

### **31147 Retro Camera 3-in-1**

Adapted by Michelle Wilcox and tested by Natalie Charbonneau.

Enjoy building vintage technology with the LEGO® 31147 Retro Camera 3-in-1 set. This iconic camera toy takes you back to a time before we all had cameras, movies and TVs on our cell phones.

The camera features a moving lens to focus your image, a button on the top to take a photo, a handle to wind the film, a knob for adjusting shutter speed and the back opens to place a brick-built piece of film inside. There is a multicolored textile strap to carry it. The strap is printed with images of 2x2 bricks in red, orange, yellow, light blue and azure. There are also 6 stickers for you to add to the film to represent photos. The stickers show drawn images from recent LEGO® sets, including a giraffe, roller skate, classic van, dog, and motorcycle.

Using the same bricks, you can rebuild the set into a Retro Video Camera with stationary lens, a side door that opens to show screen for viewing what you're shooting, and buttons on top.

You can also build a Retro TV with multiple knobs on the front, a screen that displays the 6 sticker images, and a single reception antenna on top, and it stands on two legs.

All 3 models make cool display items as well as being fun to play with.

The Retro Camera 3-in-1 set is 261 pieces and is rated for ages 8 and up.

Build dimensions:

The Retro Camera is 261 pieces, and measures about 2.5 inches high, 5 inches wide, and 3 inches deep. In metric, 7 centimeters high, 13 centimeters wide, and 8 centimeters deep.

The Retro Video Camera is 169 pieces, and measures about 2.25 inches high, 5.5 inches wide, and 2 inches deep. In metric, 6 centimeters high, 14 centimeters wide, and 5.5 centimeters deep.

The Retro TV is 155 pieces, and measures over 4 inches high, 4 inches wide, and 1.25 inches deep. In metric, over 10 centimeters high, 10 centimeters wide, and 3 centimeters deep.

The front of the box shows a large picture of the Retro Camera, and it's two film rolls with sticker images. On the right are smaller images of the Retro TV and Retro Video Camera.

On the back of the box there is an image of the back of the camera with the film door open, showing one film roll in the camera, and the other on the table in front. Below is an image of the Retro Video Camera from behind with its door open and video screen displayed. To the right is a larger image of the Retro TV.

Additional images of each build are included on one side of the box, plus a 1-to-1 scale image of the panel piece with the dog sticker.

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: with the longest side going from front to back
- Horizontally: with the longest side going from left to right.
- Upright: pointing up towards the ceiling.
- 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.
- That one/ppp: previously placed piece.
- Plate: piece with studs.
- Tile: smooth piece without studs (unless otherwise specified)
- A jumper plate is a 1x2 plate with a single stud on top, or a 1x3 plate with only two studs on top.
- "Anti-stud" is a term for the portion of a LEGO piece which accepts studs, like the bottom of a plate or brick.
- 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 piece
- Centered-horizontally: even amount of space left and right of 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).

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, PDF versions are always online at <https://www.lego.com/en-us/service/buildinginstructions/search?q=31147>. 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.

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.

The Retro Camera 3-in-1 has 4 unnumbered bags, 1 large wheel loose in the box, 1 sticker sheet, and 3 instructions booklets, one for each build. You will be drawing from all bags when sorting. Not all parts will be used in every one of the 3 builds.

If you would like to apply the stickers in advance, they are used on the six clear 1x2 panels. They represent photos on the film rolls for the camera, a screen on the inside of the video camera door, and the TV screen.

### Retro Camera Build

Group 1 - 1 to 17, sort the 2 light gray 1x1 plates, and 3 black 1x2 plates separately

Group 2 - 18 to 31, sort the 2 light gray 2x2 corner bricks, 2 red 2x2 corner plates, and 2 azure 1x2 plates separately

Group 3 - 32 to 45, sort the 6 light gray 2x2 wedge plates separately

Group 4 - 46 to 55

Group 5 - 58 to 59

Group 6 - 60 to 74 You may want to have a sighted person place the stickers in this group in advance.

### Group 1 Camera Body

1. Find the light gray 4x12 plate and put it horizontally in front of you.

Put a black 1x6 tile horizontally on the back row of the plate, starting on the 4<sup>th</sup> stud from the left. This is the back of the camera body.

2. Put a black 1x4 tile horizontally to the left of the PPP, and a second black 1x4 tile horizontally to the right of the same PPP. Each 1x4 will overhang the end of the gray plate by one stud. These tiles will count as a row of studs for counting.

3. Find 2 light gray 2x2 wedge plates. Orient the studs on the first wedge like a braille j. Put the back stud under the left overhanging PPP. On the second, orient the studs like a braille h, and put the back stud under the right overhanging PPP.

4. Put a 4x4 light gray plate in the middle of the plate, beginning on the 7<sup>th</sup> stud of the 2<sup>nd</sup> row from the back.

Put a black 1x1 plate on the 4<sup>th</sup> row from the back of the plate on either side of the PPP.

Place a black 1x4 tile horizontally to the left of the PPP, and a 2<sup>nd</sup> 1x4 symmetrically on the right. Each will overhang the end of the gray plate by one stud.

5. Find 2 light gray 2x2 wedge plates. Orient the studs on the first like wedge a braille d. Put the front stud under the left overhanging PPP. On the second, orient the studs like a braille f, and put the front stud under the right overhanging PPP.

6. Put a black 2x6 plate horizontally on the second row from the back to the left of the 4x4 plate (step 4).

Put an azure 1x2 plate vertically to the right of the 4x4 plate.

Put a red 1x4 plate with 2 end studs horizontally on the 2<sup>nd</sup> row from the back, to the right of the PPP. Put the second red 1x4 plate with 2 ends studs horizontally in front of the PPP.

Put a black 1x2 plate vertically on the studs to the right of the PPP.

7. Find 5 azure 1x2 plates. Put a 1x2 plate vertically on the second column of studs from the left end. Put a 2<sup>nd</sup> plate horizontally on the 3<sup>rd</sup> row from the back to the right of the PPP. Put the 3<sup>rd</sup> plate horizontally to the right of the PPP. Skip four studs and put the 4<sup>th</sup> plate horizontally on the next two studs. Put the 5<sup>th</sup> plate vertically on the second column of studs from the right end.

Put a black 1x6 tile on the 2<sup>nd</sup> row from the back, starting with the 3<sup>rd</sup> stud from the left. Put a 2<sup>nd</sup> 1x4 tile to the right of the PPP.

8. Center the light gray 2x4 brick horizontally in the middle of the 3<sup>rd</sup> row from the back. Starting on the 7<sup>th</sup> stud from the left.

Put a light gray 1x1 brick on the first stud on the left most stud in front of the PPP.

Put the 2<sup>nd</sup> 1x1 brick symmetrically on the right end of the row.

Put an azure 1x2 plate between the 2 PPPs.

9. Orient the 1x2 plate with anti-stud bracket with the bracket upright, and the 1x2 plate to the back. Put it on the PPP.

Put a black 1x1 plate on the 2<sup>nd</sup> row from the front, symmetrically to the left and right of the 2x4 brick (step 8).

10. Put an azure 1x2 plate horizontally on the front row between the 1x1 bricks (step 8).

Find 4 black 1x1 plates with upward brackets and two side studs. Put 1 on the left most stud of the 3<sup>rd</sup> row, with the side studs facing the back. Repeat symmetrically on the right. Put another on the front left most stud of the 2<sup>nd</sup> row, with the studs facing the front. Repeat symmetrically on the right.

