

## **40647 Lotus Flowers**

Set adapted by Alex Charbonneau and tested by Natalie Charbonneau.

Recreate a wonder of nature with the LEGO® Lotus Flowers (40647) building set. This LEGO interpretation of the globally celebrated flower depicts 2 Lotus in full bloom, plus a flower head in bud, all in delicate shades of pink and white, with long green stems for vase display. This beautiful LEGO bouquet makes a great birthday, holiday or any-day gift idea and can be combined with other buildable LEGO flower sets (sold separately).

Buildable LEGO bouquet:

- Create a flower display to adorn any room with the LEGO Lotus Flowers (40647) set, designed for fans of home decor and mindful LEGO building

Say it with flowers:

- A fun idea for a birthday, holiday or any-other-day gift.

Suitable for vase display:

- Each lotus flower, with stem, measures over 12 in. (30 cm) high.

The front of the box shows three lotus flowers standing upright on a sky blue background. The left edge is yellow, with a pattern of studs and tiles. Two of the flowers are in full bloom, one with white petals, and the other with pink petals. Both have a vibrant yellow seedpod nestled between the petals. A third flower is still a bud, almost ready to bloom! All three have straight green stems, with no leaves.

The top of the box has a life sized image of a pink, pentagonal tile piece to show the scale of the build. This piece is used prominently in the petals of the flowers.

The back of the box shows all three flowers laying down, with the flowers facing the camera so the viewer can see the seedpods and stamen between the petals. An inset image shows a lotus flower silhouetted in dark green, with a line showing its full length from stem to petals of 18.10 inches (30.74 cm).

The build is 220 pieces, and 29 building steps.

Welcome to text-based instructions from LEGO 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 from left to right.

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 kit, PDF versions are always online at LEGO.com: (<https://www.lego.com/en-us/product/lotus-flowers-40647>) 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 friend or family member do this in advance following the instructions below. You will see that the pieces should be sorted according to the building steps in the kit. Doing this in advance makes locating the pieces for each step 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 sorted into one or 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 with three large bags labeled 1-3, and an instruction booklet. 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.

Bag 1 (2 groups of bricks)

Pink bud

Group 1 contains the pieces for steps 1-6 for the pink bud. Stack the yellow 2x2 circular plate onto the green 2x2 circular plate, offset one stud to the left, to make it easy to differentiate between the colors.

Group 2 contains the pieces for steps 7-11 for the pink bud.

Bag 2 (2 groups of bricks)

Pink bloomed flower

Group 3 contains the pieces for steps 1-2 for the pink flower.

Group 4 contains the pieces for steps 3-5 for the pink flower.

Group 5 contains the pieces for steps 6-9 for the pink flower.

Bag 3 (2 groups of bricks)

White bloomed flower

Group 6 contains the pieces for steps 1-2 for the white flower.

Group 7 contains the pieces for steps 3-5 for the pink flower.

Group 8 contains the pieces for steps 6-9 for the white flower.

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

#### Building Instructions:

Note for helpers: I have broken some of LEGO's original instructions into smaller steps, but I have kept the original base number. For example, step 5 are now steps 5.1 and 5.2.

Main build 1 - Pink, un-bloomed flower.

Open bag 1.

Open group 1. Note that there are two circular plates stuck together, the green one is the bottom one and will be used in step 1.1.

1.1. Place a green 2x2 circular plate in front of you. There are two circular plates stuck together, the green one is the bottom one.

1.2. Place a black 2x2 thick plate with grooved sides on the previous piece.

2. Place a white 1x1 brick on the front left corner, with one stud facing left and one facing the front. Place another symmetrically to the right, and then place the other two symmetrically behind the first pair. There should be two side studs on each side.

3. Place a yellow 2x2 circular plate on the previous pieces.

4. Place a pink 2x2 brick on the previous piece.

5. Place a pink 1x2 triple slope vertically long on the left column of the previous piece, sloping up to the right. Place another on the right column, sloping up to the left so the two pieces form a pyramid.

6.1. Set the flower aside for now. Place a pink 2x2 plate in front of you.

6.2. Place a pink 2x2 curved slope on the previous piece, sloping down to the right, and extending one stud to the right.

