

FIRST® LEGO® League Challenge SUBMERGEDSM Building Instructions

Build 1: Coral Nursery

This build is 132 pieces, and 52 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 the pieces:

To begin a successful build, it helps to sort the pieces into groups, bags or small containers. Have a sighted friend or family member do this in advance following the instructions below. You will see that the pieces should be sorted into groups according to the building steps in the set. Doing this in advance makes locating the pieces easier. See below on how to sort the pieces to correspond to the steps in this set. Number the containers using letters A-Z, numbers or meaningful names. The parts will be collected into a small number of steps in the instructions. Example: Steps 1-3 means collect all the parts used in steps 1, 2 and 3, and put them in one container.

This LEGO set comes in the bags labeled 1 and 2. Additional pieces are in an unlabeled bag. 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 (13 groups of bricks)

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.

Group 1 contains the pieces for steps 1-6.

Group 2 contains the pieces for step 7.

Group 3 contains the pieces for steps 8-12. This includes two blue 13L liftarms from the unlabeled bag.
Group 4 contains the pieces for steps 13-21.
Group 5 contains the pieces for steps 22-26.
Group 6 contains the pieces for steps 27-30.
Group 7 contains the pieces for steps 31-41.
Group 8 contains the pieces for steps 42-49.
Group 9 contains the pieces for step 50.
Group 10 contains the pieces for steps 51-52.

Building Instructions:

Main build.

Open bags 1 and 2:

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

1.1. This coral nursery actually contains two nurseries, a large one and a small one. We'll start by building the base of the large nursery! Place a dark gray 3x3 T-shaped liftarm in front of you, standing up with the wide, flat part on the bottom and the holes on the left and right, so it looks like an upside down capital T if you look at it from the side.

1.2. Push two black 2L pins from group A, from the right into the previous piece, one into the middle hole of the bottom row, and the other into the top hole. They should extend to the right. These pins have friction ridges and should not spin easily in the holes.

2. Push two blue 3L pins from group B, with the stop ring on the right side, from the left into the front and back holes on the bottom row of the T-shaped liftarm. Push them in until they stop. They should extend 2L to the left. These also have friction ridges and should not spin easily.

3. Push a dark gray 3L liftarm, horizontally with the holes on the left and right, from the left onto the pins from the previous step. Push it all the way until it touches the T-shaped liftarm. The blue pins should still extend 1L to the left.

4. Find a light gray 5x7 hollow frame. This looks like two 7L liftarms connected by two 5L liftarms, forming an open rectangle. Push this, horizontally long and laying flat, from the left onto the pins on the left side of the nursery base assembly. The front and back sides of the 5x7 frame should have three widely spaced holes.

5. Push two black 2L pins from group A, from the front into the right two widely spaced holes on the front of the previous piece. Repeat this symmetrically on the back side. Push two more from the left into the front and back left-facing holes on the left side of the 5x7 hollow frame.

6.1. Push a dark gray 3L liftarm, vertically with the holes on the left and right, from the left onto the left pins from the previous step.

6.2. 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. Push this piece, laying flat with the rounded sides on the left and right, from the front onto the two pins on the front of the 5x7 frame. Repeat this symmetrically on the back side.

Open group 2.

7.1. The nursery itself is a frame which has arms for small colonies of coral to grow on. Now, we'll build the bottom of this frame and attach it to the base. Set the rest of the nursery base aside for now. Place a dark gray 4x2 L-shaped liftarm, with the short leg lying flat at the bottom and the long leg standing upright at the back so the holes face left and right, in front of you. The holes should be at the left and right.

7.2. Push a blue 3L pin from group B, with the stop ring at the left, from the right through the hole on the corner of the previous piece so it extends 2L to the right. This pin has friction ridges so it should not spin easily.

7.3. Find a dark gray 2L liftarm with one axle hole and one pin hole. Push this piece, with the axle hole at the front, over the pin from the previous piece until it touches the L-shaped liftarm. The bottom of this piece should be even with the bottom of the L-shaped liftarm.

7.4. Find a dark gray axle and pin connector with two axles. This piece looks like two 1L axles connected by a cylinder with a pin hole in the middle of it. It is 3L in length. Push one of the axles of this piece, with the pin holes at the top and bottom, from the right into the axle hole at the top of the L-shaped liftarm.