11. Find 4 2x2 corner bricks. Orient them like a braille d, f, h and j.

Put the two vertical studs of the h on the left most studs, between the bracket uprights.

Put the two horizontal studs of the d on the 2<sup>nd</sup> row, on the 5<sup>th</sup> and 6<sup>th</sup> studs from the left.

Put the two horizontal studs of the f on the 2<sup>nd</sup> row, on the 11<sup>th</sup> and 12<sup>th</sup> studs from the left.

Put the two vertical studs of the j on the right most studs, between the bracket uprights.

12. Find 4 light gray 1x1 plates with downward brackets and 2 side studs. All will be oriented with the two side studs to the front. From the left on the 3<sup>rd</sup> row of studs, put a bracket on the 2<sup>nd</sup>, 5<sup>th</sup>, 12<sup>th</sup> studs. Put the last bracket on the 2<sup>nd</sup> stud from the right.

13. Put a black 1x2 plate vertically between the upright brackets on the left, and a 2<sup>nd</sup> symmetrically on the right.

14. Find 2 red 1x2 corner plates and orient them like a braille d and f.

Place the 2 horizontal studs of the d on the 7<sup>th</sup> and 8<sup>th</sup> studs of the 2<sup>nd</sup> row from the front.

Place the f symmetrically to the right the PPP.

Find 2 azure 1x2 plates. Put them horizontally behind the two PPPs.

15. Find 2 light gray 1x1 plates with downward brackets and 2 side studs. Put one with the side studs facing left on the first stud from the left of the front row (the 4 studs in the middle). Repeat symmetrically on the right.

16. Find 2 light gray 1x2 slopes and 2 1x1 plates. Put a plate on the underside of the high end of each slope. Orient one assembly with the smooth side facing left and the 1x1 plate at the top. Put it on the side studs of the left side PPP. Repeat symmetrically on the right.

17. Put a dark gray 2x2 round tile with hole centered on the front two rows of studs.

Put an azure 1x2 plate horizontally behind the PPP.

Put 2 light gray 2x3 plates vertically and symmetrically to the left and right of the two PPPs.

#### Group 2 Camera Body Continued

18. Put a red 1x1 plate on top of the black 1x1 brick with side clip. Orient with the clip to the back and put it on the second stud from the left on the back row. This is one of two clips that will hold the film door.

18.1. Put a white 1x2 brick with side stud and lip on a red 1x1 plate.

18.2. Put a dark gray 1x1 tile on the side stud. Orient it with the tile to the back and put it on the second stud from the right on the back row.

19. Put a black 2x2 corner brick on a red 2x2 corner plate. Repeat.

Orient one assembly like a braille d and the other like an f.

Put the two horizontal studs of the d on the 3<sup>rd</sup> row starting on the 5<sup>th</sup> stud from the left.

Place the f assembly symmetrically on the right.

20. Subassembly, lens holder

20.1. Put a dark gray 1x4 plate horizontally in front of you.

20.2. Put a dark gray 1x1 round plate on the 1<sup>st</sup> and 4<sup>th</sup> studs of the plate. Put the 1x2 plate with ball hinge receiver between the 2 PPPs.

20.3. Put a dark gray 1x4 plate horizontally on top of the PPPs.

Put a light gray 1x4 plate with end studs on top of the PPP.

20.4. Put the axle of the ball hinge in the light gray axle connector. Put the ball into the hinge receiver. Put the lens holder assembly horizontally on the 3<sup>rd</sup> row, between the PPP in step 19. The axle should be horizontal, and pointing toward the front.

21. Find 2 light gray 2x2 corner bricks and orient them like a braille j and h. Put the 2 horizontal studs of the j brick on the left most studs of the front row. Put the horizontal studs of the h brick. On the right most studs of the front row.

22. Put an azure 1x2 plate vertically on the 2<sup>nd</sup> column of studs from the left. Put a second symmetrically on the right.

23. Find 4 black 1x1 plates with upward brackets and two side studs. Put one on the left most stud of the 2<sup>nd</sup> row, with the side studs facing the back. Repeat symmetrically on the right.

Put another on the left most stud of the 3<sup>rd</sup> row, with the studs facing the front. Repeat symmetrically on the right.

24. Stack two black 2x2 corner plates. Orient the assembly like a braille h. Put the 2 vertical studs on the left most column of studs, between the upright brackets PP.

25. Put a black 1x1 brick with side clip on the 2<sup>nd</sup> stud of the back row, on the inside corner of the PPP, with the clip facing the back.

Orient a black 2x2 corner brick like a braille j. Put it on the right most column of studs between the upright brackets PP.

26. Put the light gray 1x2 plate with axle pin vertically on the left most column. Later this will hold the camera strap.

Put the red 1x1 plate on the front stud to the right of the PPP.

27. Find 4 light gray 1x1 plates with downward brackets and 2 side studs. All will be oriented with the two side studs to the front. From the left on the 2<sup>nd</sup> row of studs, put a bracket on the 2<sup>nd</sup>, 5<sup>th</sup>, 12<sup>th</sup> studs. Put the last bracket on the 2<sup>nd</sup> stud from the right.

28. Stack 3 dark gray 1x2 bricks with axle hole. Put the assembly horizontally on the 2<sup>nd</sup> row, 3<sup>rd</sup> and 4<sup>th</sup> studs from the left.

29. Put a black 1x6 plate horizontally the 3<sup>rd</sup> row, beginning on the 6<sup>th</sup> stud.

Put a black 1x2 plate vertically on the right most column of studs.

Orient a black 2x2 corner plate like a braille f, and put it on the left most column of studs between the upright brackets.

30. Subassembly

30.1. Put a black 1x6 plate horizontally in front of you.

30.2. Orient 2 black 2x2 corner plates like a braille d and f.

Center the 1x6 plate horizontally on top of the four horizontal studs of the corner plates.

Center the subassembly on the camera base with the 1x6 on the 2<sup>nd</sup> row of studs, and the corner plates extending over the camera lens holder.

31. Rotate the camera base 180 degrees so the back is now facing you.

Put a white 1x1 brick with side stud and lip on a red 1x1 plate. Put a 2<sup>nd</sup> red 1x1 plate on the side stud.

Put the assembly on the 2<sup>nd</sup> row from the front, on the 2<sup>nd</sup> stud from the left, with the side stud facing front.

### Group 3 - Camera Casing and Top

#### 32. Subassembly, film door

32.1. Find a dark gray 4x4 plate with 2 clips and orient it with the clips to the right. Put the light gray 4 long bar into the clips of the plate.

32.2. Put a black 4x12 plate horizontally in front of you. Put the 4x4 plate with clips under the right end of 4x12 plate, overlapping all the studs of the plate with clips.

32.3. Rotate the subassembly upside down, clips to the right. Put a black 1x6 plate on the back row of anti studs to the left of the PPP, and a 2<sup>nd</sup> symmetrically on the front row.

Put a dark gray 2x3 plate horizontally on the back 2 rows of anti studs to the left of the PPP, and a 2<sup>nd</sup> symmetrically on the front 2 rows. They will overhang by one stud.

32.4. Rotate the subassembly right side up, clips to the right. Put the high end of the black 1x3 slope on the stud of the 1x2 pin holder, oriented to create a 1x4 assembly. Put the assembly vertically on the left most column of studs with the pin holder at the top. This is the handle to open the film door.

Hold the film door upright and clip the light gray bar of the film door into the clips on the 2<sup>nd</sup> column of studs from the right on the back of the camera body.

