Water molecule

US terms



Finished size
About 7½ in (19 cm) wide, 4¾ in (12 cm) from front to back and 3¼ in (8.3 cm) tall

Skill
Easy
Five pieces worked in rounds and sewn together.

Yarn
Medium (4), 5 colors

Hook
3.5 mm (US E-4)

Gauge
20 stitches and 22 rounds to 4 in (10 cm)
In single crochet, in a spiral.

What you need

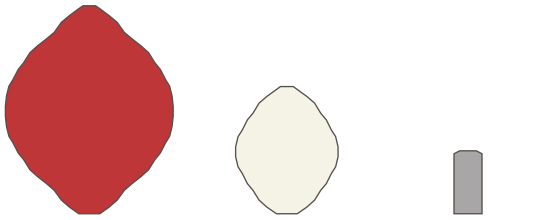
Yarn A: cherry red, oxygen	**about 60 yd (55 m), an estimate**
Yarn B: white, hydrogen	**about 45 yd (41 m), an estimate**
Yarn C: charcoal, the details	**about 5 yd (5 m), an estimate**
Yarn D: pink, the details	**about 5 yd (5 m), an estimate**
Yarn E: gray, bond and the details	**about 10 yd (9 m), an estimate**

By weight: about 65 g in all, an estimate, where 100 g is 200 yd (183 m).

Hook: 3.5 mm (US E-4), or the size that gives you the gauge. Also: toy stuffing, a yarn needle, a stitch marker, pins, scissors and black plastic eyes with washers, two each of 8 mm and 10 mm.

To find how many balls: divide by the length on your yarn's label and round up. Buy them from one dye lot. The estimate is from the stitches of this size at this gauge, with 30 percent added.

The pieces



Oxygen **Hydrogen x 2** **Bond x 2**
to the oxygen

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Gauge

20 stitches and 22 rounds to 4 in (10 cm) in single crochet, in a spiral.

To check it, work a flat circle: 6 sc in a magic ring, then 6 more sc in each round (12, 18, 24, 30, 36). After round 6 it should measure about 2¼ in (5.7 cm) across. The stitches should be tight enough that the stuffing does not show.

Use any hook that gives you this. If you count more stitches than this in 4 in (10 cm), change to a larger hook; if you count fewer, to a smaller one.

Notes

- Every piece is worked in a continuous spiral with the right side facing you: do not join and do not turn. Put the marker in the first stitch of each round and move it up.
- Square brackets hold a repeat; work it as many times as the line says. The number in parentheses is the count at the end of the round.
- Other molecules from the same pieces: a carbon is an oxygen ball worked in C (charcoal), with its eyes (satin stitch dots) and its mouth in B (white). Every ball has its face on the same rounds as here. The open edge of each bond is sewn to the carbon and its tip to the other ball, in a circle as in the last step. Yarn, each with its share of the 30 percent: about 60 yd (55 m) for a carbon or an oxygen, 25 yd (23 m) for a hydrogen and 5 yd (5 m) for a bond, and 5 yd (5 m) each of the colors of the faces.
- Carbon dioxide: one carbon, two oxygens and four bonds (60 yd (55 m) of C, 120 yd (110 m) of A, 20 yd (18 m) of E; four 10 mm eyes for the oxygens). On the carbon the middle of each open edge lies 10½ stitches from the center line, two bonds to each side, one on round 10 and one on round 17 (42 sts each). On each oxygen the tips of its two bonds lie on the same two rounds, 10½ stitches from the center line, on the side that looks at the carbon. The three balls lie in one straight line. Methane: one carbon, four hydrogens and four bonds (60 yd (55 m) of C, 100 yd (91 m) of B, 20 yd (18 m) of E; eight 8 mm eyes for the hydrogens). On the carbon one bond lies over the closed hole at the top and three lie on round 11 (48 sts): one to each side, 8 stitches from the center line, and one on the line opposite the center line. On each hydrogen the tip of the bond lies on round 9, on the line opposite the center line, so that its face looks away from the carbon.
- Magic ring: wrap the yarn round two fingers, work round 1 into the loop and pull the tail to close it. Or chain 2 and work round 1 into the first chain.
- Center line: places on a piece are given by round and by stitches from a center line. It is half way round from where the rounds begin. Mark it with a pin or a scrap of yarn as listed here, run it straight from round 1 to the last round by eye, and count out from it along the round, in stitches and half stitches.
- Oxygen: the center line runs between stitches 24 and 25 of round 11 (48 sts). It faces the front, round 1 at the bottom.
- Hydrogen: the center line runs between stitches 15 and 16 of round 7 (30 sts). It faces the front, round 1 at the bottom.
- Right and left are as you look at the front of the molecule. Rounds are counted from the start of each piece.
- In every step of putting it together: where a piece meets or overlaps another, sew through both. Where no tail is left or a tail is too short, sew with a new length of the yarn of the piece you are putting on.
- To work sc2tog, put the hook under the front loop only of each of the next 2 stitches, yarn over, pull through both loops, yarn over, pull through 2 loops.
- For a child under three, or a pet, embroider the eyes instead: satin stitch dots of the same size in C (charcoal).
- The rounds and stitches are the same for every size; the yarn and the hook make the difference. Lengths in the words (tails, details) are for Standard, the size written here: for another size multiply them by the number in its line.