7.5. Push another dark gray 4x2 L-shaped liftarm, in the same orientation as the first, from the right over the axle and pin on the right side of the assembly. It should be even with the first L-shaped liftarm.

7.6. Now place the nursery base in front of you, with two 3x3x1 square liftarms at the left and right and the two exposed pins at the back. Keeping the short arms of the L-shaped liftarms at the bottom, place the frame bottom assembly in the hollow portion at the center of the nursery base so the front touches the base.

7.7. Slide a light gray 5L axle through the hole on the right side of the nursery base that is closest to the front. It can go in from either side. The axle should go through the frame bottom to attach it to the nursery base while allowing it to rotate forward and back. Push the axle all the way through.

Open group 6.

8.1. Rotate the combined assembly 90 degrees clockwise so the two exposed pins on the back of the nursery base are now on the right. Push a blue 13L liftarm, standing upright with the holes at the left and right, from the right onto the two exposed pins so its bottom is even with the bottom of the base. This will be the support structure which holds up the nursery frame.

8.2. Push two black 2L pins from group A, from the left into the previous piece, one into the top hole and the other into the third from the top hole. There should be one empty hole between them. These pins have friction ridges so they should not spin easily.

9.1. 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 pointing up, from the right into the second and fourth holes from the top of the 13L liftarm.

9.2. Push a blue 2L axle/pin combo from group C, with the axle pointing up, into the hole between the top two pins of the previous piece. The pin side of this piece has friction ridges so it should not spin easily.

10.1. Push a blue 5L liftarm, horizontally with the holes at the top and bottom, onto the two pins of the 3x3 perpendicular pin connector so it extends two holes past them to the right.

10.2. Push a dark gray 1L pin with a hollow stud on one side, with the hollow stud on the bottom, up through the rightmost hole of the previous piece. This pin has friction ridges so it should not spin easily.

11.1. Place a dark gray 2L liftarm with one axle hole and one pin hole, with the axle hole on the left and the holes facing front and back, in front of you.

11.2. Push a black 2L pin from group A, from the front into the right hole of the previous piece. This pin has friction ridges so it should not spin easily.

11.3. Push a blue 13L liftarm, lying flat with the holes at the front and back, onto the previous piece so the left edge is even with the left edge of the 2L liftarm.

11.4. Rotate this assembly so it is standing upright with the holes on the left and right, and so that the 2L liftarm is on top at the right. Push it from the left onto the two pins on the left side of the first 13L liftarm, so the bottom pin goes through the bottom hole.

12.1. Now we'll build the arm that supports the nursery frame. Place a yellow 3L axle horizontally long in front of you.

12.2. Find a yellow 2L axle connector. This looks like a cylinder which has four shallow grooves cut out of the sides so it has a vaguely X-shaped cross section, kind of like a thick axle. Push this piece from the left onto the previous piece until it stops.

12.3. Push a yellow 7L axle from the left onto the previous piece until it stops.

12.4. Find a yellow axle and pin connector #1. This piece has a 1L axle connector on one side, and a perpendicular pin hole on the other. Push this piece, with the pin hole on the left with the hole pointing up, from the left onto the previous piece until it stops.

12.5. Push a black 1L pin with a ball on one side, with the ball on top, down through the pin hole of the previous piece.

12.6. Keeping the ball on the left and pointing up, push the right axle of the arm assembly through the top hole on the support structure. Push it through the 13L liftarm from the left until the axle connector touches. This should push the 3L axle all the way through the 2L liftarm.

Open group 7.

13.1. Next we will build the nursery frame. Set the rest of the build aside for now. Place a light gray 5L axle horizontally in front of you.

13.2. Push a light gray 3L axle connector, from the left, onto the previous piece until it stops.

14. Push a light gray 11L axle horizontally from the left into the previous piece until it stops.

15. Find a light gray axle connector with an 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. Push the axle hole, with the axle connector at the back, from the left over the previous piece, pushing it all the way to the right until it touches the 3L axle connector. This will be one of the arms which holds colonies of coral. There will be a total of eight of these.

16. Repeat the previous step, but with the axle connector pointing up this time.

17. Place two more light gray axle connectors with axle holes, with the first axle connector pointing forwards and the second pointing down.