33. Find 4 black 1x2 slope tiles. With the bricks vertical and upright, put one upright on the top 2 studs of the 1<sup>st</sup> column of studs on back of the camera, with the low end of the slope to the left. Place a 2<sup>nd</sup> below the PPP. Repeat symmetrically on the right side.

34. Holding a black 4x12 plate flat and horizontal, put it on top of the camera body centering it on the width of the camera body, and the back row on the first row of studs from the back on the camera body. The front edge will be flush with the camera door, and there will be two columns of studs on either of the plate.

35. Orient 4 black 2x2 wedge plates with the studs as the braille d, f, h, and j.

Put the 2 horizontal studs of the j wedge on the 2<sup>nd</sup> row of studs from the back to the left of the PPP. Put the 2 horizontal studs of the d wedge on the studs in front of the PPP. Repeat symmetrically on the right with the h and f wedges.

#### 36. Subassembly, build 2 times

36.1. Turn a black 4x4 plate anti studs up.

36.2. Turn 2 azure 2x4 plates anti studs up. Put one horizontally on the back 2 rows of anti studs, and another in front of the PPP. Repeat sub steps 1 and 2.

Rotate the camera body so the front is facing you.

With the 4x4 plates upright put one on the 2nd column of studs from the left on the front of the camera body. Repeat symmetrically on the right.

37. Find 4 black 1x2 slope tiles. With the bricks vertical and upright, put one upright on the top 2 studs of the 1<sup>st</sup> column of studs on the front, with the low end of the slope to the left. Place a 2<sup>nd</sup> below the PPP. Repeat symmetrically on the right side.

38. Find 4 light gray 2x2 curved bricks. Place the first in the back left corner of the camera top, aligning it with the edge of the camera. Repeat with the other 3 bricks on each corner of the camera.

39. Put a light gray 1x1 brick on the 2<sup>nd</sup> stud of the back row.

Put a light gray 1x2 brick vertically to the right of the PPP. Repeat symmetrically on the right.

40. Subassembly

Find a light gray 1x1 brick with side stud and lip. Put the red 2l bar with stop in through the back of the 1x1 brick and into the back of the stud until it stops. Put the assembly on the 4th stud from the left of the back row, with the side stud facing front.

Put a light gray 1x1 brick on the 4<sup>th</sup> stud from the right of the back row.

41. Find 3 light gray 2x2 wedge plates and stack them. Orient the studs on the stack like a braille d. Put the top row of studs on the stack on the back row beginning on the 5<sup>th</sup> stud.

Put the clear 1x2 panel to the right of the PPP, on the back row with the upright panel to the back. This is the eyepiece the photographer looks through.

Orient a light gray 2x2 corner brick like a braille f and put it to the right of the PPP.

42. Put a light gray 1x3 brick horizontally on the 2<sup>nd</sup> row of studs, beginning on the 2<sup>nd</sup> stud from the left. Repeat symmetrically on the right.

Orient a 2x2 corner brick like a braille h. Put it on the front row, to the left of the PPP.

43. Find 3 light gray 2x2 wedge plates and stack them. Orient the studs on the stack like a braille j. Put it on the 2<sup>nd</sup> row from the front beginning on the 5<sup>th</sup> stud from the left.

44. Put the black 1x2 window frame horizontally on the front row of studs, centered over the camera lens holder. This is the view finder window.

Put a light gray 1x2x2 slope brick horizontally to the left of the PPP, with the slope facing left. Place the other slope brick symmetrically on the right.



45. Put a light gray 4x4 round plate on the left end of the top of the camera, flush with the edges, and another symmetrically on the right.

#### Group 4 – Camera top details

46. Put the yellow 3L bar through one hole of the black Technic rubber axle connector. Do not push through to the other side. With the axle upright and the rubber piece at a 45-degree angle to the lower left, place it inside the top of the camera to the right of the left hand 4x4 round plate. The pin does not fit into anything, and its alignment will self-correct in the next step. The open end of the rubber piece will fit slightly under the 4x4 round plate.

47. Put a dark gray 2x2 round tile with hole on a light gray 2x4 plate with 3 holes, aligning the tile hole over the center hole of the plate.

Put the center hole of the assembly vertically over the axle, and secure on the 4<sup>th</sup> and 5<sup>th</sup> studs of the back and 2<sup>nd</sup> rows.

48. Put the light gray 4x4 plate to the right of the PPP. Put a light gray 2x4 plate with 3 holes vertically to the right of the PPP.

Put a light gray 1x1 plate on the 1<sup>st</sup> and 4<sup>th</sup> studs of the front row.

49. Put a dark gray 2x2 round tile with hole on the 2<sup>nd</sup> and 3<sup>rd</sup> rows from the back starting on the 2<sup>nd</sup> studs, centered on the 4x4 round plates. Repeat symmetrically on the right.

Put a light gray 2x2 round corner tile to the upper left of the left hand PPP, and a second to the lower left, surrounding the PPP. Repeat symmetrically on the right.

Put a light gray 1x4 tile on the back row beginning to the right of the upper round corner. Repeat symmetrically on the right.

50. Put a light gray 1x4 plate with 2 end studs horizontally on the 2<sup>nd</sup> row from the front beginning to the right of the lower left corner tile. Repeat symmetrically on the right.

Put a dark gray 2x3 plate horizontally on the 2<sup>nd</sup> and 3<sup>rd</sup> rows from the back beginning on the 4<sup>th</sup> studs from the right.

51. Put a light gray 2x2 round jumper plate on the left most studs of the PPP. Put a light gray 1x1 round tile on the jumper stud.

52. Put the black 1x3 Bionicle tooth on the yellow at a 45-degree angle to the upper left. This is a 1x3 piece, and it has an axle hole on one end and tapers to a point on the other. This is the shutter activator. It will bounce back into place when you gently rotate it a few degrees.

With the slope facing to the left, put a 2x3 slope brick vertically on the back row, starting at the 1<sup>st</sup> stud to the left of the tiles on the left. Put a 2x2 corner slope brick in front of the PPP, point to the lower left.

With the slope facing to the right, put a 2x3 slope brick vertically to the right of the 2x3 PPP and another 2x2 corner slope brick in front of it, point to the lower right.

53. Put the x end of the red Technic axle pin through the center hole of the black gear. Put the round end of the pin through the hole of the 2x2 round tile on the left. This is the film winding knob.

54. Subassembly, film rewinder

54.1. Orient the black crank handle with the round pin up. Put the dark gray 1x1 Technic spacer on the pin.

54.2. Put the x end of a red Technic axle pin through the x hole on the other end of the handle, up from the bottom.

Put the round end of the axle pin through the hole of the 2x2 round tile on the right. This is the film rewinding knob.

55. Subassembly, flash hot shoe

55.1. Place a black 2x2 jumper plate in front of you.

55.2. Put a black 1x2 bracket, with sides studs upright and facing left, under the left side of the jumper. Put a 2<sup>nd</sup> symmetrically on the right side.

55.3. Put a light gray 1x2 ingot tile on the side studs of the PPPs. The ingot tile is slightly thicker than a standard tile, has beveled edges, and slight bar patterns on the top.

Put the assembly on the back 4 studs of the slopes placed in step 52. This is where a flash unit would be attached to the camera, and it is sometimes called a hot shoe.

Group 5 Camera Lens

56. Subassembly

56.1. Place a light gray 4x4 round plate in front of you.

56.2. Put a dark gray 2x2 round tile with hole in the center of the PPP.

56.3. Sub-subassembly, 4 times

56.3.1. Put an azure 1x2 plate on the side studs of a red 1x2 brick with side studs.

56.3.2. Center a black 1x4 double slope on the azure PPP.

Repeat the previous 2 steps 3 more times.