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- Small: fine (2, sport) yarn, 2.25 mm (B-1) hook, 27 sc and 30 rounds to 4 in (10 cm): 5½ in (14 cm) wide, 3½ in (8.9 cm) from front to back and 2 3/8 in (6 cm) tall; eyes 6, 7 mm; multiply lengths by 0.74; about 0.74 times the yarn.
- Large: bulky (5, chunky) yarn, 5 mm (H-8) hook, 14 sc and 15.4 rounds to 4 in (10 cm): 10¾ in (27.5 cm) wide, 6¾ in (17 cm) from front to back and 4¾ in (12 cm) tall; eyes 11, 14 mm; multiply lengths by 1.4; about 1.4 times the yarn.
- Jumbo: super bulky (6, plush or velvet) yarn, 6.5 mm (K-10½) hook, 11 sc and 12.1 rounds to 4 in (10 cm): 13¾ in (35 cm) wide, 8¾ in (22 cm) from front to back and 6 in (15 cm) tall; eyes 15, 18 mm; multiply lengths by 1.8; about 1.8 times the yarn.

Instructions

US terms.

sc single crochet (UK double crochet), **MR** magic ring, **Rnd** round, **st** stitch.
sc2tog 2 sc made into one, **yo** yarn over the hook, **RS** right side, the one that shows.
2 sc in next st: both in one stitch. **sc in next 2 sts**: one in each.
[ ] 6 times: work what is inside 6 times in all.
(6 sc): the stitches you have when the round is done. **How to read a pattern**.

Oxygen

Yarn A, cherry red.

☐ **Foundation**	Make a magic ring.	
☐ **Rnd 1 (RS)**	6 sc in MR. Pull the tail to close the ring.	(6 sc)
☐ **Rnd 2**	2 sc in each st around	(12 sc)
☐ **Rnd 3**	**[**sc in next st, 2 sc in next st**] 6 times**	(18 sc)
☐ **Rnd 4**	Sc in each st around	(18 sc)
☐ **Rnd 5**	**[**2 sc in next st, sc in next 2 sts**] 6 times**	(24 sc)
☐ **Rnd 6**	**[**sc in next 3 sts, 2 sc in next st**] 6 times**	(30 sc)
☐ **Rnd 7**	**[**sc in next 2 sts, 2 sc in next st, sc in next 2 sts**] 6 times**	(36 sc)
☐ **Rnd 8**	Sc in each st around	(36 sc)
☐ **Rnd 9**	**[**2 sc in next st, sc in next 5 sts**] 6 times**	(42 sc)
☐ **Rnd 10**	Sc in each st around	(42 sc)
☐ **Rnd 11**	**[**sc in next 6 sts, 2 sc in next st**] 6 times**	(48 sc)

Mark the center line now: a pin or a scrap of yarn between stitches 24 and 25 of round 11. It faces the front, round 1 at the bottom.

