3 Ways to Make a Small 3D Atom Model - wikiHow

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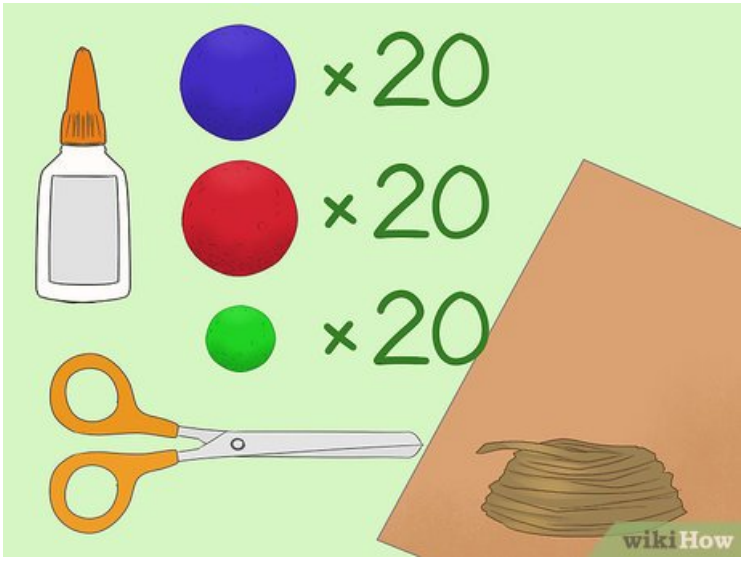
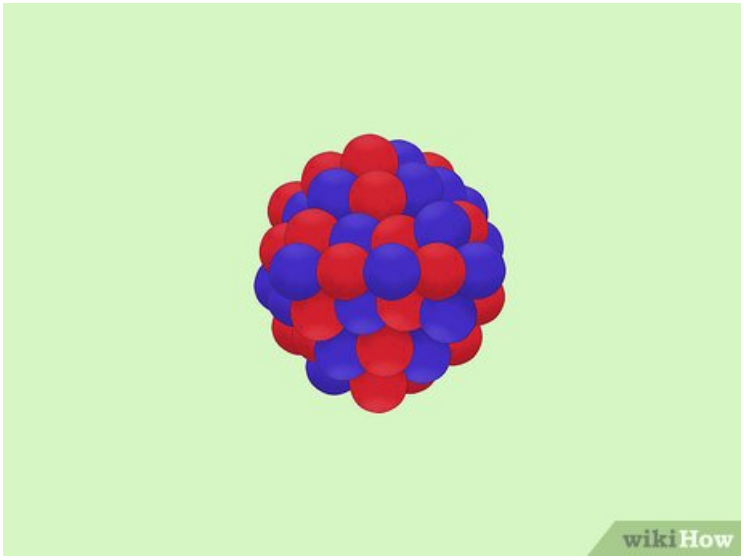
3D atom models are a common science project and craft made to help understand how certain atoms work. A 3D atom model can be useful to demonstrate in a classroom or use to explain when giving a lesson about atoms. Atom models aren't too hard to build and this article shares a few different atoms that you can create.

1. 

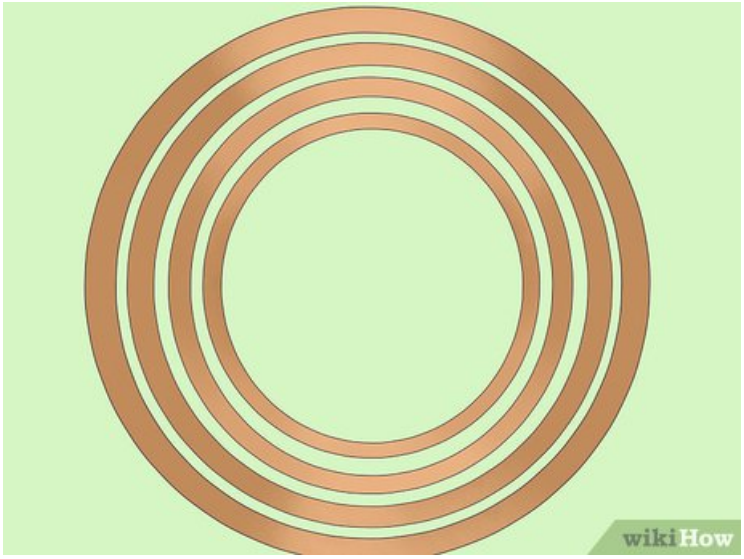
1

Prepare your materials. You will need glue, scissors, cardstock, string, 40 large craft balls (20 of one color for the protons and the other 20 for the neutrons that's a different color), and 20 small craft balls for the electrons.

2. 