Put the 1x2 bricks on the studs around the gray plate, with the azure plates facing outward.

56.4. Put a dark gray 1x1 tile on the front stud of the left hand brick. Orient a dark gray 2x2 angled corner tile like a letter f and place behind the PPP, extending between 2 bricks. Repeat symmetrically on the right.

Turn the subassembly upright with the studs of the 1x2 brick that are not covered at the bottom and facing away from you. Put the studs into the upper anti studs of the bracket in the middle of the bottom two rows on the front of the camera.

57. Subassembly, camera lens

57.1. Place the clear dish with the anti stud up, like a bowl.

57.2. Put the light gray 5 long axle in the anti stud. Put the black 3x3 disk on the axle.

57.3. Put the black wheel hub on the axle through the center hole.

Put the axle through the hole in the plate at the center of the camera front. You may need to rotate it gently to fit it into the x-connector behind the plate.

This is the camera lens that can be rotated to focus the picture.

58. Remove the camera strap from its box. Put the holes at each end together with the print on the outside. You may need to ask a sighted person to help with this. Put the holes over the pin on the left side of the camera.

59. Put the black 2x2 small train wheel on the pin with the large side against the camera. The train wheel feels a bit like a hat with a full brim.

Group 5 Film

60. Put a dark brown 1x8 plate horizontally in front of you.

61. Stack a dark brown 1x1 brick on top of another dark brown 1x1 brick. Put the stack on the right most stud of the plate.

62. Stack a dark brown 1x1 brick on top of another dark brown 1x1 brick two more times. Put one stack on the 2<sup>nd</sup> stud from the left, and the last on the 5<sup>th</sup> stud from the left.

Put a clear 1x2x2 panel on the plate between each stack PP, with the panel side to the front. The left most will extend over the plate by 1 stud.

If someone already placed the stickers for you, use the panels with the skate, dog, and motorcycle, placed left to right.

63. Put a dark brown 1x6 tile across the top starting on the 2<sup>nd</sup> stud from the left.

64. Place stickers, 3 roller skate, 5 dog, and 6 motorcycle, on the panels. You may want to ask a sighted person to help you locate the correct stickers and orient them correctly.

65. Subassembly, film canister

65.1. Find the black 2x2 round plate.

65.2. Put a yellow 1x2 half round brick on the left studs of the plate. Put a yellow 1x1 brick on the back stud to the right of the PPP.

65.3. Put a yellow 1x2 half round brick on top of the previous half round. Put a yellow 1x1 brick on the previous 1x1.

Put the left overhanging end of the film on the remaining stud of the black plate.

66. Put a black 2x2 round jumper plate on top of the 4 left most studs. Place a black 1x1 round tile on the jumper stud.

This is a film canister with the strip of film coming out of it.

67. Open the back of the camera and place the film subassembly inside with the canister on the left.

68. Put a dark brown 1x8 plate horizontally in front of you.

69. Stack a dark brown 1x1 brick on top of another dark brown 1x1 brick. Put the stack on the right most stud of the plate.

70. Stack a dark brown 1x1 brick on top of another dark brown 1x1 brick two more times. Put one stack on the 2<sup>nd</sup> stud from the left, and the last on the 5<sup>th</sup> stud from the left.

Put a clear 1x2x2 panel on the plate between each stack PP, with the panel to the front. The left most will extend over the plate by 1 stud.

If someone already placed the stickers for you, use the panels with the van, giraffe, and butterfly, placed left to right.

71. Put a dark brown 1x6 tile across the top starting on the 2<sup>nd</sup> stud from the left.

72. Place stickers 4 van, 2 giraffe, and 1 butterflies, on the panels. You may want to ask a sighted person to help you locate the correct stickers and orient them correctly.

73. Subassembly, film canister

73.1. Find the black 2x2 round plate.

73.2. Put a yellow 1x2 half round brick on the left studs of the plate. Put a yellow 1x1 brick on the back stud to the right of the PPP.

73.3. Put a yellow 1x2 half round brick on top of the previous half round. Put a yellow 1x1 brick on the previous 1x1.

Put the left overhanging end of the film on the remaining stud of the black plate.

74. Put a black 2x2 round jumper plate on top of the 4 left most studs. Place a black 1x1 round tile on the jumper stud.

This is a second film canister with the strip of film coming out of it.

Congratulations, you have completed the Retro Camera build. Great job!

At the end of the instructions there are advertisement for the following 3-in-1 sets with photos of the primary build for each set:

- 31152 – Space Astronaut
- 31150 – Wild Safari Animals (giraffe and flamingo image)
- 31146 – Flatbed Truck with Helicopter
- 31149 – Flowers in Watering Can
- 31147 – Retro Camera
- 31145 – Red Dragon
- 31148 – Retro Roller Skate

#### Retro Video Camera Build

Group 1 - 1 to 15, separate 1 red 2x2 corner plate and 1 light gray 2x2 corner brick

Group 2 - 16 to 29, separate 1 red 1x4 plate with end studs and 1 dark gray 2x3 plate, apply stickers 4, 6, 1 if needed

Group 3 - 30 to 46

#### Group 1 Video Camera Body

1. Put a light gray 4x12 plate horizontally in front of you. Put a light gray 2x4 brick horizontally on the back right corner of the plate.

2. Put a light gray 1x2 brick vertically on the right most column in front of the PPP.

Put a light gray 1x1 brick on the 4<sup>th</sup> stud from the right on the third row from the back.

Put a light gray 2x2 curved brick between the 1x1 and the 2x2 with the inside curve facing toward you and to the left.

3. Put a light gray 2x3 slope brick, with the slope facing right, vertically on the back row starting on the 6<sup>th</sup> stud from the right.

Place a 2<sup>nd</sup> light gray 2x3 slope brick vertically to the left of the PPP, slope facing left.

Put an azure 1x2 plate horizontally on the back row to the left of the PPP.

4. Orient a light gray 2x2 corner brick like a braille h. Put its left column to the left of the PPP, starting on the back row.

Put a light gray 1x2 brick vertically to the left of the PPP.

5. Orient a black 2x2 corner brick like a braille h, and put it on the front left corner, in front of the PPP.

6. Subassembly

6.1. Stack a red 2x2 corner plate on top of a black 2x2 corner plate, and orient it like a braille d.

6.2. Put an azure 1x2 plate horizontally on the back row of the PPP.

Put the back row of the subassembly on the 2<sup>nd</sup> row, starting on the 2<sup>nd</sup> stud from the left, nesting with the corner brick placed in step 5

7. Put an azure 2x4 plate vertically on the 2 right most stud columns.

Put an azure 1x2 plate horizontally on the back row to the left of the PPP. Put another azure 1x2 plate horizontally in front of the PPP. Put another azure 1x2 plate horizontally in front of the PPP.

8. Put a dark gray 2x3 plate vertically on top of the sloped 2x3 bricks to the left of the PPPs. Put another dark gray 2x3 plate horizontally on the 2<sup>nd</sup> and 3<sup>rd</sup> rows beginning on the left most column.

Put an azure 1x2 plate horizontally in front of the PPP, starting on the left most stud. Put another azure 1x2 plate horizontally behind the 2x3, starting on the left most stud.