☐ **Rnds 12 to 16**	Sc in each st around	(48 sc)

12 13 14 15 16

☐ **Rnd 17**	**[**sc in next 3 sts, sc2tog, sc in next 3 sts**] 6 times**	(42 sc)
☐ **Rnd 18**	Sc in each st around	(42 sc)

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☐ **Rnd 19**	**[**sc2tog, sc in next 5 sts**] 6 times**	(36 sc)
☐ **Rnd 20**	Sc in each st around	(36 sc)
☐ **Rnd 21**	**[**sc in next 4 sts, sc2tog**] 6 times**	(30 sc)
☐ **Rnd 22**	**[**sc in next st, sc2tog, sc in next 2 sts**] 6 times**	(24 sc)

Fix the eyes now: two 10 mm black plastic eyes on the oxygen on round 15, one to each side, 3½ stitches from the center line (7 stitches apart), and two 8 mm black plastic eyes on each hydrogen on round 10, one to each side, 2 stitches from the center line (4 stitches apart). For a child under three, or a pet, leave them out and embroider them later. Then stuff firmly, and keep adding stuffing until the last round.

☐ **Rnd 23**	**[**sc2tog, sc in next 2 sts**] 6 times**	(18 sc)
☐ **Rnd 24**	Sc in each st around	(18 sc)
☐ **Rnd 25**	**[**sc in next st, sc2tog**] 6 times**	(12 sc)
☐ **Rnd 26**	**[**sc2tog**] 6 times**	(6 sc)
☐ **End**	Fasten off, leaving an 8 in (20 cm) tail. Thread the tail through the front loop of each of the last 6 stitches, pull it tight to close the hole and bury the end inside.	

Hydrogen: make 2

Yarn B, white.

☐ **Foundation**	Make a magic ring.	
☐ **Rnd 1 (RS)**	6 sc in MR. Pull the tail to close the ring.	(6 sc)
☐ **Rnd 2**	2 sc in each st around	(12 sc)
☐ **Rnd 3**	**[**sc in next st, 2 sc in next st**] 6 times**	(18 sc)
☐ **Rnd 4**	Sc in each st around	(18 sc)
☐ **Rnd 5**	**[**2 sc in next st, sc in next 2 sts**] 6 times**	(24 sc)
☐ **Rnd 6**	Sc in each st around	(24 sc)
☐ **Rnd 7**	**[**sc in next 3 sts, 2 sc in next st**] 6 times**	(30 sc)

Mark the center line now: a pin or a scrap of yarn between stitches 15 and 16 of round 7. It faces the front, round 1 at the bottom.

☐ **Rnds 8 to 10**	Sc in each st around	(30 sc)

8 9 10

☐ **Rnd 11**	**[**sc in next st, sc2tog, sc in next 2 sts**] 6 times**	(24 sc)
☐ **Rnd 12**	Sc in each st around	(24 sc)

Fix the eyes now: two 10 mm black plastic eyes on the oxygen on round 15, one to each side, 3½ stitches from the center line (7 stitches apart), and two 8 mm black plastic eyes on each hydrogen on round 10, one to each side, 2 stitches from the center line (4 stitches apart). For a child under three, or a pet, leave them out and embroider them later. Then stuff firmly, and keep adding stuffing until the last round.

☐ **Rnd 13**	**[**sc2tog, sc in next 2 sts**] 6 times**	(18 sc)

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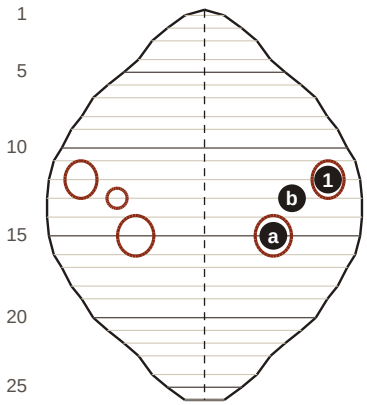
☐ **Rnd 14**	Sc in each st around	(18 sc)
☐ **Rnd 15**	**[**sc in next st, sc2tog**] 6 times**	(12 sc)
☐ **Rnd 16**	**[**sc2tog**] 6 times**	(6 sc)
☐ **End**	Fasten off, leaving an 8 in (20 cm) tail. Thread the tail through the front loop of each of the last 6 stitches, pull it tight to close the hole and bury the end inside.	

