece. Push it all the way down.

98. Place the base in front of you, with the long section of track on the left. Find the 4x4 of round circular tiles in the center of the base. You can lift up the right section of track to get easier access. Set the assembly we made on top of this circle of tiles. Set the base aside for now.

99.1. Now we need to make a support for the track. Place a light gray 2x4 L-shaped liftarm in front of you, with the short leg horizontally at the bottom pointing to the left and the long leg upright on the right side. The holes should face the front.

99.2. Push a black 2L pin from group A, from the front, into the bottom two holes of the previous piece.

100.1. Push the axle side of a blue 2L axle/pin combo from group C, with the pin at the front, from the front into the top hole of the L-shaped liftarm.

100.2. Push a black 2L pin from group A, from the front, into the hole below the previous piece.

101. Push the left two pins of a light gray 1x4 technic brick, horizontally, from the front onto the bottom two pins on the L-shaped liftarm.

102. Push the bottom two holes of a brown 11L liftarm, upright with the holes facing the front and back, from the front onto the two free pins on the L-shaped liftarm.

When you finish this group you will have a black 2L axle connector leftover.

Group 17.

103.1. Place the leftover black 2L axle connector vertically in front of you.

103.2. Push a red 2L axle, vertically, into both axle holes on the previous piece.

103.3. Push a brown 2L axle connector, from the front, onto the front previous piece. Repeat symmetrically on the back side.

103.4. Push the axle side of a blue 2L axle/pin connector from group C, with the pin at the front, from the front into the front previous piece. Repeat symmetrically on the back side.

103.5. Push the back pin on the assembly we just made into the second hole from the top of the 11L liftarm from step 102. This assembly will be the crossbar that the track sits on.

104. Now we'll make another upright. Place a light gray 2x4 L-shaped liftarm in front of you, with the short leg horizontally at the bottom pointing to the right and the long leg upright on the left side. The holes should face the front.

104.2. Push a black 2L pin from group A, from the front, into the bottom two holes of the previous piece.

104.3. Push the axle side of a blue 2L axle/pin combo from group C, with the pin at the front, from the front into the top hole of the L-shaped liftarm.

104.4. Push a black 2L pin from group A, from the front, into the hole below the previous piece.

104.5. Push the right two pins of a light gray 1x4 technic brick, horizontally, from the front onto the bottom two pins on the L-shaped liftarm.

104.6. Push the bottom two holes of a brown 11L liftarm, upright with the holes facing the front and back, from the front onto the two free pins on the L-shaped liftarm.

104.7. Rotate the second upright 180 degrees so the L-shaped liftarm is at the front, and push the second hole from the top onto the remaining free pin on the front side of the crossbar.

105.1. Now we'll make the base for this support. Place a tan 8x8 plate with a rounded end, with the rounded end at the left, in front of you.

105.2. Place a black 1x2 slope brick, with the slope on the left, on the second row from the back of the previous piece so the right sides are even.

105.3. Place a dark gray 2x2 slope brick, with the slope at the back, on the second and third rows from the front of the 8x8 plate with a rounded end so the right sides are even.

105.4. Place a light blue 1x1 slope tile, with the tall side on the right, to the left of the front row of the previous piece.

105.5. Place the 1x4 technic bricks from the support assembly we made earlier on the right four studs of the front and back rows of the 8x8 plate with rounded ends.

106.1. Clip the handle of a light gray hammer, with the head on the right, into the clip of a tan 1x1 tile with a clip on top.

106.2. Place the 1x1 tile with a clip with the hammer, with the head of the hammer at the front, on the second stud from the back of the third column from the left on the 8x8 plate with a rounded end.

107. Now we'll set the track on the second support! Set the base back in front of you, with the long portion of the track extending to the left. Feel under the bottom of the track until you find the first gap in the track that's 3L from the left end. Move the support so the crossbar fits into this gap, then let the track rest on the crossbar. Nice!

Group 18.

108. Now we'll build a miner! Assemble a 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.

109. 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.

Group 19.

110.1. Next up, we'll build a minecart! Set the miner and the mine aside for now. Find a dark gray 2x6 plate which has a 1x2 brick with an axle hole on each end. This will be the base of the minecart. Place it horizontally in front of you.

110.2. Push a red 2L axle, from the left, into the axle hole on the left 1x2 brick of the previous piece. Only push it in so it extends 1L to the left.