9. Put the black 2x2x2 window frame horizontally on the PPP.

Put a red 1x2 brick with side studs vertically, with studs facing right, on the right most studs of the 2<sup>nd</sup> and 3<sup>rd</sup> rows.

Orient a black 2x2 corner brick like a braille f. Put it on the right most studs of the back row, next to the PPP. Orient a black 2x2 corner brick like a braille h. Put it symmetrically in front of the PPP.

10. Orient 2 light gray 2x2 corner bricks like a braille f and j. Put the f on the back row starting on the 5<sup>th</sup> stud from the left. Put the j nested in front of the PPP.

Orient another light gray 2x2 corner brick like a braille f. Put it on the back row starting on the 4<sup>th</sup> stud from the right.

Find 3 yellow 1x1 bricks. Put one on the 2<sup>nd</sup> row from the back on the 3<sup>rd</sup> stud from the right. Put the 2<sup>nd</sup> in front of the PPP. Put the 3<sup>rd</sup> to the left of the PPP.

11. Find 3 dark gray 1x2 bricks with an axle hole. Put one on the left most studs of the 2<sup>nd</sup> and 3<sup>rd</sup> rows. Put another to the right of the PPP. Put the 3<sup>rd</sup> to right of the PPP.

12. Stack a red 1x1 plate on top of another. Put the stack on top of a black 1x1 brick with clip. With the clip to the front, put the assembly on the third stud from the left of the front row.

13. Stack 3 light gray 2x2 wedge plates. Repeat. Orient a stack like a braille d. Put it on the back right corner. Orient the other stack like a braille j. Put it on the front right corner.

14. Find 4 black 2x2 corner bricks. Orient one like a braille d and put it on the back row beginning on the 6<sup>th</sup> stud from the left. Orient another like a braille h and put it nested in front of the PPP. Repeat the orientation and placement, starting on the back row, 4<sup>th</sup> stud from the right.

15. Put a light gray 1x3 brick horizontally on the 3<sup>rd</sup> row starting on the left most stud. Put a second 1x3 in front of the PPP.

Put a light gray 1x2x2 slope horizontally, with slope facing right, on the front row, starting on the left most stud. Put a black 1x1 brick with clip on the front row, with the clip facing front, 3<sup>rd</sup> stud from the left.

#### Group 2 Video Camera Body and Door

16. Put a light gray 1x4 tile with 2 studs vertically on the left most column of studs. Place an azure 2x4 plate vertically to the right of the PPP.

Center another light gray 1x4 tile with 2 studs horizontally on the 6<sup>th</sup> and 7<sup>th</sup> studs of the back row. Put an azure 2x4 plate horizontally in front of the PPP. The left and right studs of these 2 pieces will not be attached to anything.

Put a red 1x4 tile with two studs horizontally on the back row, beginning on the right most stud, extending to the left. Put an azure 2x4 plate horizontally in front of the PPP. Put an azure 1x2 plate horizontally on the front row beginning on the right most stud, in front of the PPP.

17. Keeping the camera body horizontal, turn it upside down, with the clips that were facing the front now facing the back.

Center a dark gray 2x3 plate upside down and horizontally between the front and back and place it on the right most edge. Put a light gray 2x3 plate upside down and horizontally to the left of the PPP. Put another light gray 2x3 plate upside down and horizontally to the left of the PPP.

Put a black 1x1 bracket with 2 upright side studs upside down, with studs facing the front, on the front right anti stud. Put a second bracket symmetrically on the back right.

18. Put a black 1x2 plate upside down and vertically on the left most column of anti studs, centered between the front and back.

Put a black 1x1 bracket with 2 upright studs upside down and with studs facing front on the front left anti stud, in front of the PPP. Put another bracket upside down to the right of the PPP. Put two more brackets symmetrically on the back left.

Orient a red 2x2 corner plate upside down and like a braille j. Put the back row of the corner plate on the 3<sup>rd</sup> anti stud of the back row.

Put a 2<sup>nd</sup> corner plate, oriented like a braille d in front of the PPP.

19. Put an azure 1x2 plate horizontally on the back row beginning on the 4<sup>th</sup> anti stud. Put a red 1x1 plate to the right of the PPP.

Put another azure 1x2 plate on the front row beginning on the 4<sup>th</sup> anti stud. Put a black 1x1 upright bracket with 2 side studs upside down to the right of the PPP. Put another black 1x1 upright bracket to the right of the PPP.

20. Put an azure 1x2 plate horizontally on the back row 6 anti studs from the right, next to the red 1x1 plate in step 19. Put a black 1x2 upright bracket with 2 side studs horizontally to the right of the PPP. Put a red 1x1 plate to the right of the PPP.

Put an azure 1x2 plate horizontally on the front row 5 anti studs from the right, next to the black 1x1 brackets placed in step 19. Put a black 1x2 upright bracket horizontally to the right of the PPP.

21. With the camera body still upside down, put a black 1x6 plate horizontally on the top row of the front side of the camera body, beginning on the left most stud. Put another 1x6 plate to the right of the PPP. Set the camera body aside.

22. Put a black 4x4 plate in front of you. Put an azure 1x2 plate vertically on the right most studs of the 2<sup>nd</sup> and 3<sup>rd</sup> rows.

23. Put a black 1x4 double curved piece vertically over the PPP.

24. Put a black 2x6 plate horizontally on the 2<sup>nd</sup> and 3<sup>rd</sup> rows to the left of the PPP. It will overhang the left edge by 3 studs.

25. Put 2 black 1x6 tiles horizontally on the back and front rows. They will also overhang on the left by 3 studs.

26. Put the dark gray 4x4 plate with clips under the overhanging pieces with the clips to the left.

27. Put the light gray 4 long rod in the clips of the PPP.

This is the camera door. Set aside.

28. Subassembly, video playback screen

28.1 Put a black 1x6 plate horizontally in front of you.

28.2 Put a red 1x2 brick with side studs horizontally in front of you with the sides studs facing up. Put a clear 1x2x2 panel horizontally on the upright studs with the panel to the front. Repeat 2 more times.

If stickers have already been applied to the panels, use the van, motorcycle and butterflies.

Align the panel assemblies in a row. Put the black 1x6 plate across the top of the panels.

28.3. If not already applied, put stickers 4, 6 and 1 on the clear panels.

Rotate the camera door so anti studs are up, and the clips and bar are on the right. Rotate the video screen subassembly so the anti-studs of the red bricks are up. Put the red studs on the front edge of the camera door beginning on the right.

29. Rotate the camera body right side up and horizontally, with the clips on the side facing you.



Rotate the camera door right side up and the clips and bar to the left. Turn the camera door upright and insert the bar into the clips on the side of the camera. The clips on the door will be just above and below the clips on the camera.

### Group 3 Video Camera Exterior

30. Put the black 4x12 plate on the top of the camera body aligning back and side edges.

31. Put a light gray 1x1 round tile on the stud of a black 2x2 jumper plate. Rotate the build  $\frac{1}{4}$  turn clockwise. Put the plate upright, with the bottom row of anti studs on the two studs on the front of the camera body.

32. Rotate the build back  $\frac{1}{4}$  turn.

Put a light gray 1x1 bracket with 2 downward side studs on the front right stud with the bracket studs to the front. Put a second bracket on the back right stud, bracket studs to the back. Put another bracket to the left of the PPP on the back only.

33. Subassembly, eye piece

33.1. Find a black 2x2 round plate. Put a yellow 1x2 half round brick on the left studs of the PPP, aligning the curved edges.