18. Repeat the previous step, with the first axle connector pointing back and the second pointing up.

19. Repeat the previous step, with the first axle connector pointing forwards and the second pointing down.

20. Find a black 7x7 ring with two 1L axle connectors. This piece is a large ring which has two axle connectors opposite each other. Holding the piece so it is flat like a basketball hoop, with the axle connectors on the left and right, push the right axle connector onto the 11L axle until it stops. The 11L axle should extend 1L left past the right axle connector on the ring.

21. Find a light gray bushing. This looks like a cylinder with raised ends and an axle hole running through the center. Push this piece from the left onto the exposed end of the 11L axle.

Open group 8.

22. Now we'll place the arms which hold the coral colonies. Find the rightmost axle connector with a perpendicular hole. The axle connector should be at the back. Find a tan 4L axle with a long stop. This looks like a normal axle, but there is a 1L section which is just a cylinder, so it can't slide through an axle hole. This section is offset to one side so there is a 1L section of axle, a 1L stop, and then a 2L section of axle. Push this axle, with the 1L axle side at the front, from the back into the axle connector. Repeat this seven more times with the other axle connectors, always keeping the 1L axle side closest to the 11L axle at the center of the frame.

23. Next, we will add some places for the coral to grow. Find a dark tan axle connector hub with two perpendicular bar holders. This looks like a 1L axle connector which has two hollow cylinders on opposite sides. The hollow cylinders are bar holders. If you placed bars in the bar holders and pushed an axle through the axle holder, it would look like an X. Push this piece, with the bar holders pointing left and right, from the back onto the rightmost arm from the previous step. Repeat this step seven more times with the other arms, always keeping the bar holders pointing left and right.

24.1. Now we will add some coral colonies! First, we will add two small colonies. Find two pale blue bars with three short stems on one side. These are the smallest of the pieces remaining in this group. Push one into the right bar holder on the leftmost arm (on the bottom of the frame). Place the other, in the same orientation, into the right bar holder on the second arm from the right (on the top of the frame).

24.2. Next, we'll add some larger, spiky coral! Find a dark purple plant flower stem with a bar and six stems. This has a short bar on one side and six long stems. Push one into the right bar holder of the remaining top arm, which is to the left of the second arm with the coral from the previous step. Place the other into the right bar holder of the remaining bottom arm, which is to the right of the arm with the first coral from the previous step.

25. Finally, we'll add some rather bulbous looking coral. Find two purple carrots. These look like carrots, but without the leaves on the rounded end. Place one of these in the right bar holder of the rightmost arm, with the rounded part of the carrot on the right. Place the other, in the same orientation, into the third arm from the right (on the front of the frame).

26. Now the nursery frame is complete! Place the nursery base in front of you, with the tall support structure on the right so the support arm points to the left. Now rotate the frame so that the ring is on top. Find the hole on top of the frame bottom, which is between the two L-shaped liftarms we assembled in steps 7.1-7.7. Guide the axle on the bottom of the nursery frame into this hole, and loop the ring on top onto the support arm. It just rests on the arm, it does not connect. It can slide back and forth, but the ball on one side, and the support on the other prevent it from sliding off. This completes the large nursery.

Open group 9

27.1. Now we'll start building the small nursery. Like before we'll start with the base. This nursery has a single horizontal arm with colonies of coral. Set the large nursery aside for now. Place a dark gray 7L liftarm, horizontally with the holes at the front and back, in front of you.

27.2. Push a blue 3L pin from group B, with the stop ring at the back, from the back through the second hole from the right on the previous piece until it stops. It should extend 1L to the front and back. This pin has friction ridges so it should not spin easily.

28.1. Push the bottom hole of a dark gray 3x3x1 square liftarm, with the rounded sides at the bottom and top and the cross pattern of holes at the front, onto the previous piece. It should extend 2L above the 7L liftarm and there should be two holes on each of the left and right sides.

28.2. Push a black 2L pin from group A, from the right into the bottom hole on the right side of the previous piece. This pin has friction ridges so it should not spin easily.

29.1. Place a light gray 3x5 L-shape liftarm, with the short leg lying flat at the bottom and the long leg standing upright at the right so the holes face the front, in front of you.

29.2. Push a blue 3L pin from group B, with the stop ring at the back, from the front through the corner hole of the previous piece. It should extend 2L to the front. This pin has friction ridges so it should not spin easily.

29.3. Push two blue 3L pins from group B, with the stop ring at the back, from the back through the left two holes of the L-shaped liftarm so they extend 1L to the front and back. These pins have friction ridges so they should not spin easily.