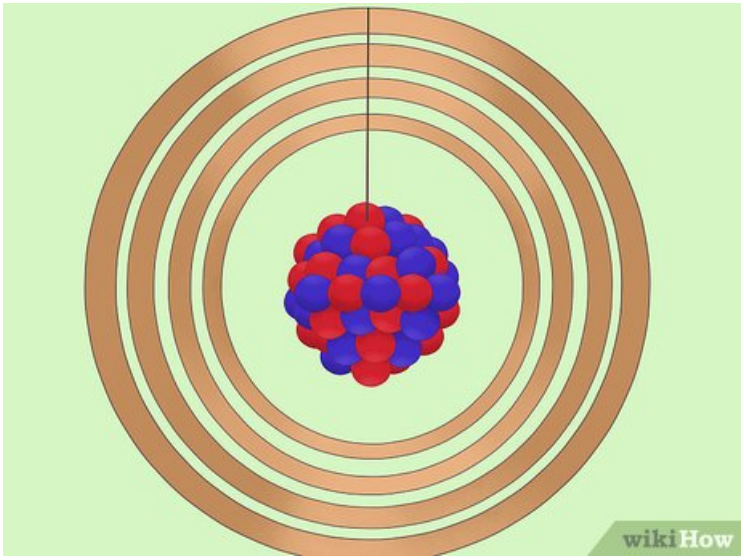
2

Glue the protons and neutrons together. Glue both colored craft balls into a ball, alternating between the protons and neutrons as you glue.This will resemble the nucleus.[1]

3. 

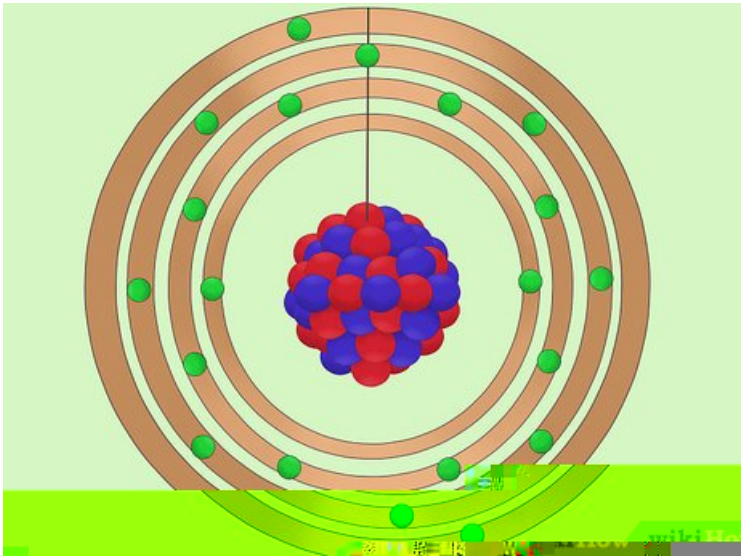
3

Cut out the cardstock. Cut out a small, a medium, a large, and an extra-large ring using the scissors.[2]

4. 

4

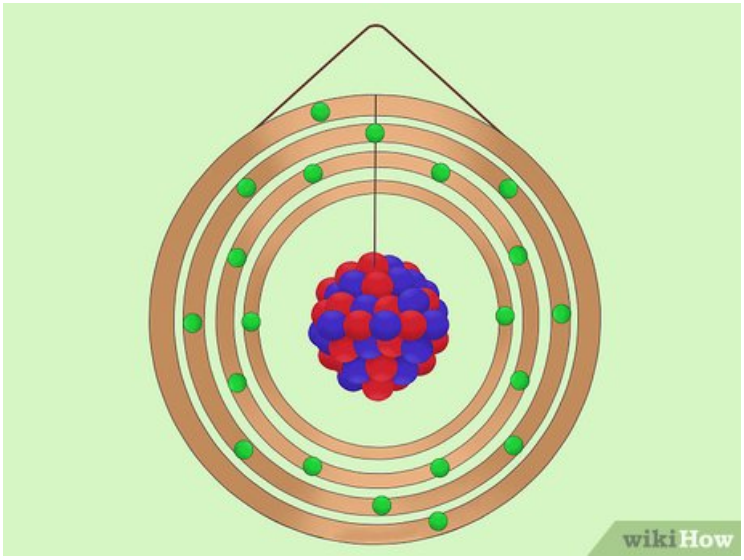
Tie the rings. Using the string, tie all the rings in a concentric circle around the nucleus.

5. 