33.2. Put a yellow 1x2 half round brick to the right of the PPP, again aligning the curved edges.

33.3. Put the anti-stud bracket of a light gray 1x2 plate with centered bracket on top of the yellow half rounds, with the 1x1 plate portion vertical.

Put the 1x2 plate of the bracket on the 2<sup>nd</sup> and 3<sup>rd</sup> rows of the right most studs of the camera body. The eye piece will extend to the right.

34. Subassembly

34.1. Put a dark brown 1x8 plate horizontally in front of you.

34.2. Put a black 4x4 plate on the PPP, centered left to right, and front anti studs on the PPP.

34.3. Orient 2 black 2x2 wedge plates like a braille d and f. Put the front anti stud of the d wedge on the dark brown plate to the left of the PPP. Put the f wedge symmetrically on the right.

Put the subassembly on the top of the body with back row of the 4x4 plate on the 2<sup>nd</sup> row of studs from the back, beginning on the 6<sup>th</sup> stud from the left. The front row of the subassembly will extend over the camera door.

35. Put one black 1x2 short slope on the left most studs of the 2<sup>nd</sup> and 3<sup>rd</sup> rows from the back with slope to the left.

Put a light gray 1x1 downward bracket on the front left stud, studs facing the front. Put a 2<sup>nd</sup> bracket to the right of the PPP. Place two brackets symmetrically on the back row.

Orient a black 2x2 wedge plate like a braille h. Put it on the 2<sup>nd</sup> and 3<sup>rd</sup> rows beginning 3 studs from the right.

36. Put a light gray 2x4 plate with holes horizontally on the 2<sup>nd</sup> and 3<sup>rd</sup> rows from the back, starting on the 2<sup>nd</sup> stud from the left. Put a light gray 1x2 curved slope vertically on the 3<sup>rd</sup> stud of 2<sup>nd</sup> row from the front, with the low end extending over the front of the camera. Put a second slope symmetrically on the back row.

37. Working on the side of the camera body facing you, put a black 1x2 short slope horizontally on the left most studs of the top row of the front with the slope facing upward.

Put a black 1x1 plate on the bottom left stud of the front.

Put a dark brown 1x8 tile horizontally to the right of the PPP.

38. Subassembly

38.1. Put a light gray 2x4 plate with holes horizontally in front of you.

38.2. Put a black 1x1 plate on the 2<sup>nd</sup> stud from the left of the back row. Orient a red 2x2 corner plate like a braille j, and put the back row to the right of the PPP.

38.3. Put a black 1x4 double slope over the back row. Put a second double slope over the front row.

Rotate the subassembly vertically and upright. Put it on the left most stud columns of the front of the camera beginning on the 2<sup>nd</sup> row from the top, below the 1x2 short slope.

39. Subassembly

39.1. Put a black 1x6 plate vertically in front of you.

39.2. Put a black 1x4 tile vertically on the plate starting on the back stud. Orient a dark gray 2x2 corner tile like a braille j. Put the right column of the corner tile in front of the PPP. The left side will overhang by 1 stud.

39.3 Put a black 1x2 plate horizontally with the right stud under the overhanging PPP.

Rotate the subassembly upright and put it on first column of studs on the right side of the front of the camera, and extending to the left along the bottom row.

40. Rotate the build so the eye piece is now on the left. Find 3 light gray 1x1 downward brackets with 2 side studs. Put the 1<sup>st</sup> the top front stud beginning on the 4<sup>th</sup> stud from the right, with the side studs facing front. Put the 2<sup>nd</sup> and 3<sup>rd</sup> on the two studs to the left of the PPP.

41. Find 4 black 1x2 short slopes. Put one horizontally on the top right studs of the front of the camera, slope facing up. Put a 2<sup>nd</sup> horizontally on the top row beginning on the 5<sup>th</sup> stud, slope facing up.

Put the 3<sup>rd</sup> horizontally on the front row of the top of the camera beginning on the 3<sup>rd</sup> stud from the left, slope facing front. Put the 4<sup>th</sup> to the right of the PPP, slope facing front.

Put a light gray 1x2 ingot tile horizontally on the left most studs of the top row of the front.

Put a dark gray 1x1 round plate on the top row of the front, 4 studs from the right.

#### 42. Subassembly, side panel

42.1. Put a black 4x12 plate horizontally in front of you.

42.2. Put a light gray 1x4 tile with two studs on the left most column of the PPP, and put a black 1x4 tile on the right most column.

42.3. Put a light gray 1x4 tile on the second column from the left and one on the 3<sup>rd</sup> column from the right. Put 3 black 1x4 tiles vertically on the 2<sup>nd</sup>, 5<sup>th</sup> and 6<sup>th</sup> stud columns from the right.

Rotate the side panel upright and put on the front of the build, beginning on the 2<sup>nd</sup> row of studs, and with right and left edges even with the ends of the camera.

43. Rotate the camera so the eye piece is on the right. Put a black 1x2 plate horizontally on the 2<sup>nd</sup> row from the back of the top, beginning on the 2<sup>nd</sup> stud. Put a second black 1x2 plate in front of the PPP.

Put a dark gray 1x4 plate horizontally on the 2<sup>nd</sup> row from the back of the top, beginning on the 4<sup>th</sup> stud. Put a second dark gray 1x4 plate horizontally in front of the PPP.

Orient a light gray 2x2 corner slope with the point to the upper left. Put the slope on the back right studs. Orient a second corner slope with the point to the lower left. Put it in front of the PPP.

44. Put a dark gray 1x1 tile on the 2<sup>nd</sup> row from the back, 8<sup>th</sup> stud from the left.

Put a light gray 2x2 round corner tile to the right of the PPP curving right and down. Put a 2<sup>nd</sup> round corner in front of the PPP, curving down and left. Put a 3<sup>rd</sup> round corner to the left of the PPP, curving up and left.

Put a light gray 2x2 round jumper plate in the round space just created by the curved tiles.

Put a black 2x2 round jumper plate on the first 2 studs of the front row and the 5<sup>th</sup> and 6<sup>th</sup> studs of the second row.

45. Put a black 1x1 round tile on the stud of the PPP. Put a light gray 1x1 round tile on the light gray round jumper plate stud.

Put a black 1x4 double curve vertically on the 2<sup>nd</sup> column from the left.

#### 46. Subassembly, camera lens

46.1. Put the clear 4x4 dish with the anti stud up. Put the 5 long axle in the anti stud.

46.2. Put the black large wheel hub on the axle. Put the black 3x3 Technic disk with axle hole on the axle.

Put the lens subassembly in the axle hole on the left side of the camera.

Your Retro Video Camera is complete. Well done!

At the end of the instructions is a page showing the video camera with the door closed, and another with page with the door open. Following is a page with the text Rebuild the World, and an image of a simple yellow and black Lego giraffe and a pink pig with really long legs.

## Retro Television

Group 1 – 1 to 10, sort the light gray and black 4x12 plates separately, and the light gray and black 4x4 plates separately

Group 2 – 11 to 20, sort the light gray and black 2x2 corner bricks, and the light gray and dark brown 1x1 bricks separately

Group 3 – 21 to 29, sort the light gray and black 1x4 tiles, and the light gray and black 1x1 plates separately

### Group 1

1. Put the black 4x12 plate horizontally in front of you. Put an azure 2x4 plate vertically on the right most studs of the PPP.

2. Put an azure 2x4 plate vertically to the left of the PPP. Put an azure 2x4 vertically on the left most studs of the black plate from step 1. Put an azure plate vertically to the right of the PPP.