6.3. Place a pink 2x2 wedge curved slope to the left of the previous piece, with the point at the left. Repeat steps 6.1-6.3 three more times to create four folded petals.

6.4. Put the flower back in front of you, and place a petal on each side, with the pointed wedge up, and the bottom of the petal attached on the 2 horizontal side studs on that side.

Open group 2.

7. Now we're going to make the stem! Set the flower aside for now. Place a green straight axle connector horizontally long in front of you. Place a black 2L axle into the left side of the previous piece.

8.1. Repeat step 7 fourteen more times. An axle should extend to the left when you're done.

8.2. Put a green straight axle connector on the axle extending at the left.

9.1. Place a blue axle/pin combo into the previous piece, with the pin extending to the left.

9.2. Place a light green straight pin connector onto the pin at the left of the previous piece.

9.3. Place a 1L pin into the previous piece, with the stud at the left.

10.1. Place a brown 4L bar into the stud of the pin and push it all the way to the right.

10.2. Place a light green 2x2 flower with four petals over the previous piece, with the stud at the left. Push it all the way down until it attaches to the stud from step 9.3.

11. Put the flower in front of you, with the round plate at the bottom. Rotate the stem so the 2x2 flower piece is at the top. Push the bar at the top of the stem into the center of the 2x2 circular plate at the bottom of the flower until the 2x2 flower piece connects to the flower assembly.

Congratulations! The pink bud is now complete!

Main build 2 - Pink, bloomed flower.

Open bag 2.

Open group 3.

1. Place a white steering wheel in front of you. This will be the hub of the flower, but we'll need to build some petals.

2.1. We'll start making the outer petals! Place a pink inverted tile in front of you.

2.2. Place a pink 2x2 wedge curved slope onto the right column of the previous piece, with the point at the right, extending one stud to the right.

2.3. Place a pink 1x2 plate with a vertical clip on one long side onto the inverted tile, vertically long, with the clip at the left. Repeat steps 2.1-2.3 five more times to make a total of six petals! Flip them over so the smooth face of the inverted tile is on top.

2.4. Clip the petals, with the inverted tile on top, onto the steering wheel. Slide them around as needed so that they're spaced evenly around the steering wheel. Leave them laying flat for now.

Open group 4.

3.1. Now we'll make the inner layer of petals. Place a white steering wheel in front of you.

3.2. Place a yellow 2x2 circular plate on the previous piece.

4.1. Place a pink 2x2 inverted tile in front of you.

4.2. Place a pink 2x2 wedge curved slope onto the right column of the previous piece, with the point at the right, extending one stud to the right.

4.3. Place a pink 2x2 curved slope to the left of the previous piece, sloping down to the left.

4.4. Place a pink 1x2 plate with a vertical clip under the left stud of the previous piece, vertically long, with the clip at the left. Repeat steps 4.1-4.4 five more times to make a total of six petals! Flip them over so the smooth face of the inverted tile is on top.

4.5. Clip the petals, with the inverted tile on top, onto the steering wheel. Slide them around as needed so that they're spaced evenly around the steering wheel. Leave them laying flat for now. Attach this ring of petals onto the petals created in steps 2.1-2.4. Adjust the top layer of petals so they sit between the petals of the lower layer.

5.1. Now we'll build the inner parts of the flower: the stamen and seedpod! Set the petals assembly aside for now. Place a white 2x2 circular tile with a single stud on top in front of you.

5.2. Push a gold 3L bar down into the stud on top of the previous piece. Push only until it is flush with the bottom of the previous piece, and extends straight up.

5.3. Place a pale yellow 3x3 spoked yellow down over the bar, with the spoke on top. This represents the stamen of the flower!

5.4. Place a yellow 2x2 dome bottom over top of the bar, with the four studs at the top, and slide it all the way down. This is the lotus flower's iconic seedpod! Put the petals back in front of you.

5.5. Attach the inner flower assembly to the 2x2 studs at the center of the petals. Fold the inner petals up so they curve around the stamen and seed pod. Fold the outer petals up very slightly.