5

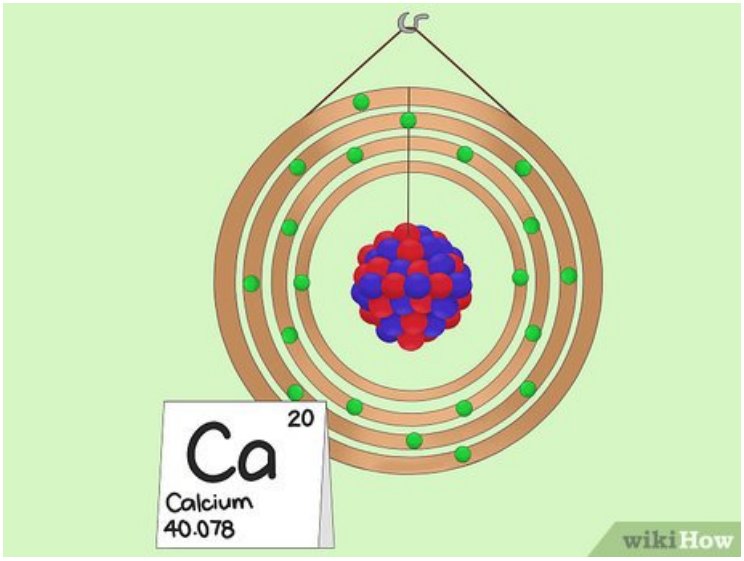
Glue on the electrons. Glue two small craft balls to the small circle, eight on the medium circle, eight to the large circle, and then two to the

extra-large circle. These will resemble all the electrons on the atom.

6. 

6

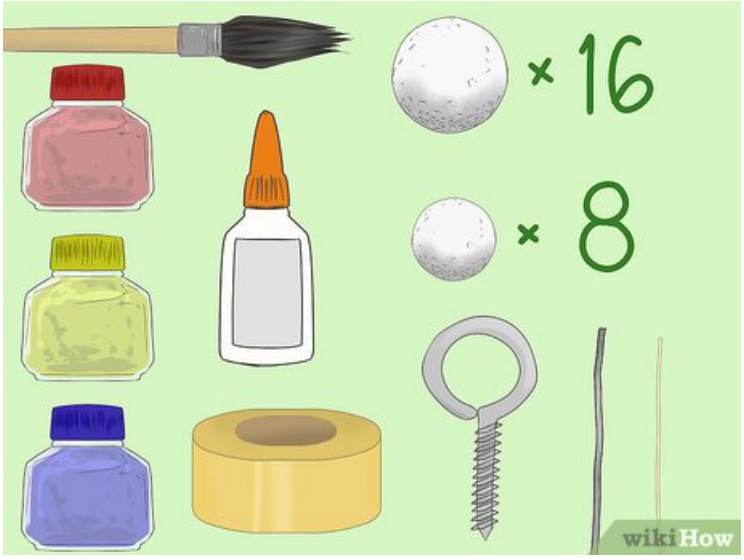
Attach a piece of string to the outer circle to help the model hang.

7. 

7

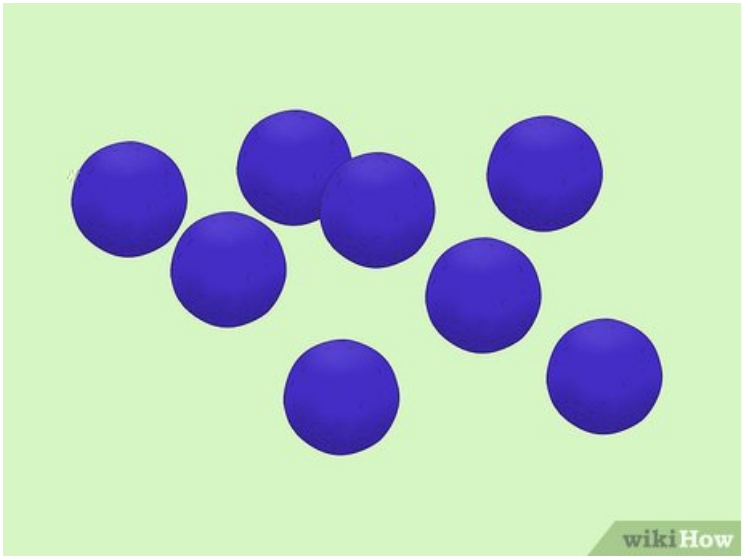
Enjoy! You can now show off and display your 3D model of the atom calcium.

Advertisement

1. 