3. Put dark gray 1x1 tiles on the 5<sup>th</sup> and 8<sup>th</sup> studs from the left on the back row.

### 4. Subassembly

4.1. Put an azure 1x2 plate horizontally in front of you.

4.2. Put a red 1x1 plate on each of the studs of the PPP.

4.3. Put an azure 1x2 plate horizontally on top of the PPPs.

4.4. Put a dark brown 1x8 plate horizontally in front of you. Center the 1x2 assembly horizontally on the PPP.

4.5. With the slope facing front, put the back row of a light gray 2x3 slope brick horizontally to the left of the PPP, and a second light gray 2x3 slope brick symmetrically on the right.

4.6. Put a dark brown 1x8 plate horizontally in front of you. Put the front row of the subassembly onto the PPP.

4.7. Orient a light gray 2x2 corner slope brick with stud to the back right. Center the back of the corner slope brick on the front row of the subassembly, between the two 2x3 slopes. It will overhang to the front by one stud.

Center the subassembly behind the main build, with the corner slope overlapping the main TV assembly between the 1x1 tiles.

6. Put a light gray 2x4 brick horizontally on the 2<sup>nd</sup> and 3<sup>rd</sup> rows, beginning on the 5<sup>th</sup> studs from the left.

Orient 4 red 2x2 corner plates like braille d, f, h and j. Put the h in the front left corner. Put the f behind the h. Repeat symmetrically on the right with the j and d.

7. Put an azure 1x2 plate vertically on the front left most studs. Put a 2<sup>nd</sup> azure 1x2 plate vertically behind the PPP. Put a red 1x4 tile with 2 studs to the right of the 2 PPPs. Repeat symmetrically on the right with 2 more azure 1x2 plates and a red 1x4 plate with 2 studs.

8. Subassembly

8.1. Put a black 2x6 plate horizontally in front of you.

8.2. Put 2 light gray 1x1 bricks on the 2<sup>nd</sup> and 5<sup>th</sup> studs of the front row. Put a yellow 2x1 half circle brick between the 2 PPPs, with the curved side facing front.

8.3. Make 2 stacks of 3 light gray 2x2 wedge plates. Orient one stack like a braille h and place the front row on the 2<sup>nd</sup> and 3<sup>rd</sup> studs of the back row of the subassembly. Orient the second stack like a braille j and place to the right of the PPP.

8.4. Orient a black 2x2 corner brick like a braille j and place on the left most studs of the subassembly. It will overhang by 1 stud on the left. Place a 2<sup>nd</sup> black 2x2 corner brick symmetrically on the right.

8.5. Put a black 1x1 bracket with 2 upright studs under the overhanging PPPs with the upright studs to the front.

Center the subassembly in front of the main build with the overhanging wedge plates on the 5<sup>th</sup> and 8<sup>th</sup> studs of the front row of the main build.

9. Put the light gray 4x12 plate on top of the build, aligning the back rows of the plate and main TV assembly, and having the left and right sides flush.

10. Center a black 4x4 plate in front of the PPP, flush with the front edge. Put a light gray 4x4 plate to the left of the PPP, and a 2<sup>nd</sup> to the right.

Group 2

11. Turn over the TV assembly, anti studs up, so the front stays facing you. Orient 4 light gray 2x2 round corner bricks like braille d, f, h, and j, though they will be missing their corner dots, and turn anti studs up.

Put the h in the front left corner, the j, in the front right, f in the back left and d in the back right.

12. Orient 4 black 2x2 wedge plates like braille d, f, h, and j, with anti studs up.

Put the f in the front left corner, the d, in the front right, j in the back left and h in the back right.

13. Turn over the TV assembly, studs up, so the front stays facing you. Orient 2 light gray 2x2 corner bricks like a braille d and f. Put the f in the back left corner, and the d symmetrically on the right.

Put a dark brown 1x1 brick on the left most stud of the 3<sup>rd</sup> row from the back, and a 2<sup>nd</sup> on the 3<sup>rd</sup> stud from the left of the back row. Repeat symmetrically on the right.

Put a light gray 1x3 brick horizontally on the back row beginning on the 4<sup>th</sup> stud. Put a 2<sup>nd</sup> light gray 1x3 brick to the right of the PPP.

#### 14. Subassembly

14.1. Take a red 1x2 brick with two side studs.

14.2. Put a black 1x1 round tile on the left side stud. Put a red 1x1 plate on the right side stud.

Orient the subassembly with the side studs facing to the right. Put horizontally on the 4<sup>th</sup> and 5<sup>th</sup> studs of the right most column.

15. Put a light gray 1x2 brick on the 4<sup>th</sup> and 5<sup>th</sup> studs of the left most column. Put a dark brown 1x1 brick in front of the PPP. Put a dark brown 1x1 brick on the 3<sup>rd</sup> stud of the right most column.

16. Orient 4 black 2x2 corner bricks like braille d and f. Put the right side of the d on the 3<sup>rd</sup> column from the right, beginning on the 2<sup>nd</sup> stud from the back. Put the left side of the f on the 5<sup>th</sup> column from the right beginning on the second stud from the back.

Put a dark gray 1x2 brick with axle hole vertically on the 2<sup>nd</sup> column from the right on the 4<sup>th</sup> and 5<sup>th</sup> studs from the front. Put a 2<sup>nd</sup> one vertically on the 5<sup>th</sup> column from the right, also on the 4<sup>th</sup> and 5<sup>th</sup> studs from the front.

Orient 2 black 2x2 corner bricks like braille h and j. Put the left side of the h on the 5<sup>th</sup> column from the right on the 2<sup>nd</sup> and 3<sup>rd</sup> studs, and the right side of the j on the 2<sup>nd</sup> column from the right on the 2<sup>nd</sup> and 3<sup>rd</sup> studs.

#### 17. Subassembly

17.1. Put a light gray 2x4 plate with holes vertically in front of you.

17.2. Put a black 2x2 round plate on the front 4 studs, and a 2<sup>nd</sup> one on the back 4 studs.

17.3. Put a light gray 2x4 plate with holes vertically on top of the subassembly.

Place the subassembly into the 2x4 hole created by the pieces in step 16. This is the 3<sup>rd</sup> and 4<sup>th</sup> columns from the right beginning on the 3<sup>rd</sup> row of studs.

18. Put a dark gray 1x1 round plate on the 2<sup>nd</sup> stud from the left on the 2<sup>nd</sup> row from the back. Put a black 1x4 tile horizontally to the right of the PPP. Put a dark gray 1x1 round plate to the right of the PPP.

Put a black 1x4 tile vertically on the second column, beginning on the 3<sup>rd</sup> stud from the back. Put a black 4x4 plate to the right of the PPP. Put a black 1x4 tile to the right of the PPP.

Put a black 1x6 tile horizontally on the second row, beginning on the 2<sup>nd</sup> stud from the left.

19. Orient a light gray 2x2 corner brick like a braille h and put on the front left corner. Put a dark gray 1x4 plate horizontally on the front row, to the right of the PPP.

Put a light gray 1x1 brick to the right of the PPP. Put a yellow 1x2 half round brick horizontally to the right of the PPP, with the curve facing front. Put a light gray 1x1 brick to the right of the PPP.

Orient a light gray 2x2 corner brick like a braille j and put it on the front right corner, to the right of the PPP.

20. Put a black 1x6 plate horizontally on the back row, starting on the 1<sup>st</sup> stud. Put another black 1x6 plate horizontally to the right of the PPP.

Put a black 1x6 plate vertically on the left most column of studs, starting on the 2<sup>nd</sup> stud from the back. Put another black 1x6 plate symmetrically on the right.