29.4. Push a tan 3L pin, with the stop ring at the back, from the back through the top hole of the L-shaped liftarm so it extends 1L to the front and back. This pin does not have friction ridges so it should spin easily.

29.5. Keeping the same orientation, push this assembly from the back through the row of three holes on the 3x3x1 square liftarm. Push the pins all the way in so the rightmost blue pin extends 1L to the front. The short leg of the L-shaped liftarm should rest on the 7L liftarm.

30.1. Next, push a light gray bushing onto a light gray 5L axle. The bushing should be about 1L from one end of the axle. You can check this by pushing that end into a pin hole and seeing if the axle is even with the end of the hole.

30.2. Take the bushing/axle assembly you just made and slide it, with the bushing at the back, from the back through the fourth hole from the left on the 7L axle.

30.3. Slide another bushing, from the front onto the axle until it touches the 7L liftarm. Check and make sure that an equal amount of axle extends past each of the front and back bushings. Slide the axle through the bushings until it is even.

Open group 10.

31. Push a dark gray 4x2 L-shaped liftarm, standing upright with the long leg at the bottom and the short leg at the right, from the front onto the axle we just put on, and the blue pin extending from the 3x3x1 square liftarm. The axle should connect to the leftmost hole of the L-shaped liftarm, and the pin should connect to the top pin hole.

32.1. Rotate the assembly 180 degrees so the piece from the previous step is at the back. Push the bottom hole of a dark gray 3x3x1 square liftarm, with the rounded sides at the bottom and top and the cross pattern of holes at the front, onto the previous piece. It should be in the same orientation as the one that is now on the back side of the assembly.

32.2. Push a black 2L pin from group A, from the left into the bottom hole on the left side of the previous piece. This pin has friction ridges so it should not spin easily.

33. Push a black 2L pin from group A, from the front into the leftmost hole on the front 3x3x1 square liftarm. This pin has friction ridges so it should not spin easily.

34. Push a dark gray 4x2 L-shaped liftarm, with the long leg lying flat at the bottom and the short leg standing upright at the left so the holes face the front, from the front onto the pin we just put on, and the axle extending from the 3x3x1 square liftarm. This should look just like the L-shaped liftarm on the back side of the assembly.

35. Push two blue 3L pins, with the stop ring at the front, from the front through the second and third holes from the right on the 7L liftarm. Push them all the way through so they extend 1L to the front and back. These pins have friction ridges so they should not spin easily. There should now only be one open hole at the right end of the 7L liftarm.

36. Find two light gray 3L axle and pin connectors 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. Push one of these, horizontally with the axle hole facing up on the right, from the front onto the front side of the previous two pins. Repeat this symmetrically on the back side. The right edges should be even with the right edge of the 7L liftarm.

37. Push two blue 2L axle/pin combos from group C, with the axle side facing down, down through the axle holes of the previous two pieces.

38. Push a dark gray 3x3x1 square liftarm, with the cross pattern on the right and the rounded sides at the front and back, down onto the previous two pieces.

39. Push two black 2L pins down through the front and back holes on the top of the previous piece. These pins have friction ridges and should not spin easily in the holes.

40. Find a dark gray 2x3 U-shaped liftarm. This looks like two parallel 2L liftarms connected by a 1L liftarm whose pin hole is perpendicular to the holes on the 2L liftarms. Push this piece, with the U opening to the left and the holes facing up, down over the two previous pieces so it extends 1L to the left.

41.1. Now we will make two identical spacers. Find two light gray 2L pin connectors and place them in front of you. These pieces look like smooth cylinders which are 2L long and have a small notch in the middle.

41.2. Push a black 2L pin from group A, into both holes of both of the previous pieces. These pins have friction ridges and should not spin easily in the holes.

41.3. Push the two spacers, with the pins pointing up and down, down into the two left holes on the U-shaped liftarm so the spacers point straight up.

Open group 11.

42.1. Now we will make another support arm. Set the small nursery base aside for now. Place a light gray 9L liftarm, horizontally with the holes at the front and back, in front of you.

42.2. Push a tan 3L pin, with the stop ring at the back, from the back through the right hole of the previous piece so it extends 1L to the front and back. This pin does not have friction ridges so it should spin easily.

43. Orient a white 3x3 T-shaped liftarm so the stem of the T points to the right, with the flat part on the left. Push the bottom hole of this piece from the front onto the previous piece. It should not sit flat if you set the 9L liftarm down.