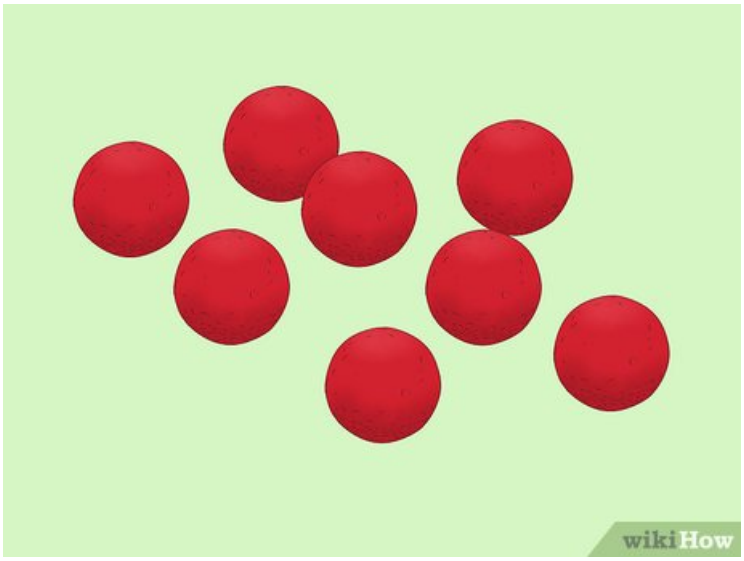
1

Prepare your materials. You will need 16 medium-sized polystyrene balls, a paint brush, three different paint colors, 8 small polystyrene balls, strong craft glue, an eye hook, wire, duct tape, and a fishing line.

2. 

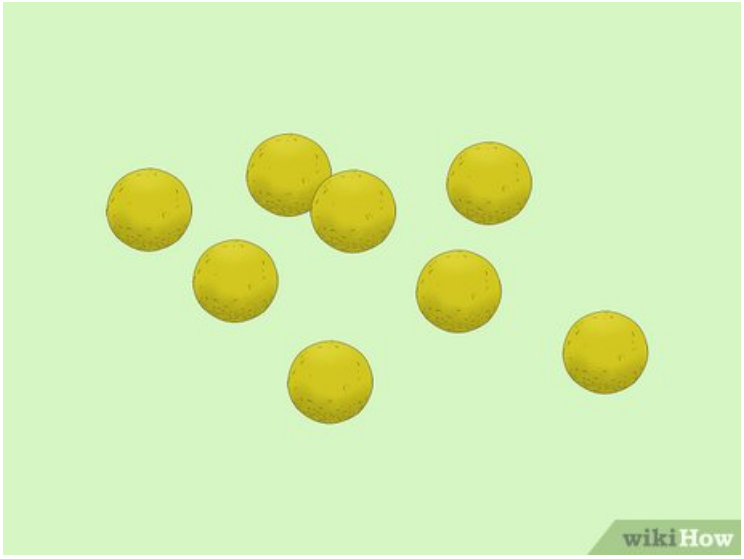
2

Paint 8 of the polystyrene balls a paint color. Use the paint brush to brush the paint over only 8 of the medium sized balls.[3] It's recommended to use the color blue as these balls will resemble the protons. Allow the balls to dry until they are no longer wet.

3. 

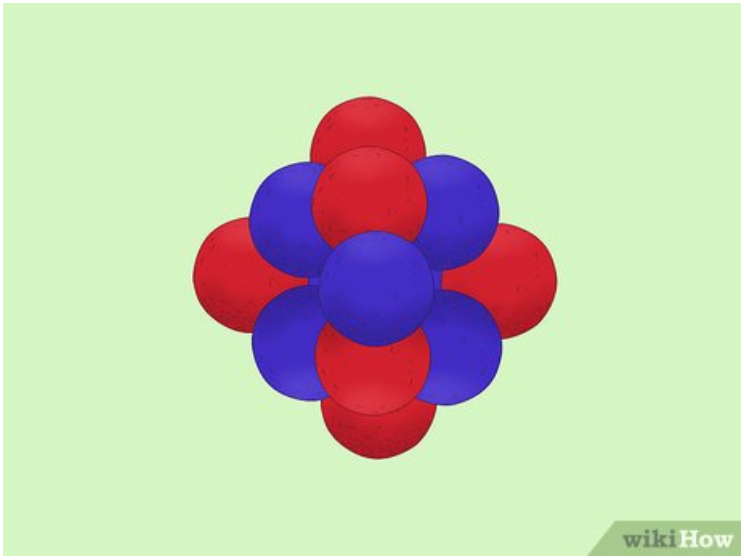
3

Paint the other 8 balls a different color. Repeat the same process with the other 8 balls.[4] Paint the balls another color, preferably red since this is resembling the neutrons, and set them aside to allow it to dry.

4. 