Open group 5.

6. It's time to make another stem! Set the flower aside for now. Place a green straight axle connector horizontally long in front of you. Place a black 2L axle into the left side of the previous piece.

7.1. Repeat step 6 fourteen more times. An axle should extend to the left when you're done.

7.2. Put a green straight axle connector on the axle extending at the left.

8. Put a light gray 3L axle into the previous piece.

9. Put the flower in front of you, with the round plate at the bottom. Rotate the stem so the 3L axle is at the top. Push the axle at the top of the stem into the center of the steering wheel at the bottom of the flower until the top of the stem touches the steering wheel at the base of the flower.

Now the pink flower is complete!

Main build 3 - White, bloomed flower.

Open bag 3.

Open group 6.

1. Place a white steering wheel in front of you. Like with the pink flower, this will be the hub of the flower, but we'll need to build some petals.

2.1. We'll start making the outer petals! Place a white inverted tile in front of you.

2.2. Place a white 2x2 wedge curved slope onto the right column of the previous piece, with the point at the right, extending one stud to the right.

2.3. Place a white 1x2 plate with a vertical clip on one long side onto the inverted tile, vertically long, with the clip at the left. Repeat steps 2.1-2.3 five more times to make a total of six petals! Flip them over so the smooth face of the inverted tile is on top.

2.4. Clip the petals, with the inverted tile on top, onto the steering wheel. Slide them around as needed so that they're spaced evenly around the steering wheel. Leave them laying flat for now.

Open group 7.

3.1. Now we'll make the inner layer of petals. Place a white steering wheel in front of you.

3.2. Place a yellow 2x2 circular plate on the previous piece.

4.1. Place a white 2x2 inverted tile in front of you.

4.2. Place a white 2x2 wedge curved slope onto the right column of the previous piece, with the point at the right, extending one stud to the right.

4.3. Place a white 2x2 curved slope to the left of the previous piece, sloping down to the left.

4.4. Place a white 1x2 plate with a vertical clip under the left stud of the previous piece, vertically long, with the clip at the left. Repeat steps 4.1-4.4 five more times to make a total of six petals! Flip them over so the smooth face of the inverted tile is on top.

4.5. Clip the petals, with the inverted tile on top, onto the steering wheel. Slide them around as needed so that they're spaced evenly around the steering wheel. Leave them laying flat for now. Attach this ring of petals onto the petals created in steps 2.1-2.4. Adjust the top layer of petals so they sit between the petals of the lower layer.

5.1. Now we'll build the inner parts of the flower: the stamen and seedpod! Set the petals assembly aside for now. Place a white 2x2 circular tile with a single stud on top in front of you.

5.2. Push a gold 3L bar down into the stud on top of the previous piece. Push only until it is flush with the bottom of the previous piece, and extends straight up.

5.3. Place a pale yellow 3x3 spoked yellow down over the bar, with the spoke on top. This represents the stamen of the flower!

5.4. Place a yellow 2x2 dome bottom over top of the bar, with the four studs at the top, and slide it all the way down. This is the lotus flower's iconic seedpod! Put the petals back in front of you.

5.5. Attach the inner flower assembly to the 2x2 studs at the center of the petals. Fold the inner petals up so they curve around the stamen and seed pod. Fold the outer petals up very slightly.

Open group 8.

6. It's time to make another stem! Set the flower aside for now. Place a green straight axle connector horizontally long in front of you. Place a black 2L axle into the left side of the previous piece.

7.1. Repeat step 6 fourteen more times. An axle should extend to the left when you're done.

7.2. Put a green straight axle connector on the axle extending at the left.

8. Put a light gray 3L axle into the previous piece.

9. Put the flower in front of you, with the round plate at the bottom. Rotate the stem so the 3L axle is at the top. Push the axle at the top of the stem into the center of the steering wheel at the bottom of the flower until the top of the stem touches the steering wheel at the base of the flower.

Congratulations! Now the Lotus Flowers are complete!

Thank you so much for building this set!

Visit [legofortheblind.com](http://legofortheblind.com) for more accessible instructions and tell your friends about us!