Bond: make 2

Yarn E, gray.

☐ **Foundation**	Make a magic ring.	
☐ **Rnd 1 (RS)**	8 sc in MR. Pull the tail to close the ring.	(8 sc)
☐ **Rnds 2 to 7**	Sc in each st around	(8 sc)
	2 3 4 5 6 7	
☐ **End**	Fasten off, leaving a 12 in (30 cm) tail for sewing. Stuff firmly up to the open edge.	

Assembly



Oxygen: 1 bonds, a eyes, b cheeks

A number is the step below that puts it on; a letter is put on under Finishing. Each line is a round, counted as the rounds are worked. The upright broken line is the center line. A place with a broken edge is on the far side.

1. Sew the two bonds to the oxygen: the middle of each open edge lies on round 12, one to each side, 7 stitches from the center line (14 stitches apart). The edge (8 sts) covers about rounds 11 to 13 of the oxygen. They point straight out from the ball and a little down, so that seen from above they make an angle of about 105 degrees. Sew all the way round each with its tail, adding a little stuffing before the last few stitches if the edge is still soft.

2. Put it together: set the oxygen on the table with its face to you. Lay the two hydrogens in front of it, one at the end of each bond, their faces to you too. The tip of each bond (round 1) lies flat against the side of the hydrogen: its middle on round 9, 10½ stitches from the center line, to the left of it on the hydrogen that lies on the right and to the right of it on the hydrogen that lies on the left. Sew the tip to the hydrogen all the way round in a circle about ½ in (13 mm) across, the width of the bond, with a new length of E (gray), going round twice. All three balls rest on the table.

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Finishing

- Put in the plastic eyes when the words of a piece say so, or embroider eyes in the same places with the other details. Embroider with one strand of yarn and the yarn needle when the pieces round the place are sewn on; begin and end each strand inside the toy. Satin stitch is straight stitches side by side until the shape is filled. Backstitch is a line of short stitches end to end: bring the needle up one stitch ahead, put it down at the end of the stitch before, and repeat.
- Eyes: two 10 mm black plastic eyes on the oxygen on round 15, one to each side, 3½ stitches from the center line (7 stitches apart), and two 8 mm black plastic eyes on each hydrogen on round 10, one to each side, 2 stitches from the center line (4 stitches apart).
- Mouth: with C (charcoal), in backstitch, a smile, one curve about ½ in (13 mm) wide that dips 3/16 in (5 mm) below its ends. Its two ends are on the oxygen between rounds 13 and 14, one to each side of the center line.
- Cheeks: with D (pink), in satin stitch, an oval about ¼ in (6 mm) wide and 3/16 in (5 mm) tall, its middle on the oxygen on round 13, one to each side, 4½ stitches from the center line (9 stitches apart).
- Mouth of each hydrogen: with C (charcoal), in backstitch, a smile, one curve about 5/16 in (8 mm) wide that dips 1/8 in (3 mm) below its ends. Its two ends are on round 9, one to each side of the center line.
- Cheeks of each hydrogen: with D (pink), in satin stitch, an oval about 3/16 in (5 mm) wide and 1/8 in (3 mm) tall, its middle on round 9, one to each side, 3½ stitches from the center line (7 stitches apart).
- Weave every tail through the toy and trim it. For a toy that will be played with, go round each seam a second time with a new length of yarn. Check the seams and small parts from time to time.

In all: 5 pieces; 1,576 stitches (816 in the oxygen, 324 in each hydrogen, 56 in each bond).

Found a mistake in this pattern? Tell us at flossfield.com, under Make a request.

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