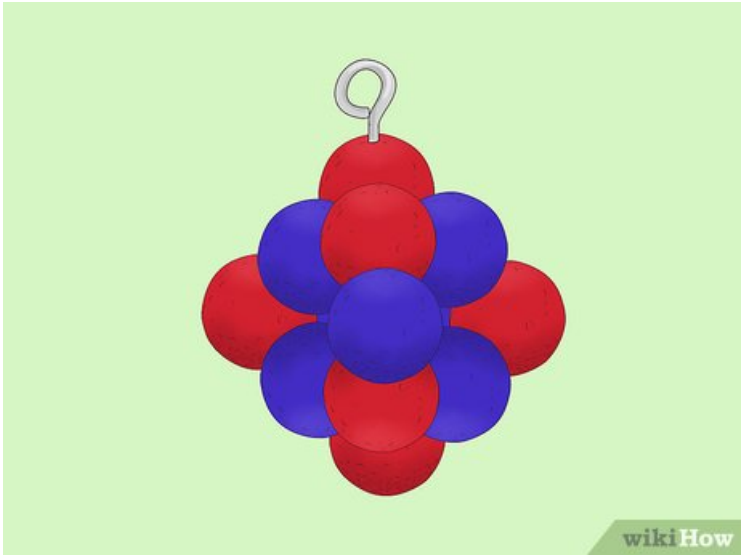
4

Paint the small polystyrene balls another color. Using the paint brush, paint the 8 small balls another color, preferably green to resemble the electrons.[5] Set the balls aside to dry until they are no longer wet.

5. 

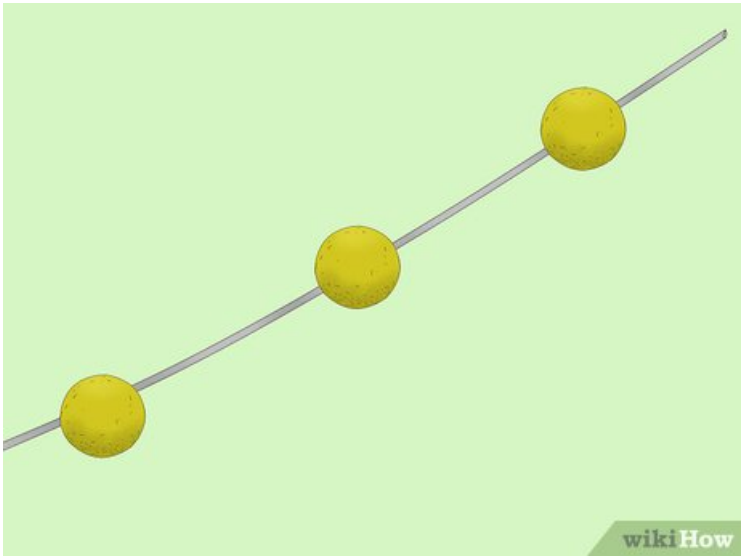
5

Glue the medium-sized balls together. Using the strong craft glue, glue both different colored medium-sized balls together to resemble a nucleus, alternating between the protons and neutrons as you glue.[6]

6. 

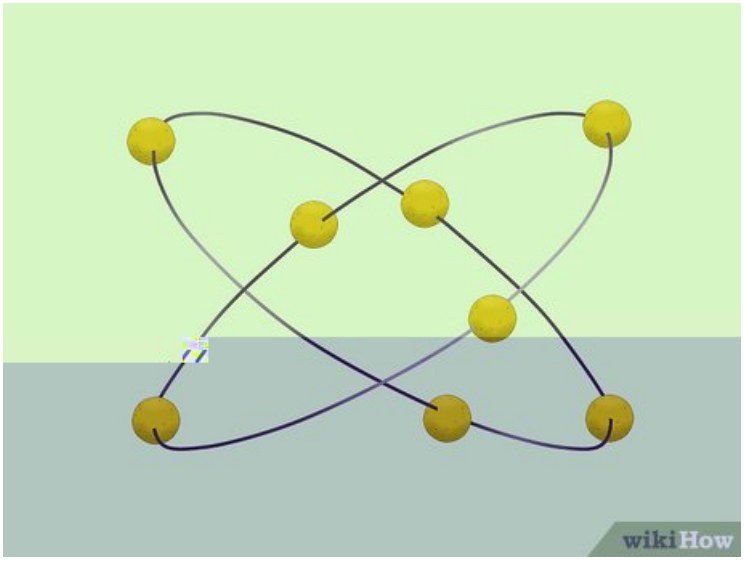
6

Screw the eye hook on top of the 'nucleus'.

7. 

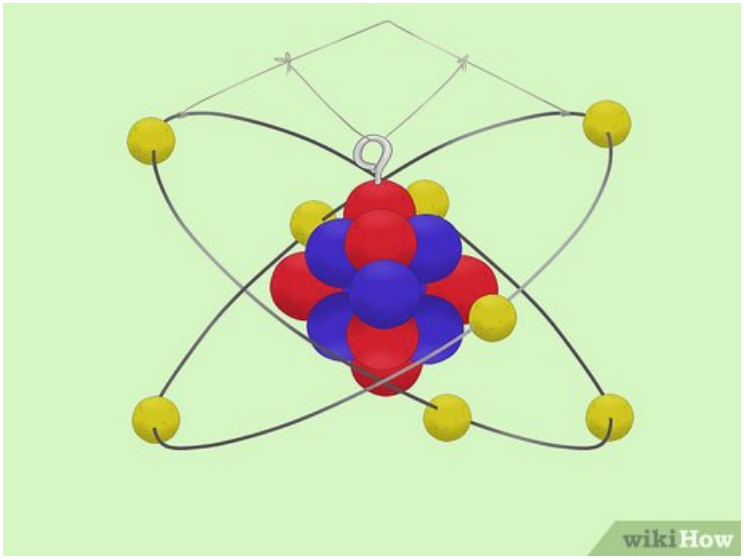
7

Thread and poke the small balls onto a piece of wire.[7]

8. 