44.1. Now we will build a handle you can move to rotate the small coral nursery. Set a yellow 2L axle connector horizontally in front of you.

44.2. Push a 3L axle from the left into the previous piece. Rotate this assembly so the axle is at the front and push it from the back through the leftmost hole on the 9L liftarm so it extends 1L to the front.

44.3. Push a yellow 2L axle connector, with the holes at the front and back, from the front onto the axle so the axle is held onto the liftarm. It should spin freely.

45. Push a red 2L axle from the front into the front 2L axle connector. Repeat this on the back side.

46. Push a yellow 2L axle connector, with the holes at the front and back, from the front onto the front piece from the previous step. Repeat this on the back side.

47. Now it's time to install the handle. Place the small nursery base back in front of you, with the two spacers with the pins pointing up at the right. There should be two pins pointing left on the left side of this assembly. On the left side, there is a liftarm pointing straight up which has a pin extending 1L to the front and back. Take the T-shaped liftarm on the right side of the arm we just made, and push the rightmost hole on the stem of this liftarm from the front onto the pin.

48.1. Push a white 3x3 T-shaped liftarm, in the same orientation as the one on the front of the arm, from the back onto the same pins.

48.2. Rotate the arm holding the handle clockwise until it rests on the right side of the base. The handle should be to the right of the two spacers. The stems of the two T-shaped liftarms should be at an angle, pointing down and to the right.

49. Push a dark gray 3L liftarm, vertically with the holes at the top and bottom, down on the two pins on the spacers, effectively locking the arm in place. If you push the handle down and to the left, it should rotate the two T-shaped liftarms.

Open group 12.

50.1. Now we will assemble the coral colonies for this smaller nursery. Find a white axle and pin connector #2. This piece has two 1L axle connectors on opposite sides, and a perpendicular pin hole between them. Place this in front of you, with the axle connectors at the left and right and the pin hole pointing up.

50.2. Push a blue 2L axle/pin combo from group C, with the axle at the left, from the right into the previous piece. The pin side of this piece has friction ridges so it should not spin easily.

50.3. Push a red 2L axle from the left into the axle and pin connector.

50.4. Find a white axle and pin connector #1. If you don't remember, this piece has a 1L axle connector on one side, and a perpendicular pin hole on the other. Push this piece, with the axle connector at the right and the pin hole pointing up, from the left onto the previous piece.

50.5. Push a dark gray 1L pin with a stud on one side, with the stud on top, down through the pin hole of the previous piece. Repeat this with the pin hole on the first axle and pin connector.

50.6. Push a pink flower with a bar, with the bar on the bottom, down through the hollow stud of the right pin from the previous step.

50.7. Find a brown flower stem with a bar holder, bar and three stems. This has a short bar attached to a hollow thick cylinder. There are three thin bars sticking out of the hollow cylinder at different angles. The hollow cylinder is a bar holder. Push this piece, with the short bar at the bottom, through the hollow stud of the left 1L pin.

50.8. Push a brown bar with three short stems on one side, with the stems on top, down into the bar holder of the previous piece.

50.9. Rotate this arm so the pin is at the back and the spiky coral is at the front pointing up. Push the handle down and to the left to rotate the two T-shaped liftarms as far left as they go. Push the pin on the coral assembly into the top pin hole of the front T-shaped liftarm.

Open group 13.

51.1. Now we will make another arm. Repeat steps 50.1-50.5.

51.2. Push a light orange bar with two small leaves, with the leaves on top, down through the hollow stud of the pin in the middle of the second arm.

51.3 Push a dark orange plant flower stem with a bar and six stems, with the short bar at the bottom, down through the hollow stud on the pin at the left end of the second arm.

51.4. Push an orange 1x1 circular plate with a flower petal pattern down onto one of the stems of the previous piece.

51.5. Rotate this arm so the pin is at the front and the 1x1 flower plate is at the back. Push the handle down and to the left to rotate the two T-shaped liftarms as far left as they go. Push the pin on the coral assembly into the top pin hole of the back T-shaped liftarm.

52. Now place the large coral nursery in front of you, with the nursery frame at the front and support structure at the back. The small nursery should have two pins pointing left on the left side. Push these pins from the right into the two holes on the right side of the rightmost 3x3x1 square liftarm on the large coral nursery.

Congratulations! Now this build is complete!

Thank you so much for building this set!

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