Put a black 1x2 plate horizontally on the front row starting on the left most stud. Put a 2<sup>nd</sup> black 1x2 plate horizontally on the front row starting on the right most stud. Put a 3<sup>rd</sup> black 1x2 plate horizontally to the left of the PPP. Put a 4<sup>th</sup> black 1x2 plate horizontally to the left of the PPP.

### Group 3

#### 21. Subassembly, TV screen

21.1. Put a black 1x6 tile horizontally and upside down in front of you.

21.2. Put 3 clear 1x2x2 panels upside down, horizontally, and upright, on the PPP with the panel side facing front.

21.3. Put 3 more clear 1x2x2 panels upside down, horizontally, upright, and with panel side facing front, on the 3 PPPs.

21.4. Put a black 1x1 plate upside down on the left most anti stud. Put a 2<sup>nd</sup> black 1x1 plate upside down and symmetrically on the right. Put a dark gray 1x4 plate upside down and horizontally between the 2 PPPs.

21.5. Put an azure 1x2 plate upside down on the 2 left most studs. Put a 2<sup>nd</sup> azure 1x2 plate upside down to the right of the PPP. Put a 3<sup>rd</sup> azure 1x2 plate upside down and to the right of the PPP.

21.6. Rotate 2 red 1x2 bricks so the 2 side studs are down and the top studs face toward you. Put 1 horizontally starting on the 2<sup>nd</sup> anti stud, and the 2<sup>nd</sup> to the right of the PPP.

21.7. If the stickers have not already been applied to the clear 1x2x2 panels, please have as sighted person assist you with orientation and placement on the panels.

Rotate the TV screen assembly so the panels are facing upward and the red bricks with side studs that were on top are now facing toward you.

Place the TV screen assembly inside the main TV assembly with the red bricks on the 3<sup>rd</sup> through 6<sup>th</sup> studs of the front row, and the top studs of the red bricks even with the front row of studs on the main TV assembly.

22. Put a black 1x4 tile on the 2<sup>nd</sup> row from the back, to the right of the screen assembly. Put a 2<sup>nd</sup> black 1x4 tile horizontally on the 5<sup>th</sup> row from the back, to the right of the screen assembly.

Put a black 1x2 short slope vertically to the right of the screen assembly, between the 2 PPPs, slope facing to the right. Put a 2<sup>nd</sup> black 1x2 short slope vertically on the second column from the right, between the 2 tiles PPP, with the slope facing to the left.

Put a black 2x2 jumper tile with the front row of the jumper tile on the second row from the front and 2<sup>nd</sup> and 3<sup>rd</sup> studs from the right.

Put a black 2x2 round jumper tile to the left of the PPP.

23. Put the red 2 long pin with stop ring upright in the hole between the 2 1x2 short slopes placed in step 22. Put the black 3x3 Technic disk on the PPP. This is the TV tuner knob for choosing VHF channels.

24. Put 1 light gray 1x1 round tile on the stud of the 2x2 jumper tile, and a 2<sup>nd</sup> of the same piece on the 2x2 round jumper tile stud. One of these knobs would be volume control, the other would be for UHF channels.

Orient 4 light gray 2x2 round corner tiles like braille d, f, h and j. Put the d in the back right corner, the f in the left back corner, the h in the front left corner, and the j in the front right corner.

25. Put a light gray 1x4 tile vertically on the left column beginning on the 3<sup>rd</sup> stud from the front. Put a 2<sup>nd</sup> gray 1x4 tile symmetrically on the right.

Put a light gray 1x1 plate on the 3<sup>rd</sup> stud from the left on the back row. Put a 2<sup>nd</sup> light gray 1x1 plate to the right of the PPP.

26. Put a light gray 1x4 tile with two studs to the right of the PPP.

Orient 2 light gray 1x1 brackets with two downward side studs with the side studs facing the back. Put them on the back row on the 3<sup>rd</sup> and 4<sup>th</sup> studs from the right.

Orient 4 light gray 1x1 brackets with two downward side studs with the side studs facing the front. Put them on the front row, on the 3<sup>rd</sup>, 4<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> studs from the left. The side of the tv facing you is the bottom of the TV.

Put a light gray 1x4 tile with two studs on the front row beginning on the 5<sup>th</sup> stud.

27. Subassembly, right TV leg



27.1. Put a black 2x2 corner plate in front of you, oriented like a braille d. Put a light gray 1x2x2 slope brick horizontally on the back row of the PPP, slope to the left.

27.2. Put a dark brown 1x1 brick on the front row of the corner plate. Put a 2<sup>nd</sup> dark brown 1x1 brick on top of the PPP.

27.3. Put an azure 1x2 plate vertically on top of the subassembly.

27.4. Put a light gray 1x2 ingot tile vertically on top of the PPP.

With the bottom of the TV facing you, rotate the leg assembly so the slope brick is on top, and the anti studs face away from you. Put the leg on the bottom of the TV, with the top row of anti studs of the leg on the second row of studs on the right of the TV bottom.

28. Subassembly, left TV leg

28.1. Put a black 2x2 corner plate in front of you, oriented like a braille d. Put a light gray 1x2x2 slope vertically on the right column of the PPP, slope to the front.

28.2. Put a dark brown 1x1 brick on the back left of the corner plate. Put a 2<sup>nd</sup> dark brown 1x1 brick on top of the PPP.

28.3. Put an azure 1x2 plate horizontally on top of the subassembly.

28.4. Put a light gray 1x2 ingot tile horizontally on top of the PPP.

With the bottom of the TV facing you. Rotate the leg assembly so the slope brick is on top, and the anti studs face away from you. Put the leg on the bottom of the TV, with the top row of anti studs of the leg on the second row of studs on the left of the TV bottom.

29. Subassembly, TV antenna

29.1. Put a light gray 1x2 plate with ball hinge receiver vertically in front of you.

29.2. Put a light gray 1x2 curved slope on the front stud of the plate with the slope facing right, and a 2<sup>nd</sup> curved slope on the back stud, also facing right.

29.3. Put a light gray ball with axle into the ball hinge receptacle. Put a light gray Technic connector on the ball axle. Put a light gray 5 long axle into the Technic connector.

The antenna would be adjusted to improve the reception on the TV to get better picture and sound quality.

Rotate the TV assembly so it is standing on its legs with the screen panel facing front. Keeping the TV antenna assembly in the same orientation, put it on the 4 studs to the right on the top of the TV.

Congratulations! You have completed the Retro TV build!

At the end of the instructions there are advertisements for the following 3-in-1 sets with photos of the primary build for each set:

31152 – Space Astronaut  
31150 – Wild Safari Animals (giraffe and flamingo image)  
31146 – Flatbed Truck with Helicopter  
31149 – Flowers in Watering Can  
31147 – Retro Camera  
31145 – Red Dragon  
31148 – Retro Roller Skate

There are two pages showing the inventory of parts for the entire 3-in-1 set. The final page has the text Rebuild the World with an image of a 4 brown Lego micro ducks and a gray flying hippopotamus.

Thank you so much for building this set!

Visit [bricksfortheblind.org](http://bricksfortheblind.org) for more accessible instructions, [signup](#) for our newsletter and follow us on [Facebook](#) and [Instagram](#) to be the first to know when new instructions are available!

We also love seeing your completed builds, so please tag our [Facebook](#) and [Instagram](#) accounts in any photos of your builds so we can share your accomplishments with our Bricks for the Blind community.

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