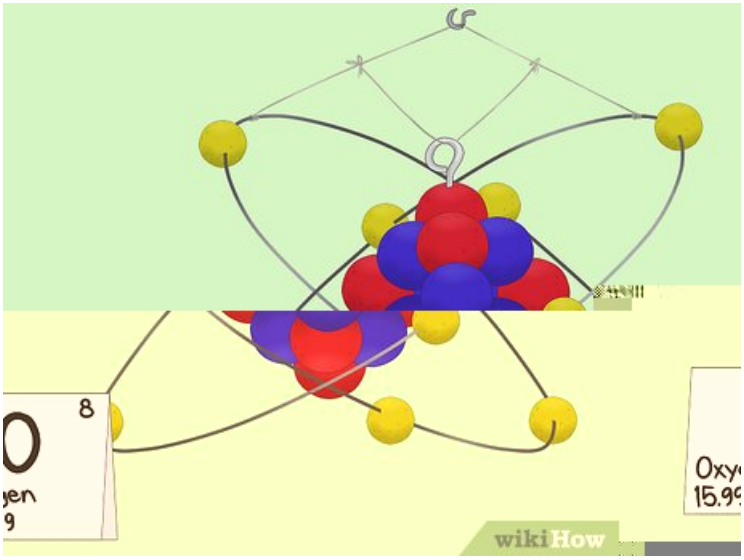
8

Form the wire into medium-sized hoops. Gently form the wire into hoops to resemble the atom. Secure the wire and atom together using the duct tape.[8]

9. 

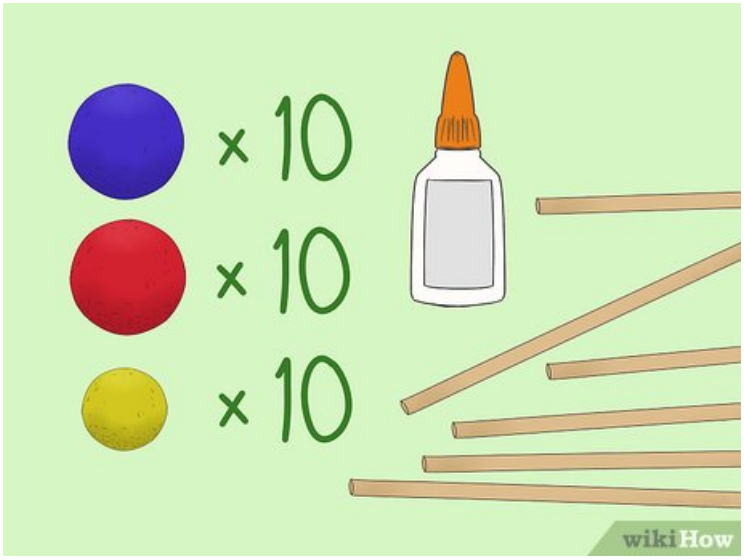
9

Tie the fishing line on the hoops and eye hook to help the model hang.

10. 

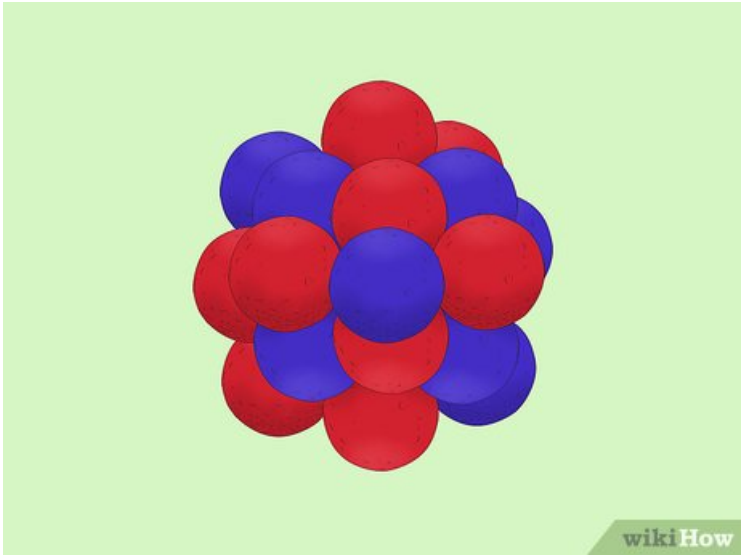
10

Enjoy! You can now show off and display your 3D model of the atom oxygen.