111. Place a light gray 2x2 plate with a hole under it, with the hole facing the front and back, under the left and right two columns of the 2x6 plate with 1x2 bricks. We'll mount the wheels using these holes.

112.1. Find a black axle connector with a perpendicular axle hole. This piece has a 1L axle connector on one side, and a perpendicular axle hole on the other. If you were to push axles through both holes they would form a T with the axle connector making the stem. Place this in front of you, with the holes facing up and down and the axle connector facing to the right.

112.2. Push a light gray 3L axle into the right side of the axle connector from the previous step. The axle should extend 2L to the right.

112.3. Push the previous piece, from the left, through the left side of the axle hole on the right 1x2 from step 110.1. Push it all the way to the right so the axle extends 1L past the brick. The axle hole of the axle connector from step 112.1 should be facing up.

113. Push a light gray 3L axle, from the top, into the top hole of the axle connector from step 112.1.

114. Stack two light brown 1x2 plates and place them, vertically, on the right 1x2 brick on the cart.

115. Find a dark brown axle connector with a perpendicular 2L bar. This looks like a bushing which has a bar on one side. Push the axle connector, with the holes facing left and right and bar on top facing front and back, onto the axles on the left and right ends of the minecart. We'll attach the sides of the minecart to these later.

116.1. Find a black 7x7 ring with two 1L axle connectors. This piece is a large ring which has two axle connectors opposite each other. Rotate this piece, so that it is flat like a basketball hoop, with the axle connectors on the left and right.

116.2. Push a red 2L axle into the axle hole of a red ball.

116.3. Push the axle from the previous step, with the ball on the right, from the right into the left axle hole of the 7x7 ring.

116.4. Rotate the ring so it is upright with the side with the ball at the top and the hole of the ring facing left and right. Push the bottom axle hole onto the upright axle on the minecart. Push it all the way down.

Group 20.

117.1. Place a black axle connector with a perpendicular axle hole in front of you, with the holes facing up and down and the axle connector facing to the right.

117.2. Push a red 2L axle into the right side of the axle connector from the previous step. The axle should extend 1L to the right.

117.3. Push the axle hole of a dark gray 1x2 brick with an axle hole, vertically, onto the previous piece. The axle holes of the axle connector should face up and down.

117.4. Place the 1x2 brick on the rightmost column of the minecart. The axle connector should attach to the top of the upright axle.

118.1. Now we'll make the minecart's wheels! Place a white 3L axle/pin combo which has a 2L axle side and a 1L pin side in front of you, vertically, with the axle side at the front.

118.2. Push the axle hole of a dark orange 3x3 disk, from the front, onto the previous piece. Push it all the way back so the axle extends about 1.5L to the front.

118.3. Push a white 2x2 wheel, with the spoked side at the back, over the axle. Push it all the way back. The axle should extend about 0.5L to the front.

118.4. Repeat steps 118.1-118.3 three times.

118.5. Push the pin of a wheel, from the front, into each of the holes on the front of the cart near the bottom. Repeat symmetrically on the back side.

119.1. Now we'll build the sides of the minecart. Place a dark gray 3L axle connector, horizontally, in front of you.

119.2. Push a red 2L axle into the left hole of the previous piece.

119.3. Push a dark gray 3L axle connector, horizontally, onto the left side of the previous piece.

119.4. Push the axle side of a blue 2L axle/pin connector from group C, with the pin at the left, from the left into the left previous piece. Repeat symmetrically on the right side.

119.5. Find a light gray perpendicular axle and pin connector. This looks like a 2L liftarm where one hole is an axle hole which is perpendicular to the pin hole. Rotate this piece so the pin hole is at the bottom facing left and right, and push the pin hole onto both of the previous pieces.

119.6. Make sure the axle holes of the previous pieces are on top facing front and back. Push a red 2L axle, from the front, into both of the previous pieces. Only push it in 1L so the back side is flush with the back of the axle hole.

119.7. Push a brown 2L axle connector, from the front, onto each of the previous pieces.

119.8. Repeat steps 119.1-119.7.

119.9. Find the bars pointing to the front and back on the left and right ends of the minecart. Push the axle connectors on the front of one of the side assemblies we made, from the back, onto the back sides of these bars. Repeat symmetrically on the front side of the minecart with the other side assembly.

120. Take the minifigure we made earlier and fold her legs so she's sitting down, facing to the left. Place her to the left of the upright ring in the minecart. The wheels on the minecart can ride on the tracks of the mine!

Congratulations! Now this build is complete!