1. 

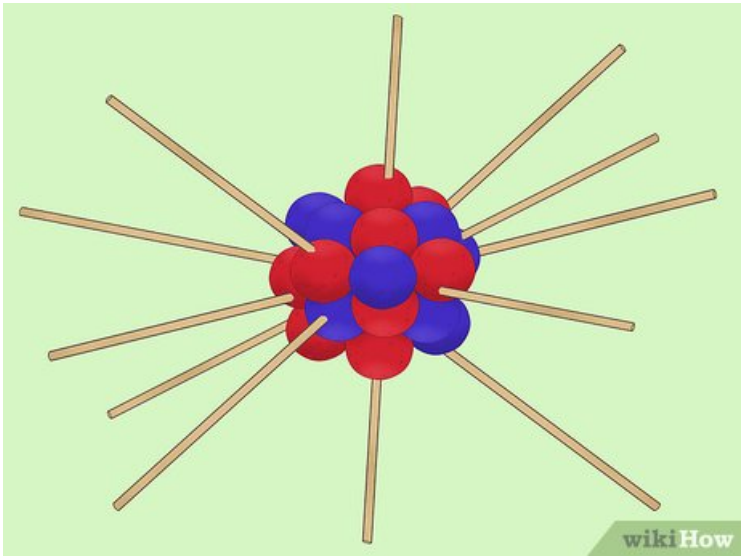
1

Prepare your materials. You will need 6 wooden craft sticks, strong craft glue, 10 medium-sized Styrofoam blue craft balls, 10 medium-sized Styrofoam red craft balls, and 10 small yellow Styrofoam craft balls.

2. 

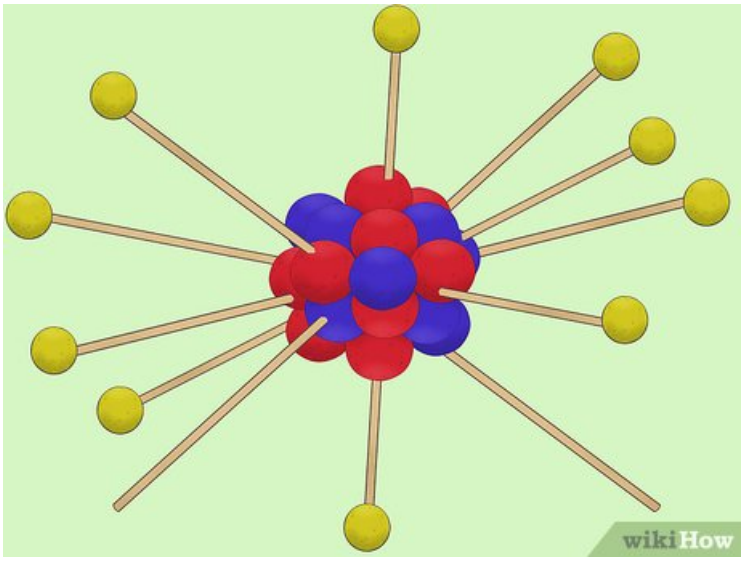
2

Glue the medium-sized balls together. Using the strong craft glue, glue both different colored medium-sized balls (the protons and neutrons) together to resemble a nucleus, alternating between the protons and neutrons as you glue.

3. 

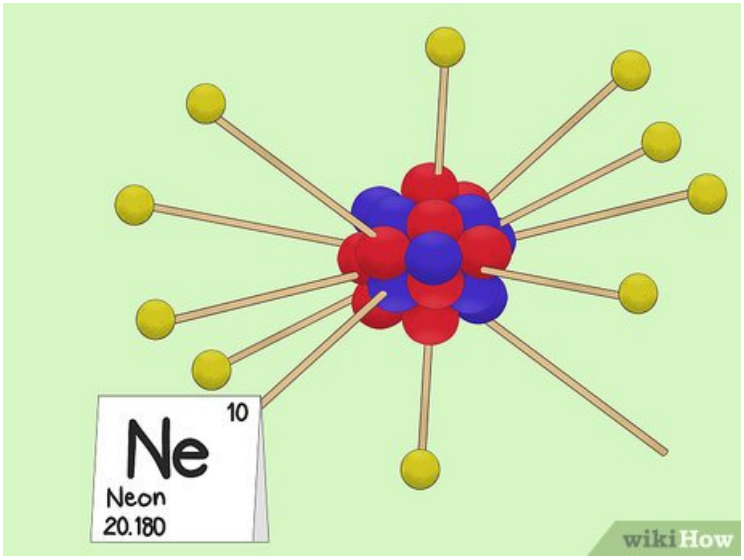
3

Poke the wooden craft sticks onto different areas of the 'nucleus'. Leave two of the sticks to stand on the ground so the model can stand itself.[9]

4. 

4

Poke and attach the small balls. On each craft stick, poke the small yellow balls to resemble electrons.

5. 

5

Enjoy! You can now show off and display your 3D model of the atom neon.

Add New Question

- Question

  How can I make a rubidium atom model?

  This would be more complicated, as it has 37 protons/electrons and 48 neutrons. Try the calcium structure. Make the nucleus the same way by gluing the protons and neutrons all together. Now, you need to cut out the rings for the energy levels for the electrons, unless you want your atom to be a plasma. You will need five, of course, each one bigger than the last. Glue two electrons in the first one, eight in the second one, 18 in the third one, eight in the fourth one, and finally, glue one in the fifth one. Now attach the string from which you will hang it from, make the information card, and voila, you're finished!

- Question

  How do I make a 3D model of an iron atom?

  Try using the same type of model as either the neon or oxygen, but just adjust the number of wires/dowels/balls you'll need as the amount of energy levels/subatomic particles will probably be different.

- Question

  How can I make a hanging model of the solar system?

  Get some string, one big and six small Styrofoam craft balls, a small hook, and long wooden sticks (found at any craft store). Paint the balls any colors that are required for the project, and poke a hole through the big one on each side. Then take the smaller ones and poke holes in them with the wooden sticks. Take the hook and nail it to the ceiling. Then tie a loop at the end of the string closest to the hook. Loop it onto the hook and glue the other end of the string to the big craft ball in the center. You're done!

See more answers

Ask a Question

200 characters left

Include your email address to get a message when this question is answered.

Submit

Video

- You can also use colored marshmallows instead of craft balls when making your model, but do note that the marshmallows will spoil over time

Thanks for submitting a tip for review!

Things You'll Need

- Glue
- Scissors,
- Cardstock
- String
- 40 large craft balls (20 of one color, 20 of another color)
- 20 small craft balls

- 16 medium-sized polystyrene balls
- Paint brush
- 3 different paint colors
- 8 small polystyrene balls
- Strong craft glue
- Eye hook
- Wire
- Duct tape
- Fishing line

- 6 wooden craft sticks
- Strong craft glue
- 10 medium-sized Styrofoam blue craft balls
- 10 medium-sized Styrofoam red craft balls
- 10 small yellow Styrofoam craft balls

References

About This Article

Article SummaryX

With a few arts and crafts materials, you can easily make your own small 3D atom model. You'll need glue, scissors, cardstock, string, large craft balls, and small craft balls. Look for large craft balls in 2 different colors or paint them yourself. To make the nucleus, glue the large balls together, alternating between the 2 colors for the protons and neutrons. Then, cut out rings of cardstock and tie them in a concentric circle with string. Glue the small craft balls onto the rings in the correct formation of electrons. Finally, hang your nucleus in the middle of the rings with string, and you're all done. For more tips, including how to make an oxygen atom model, read on!

Did this summary help you?

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Hanging Mobile

For this project, students are going to make hanging mobile models of an atom. To do this, students will hang a string (fishing string works well) from a support. Students will then create a series of rings representing the orbits of the electrons. How students make these rings may depend on time, resources, and craftiness, but viable materials include basic wires, cardboard, or paper plates cut into rings. These rings will be attached to the mobile's string. If your students enjoy engineering challenges, ask them to attach the rings so that each rotates independently. In the center of the string, students will attach a set of ball objects to represent the electrons and neutrons of the nucleus. These can be made of marbles, craft poms, or any other round object.

- Materials: Fishing string or other suspension wire, base for the mobile, supplies for rings/electrons/nucleus as desired, art and craft supplies as desired

Interactive

Divide the class into groups and assign each an atomic element. After researching their element, students will work together to create a living Bohr model of their atom. To create their living model, they will need to create an outline for their model on paper. Students will have to designate the location of the nucleus and draw the orbits of the electrons. This will translate into a chalked area when they create their living model. If you wish to increase the difficulty of this, you may ask students to calculate the relative spacing between each orbit/shell. To populate the atom, students will designate individuals to cluster together excitedly in the center. The remaining students will run in circles along the trajectory of the orbits. The parts of the atom must be clearly delineated. This means that all electrons, neutrons, and protons must be distinguished and easily identified. Students may consider matching colored shirts (protons in red, neutrons in blue, etc.), distinct hats for each, or something similar. Once students have a plan in mind, they will chalk out their areas and practice. When everyone is ready, each group will present their atom to the class. After presentation, have a group discussion about each Bohr model.