

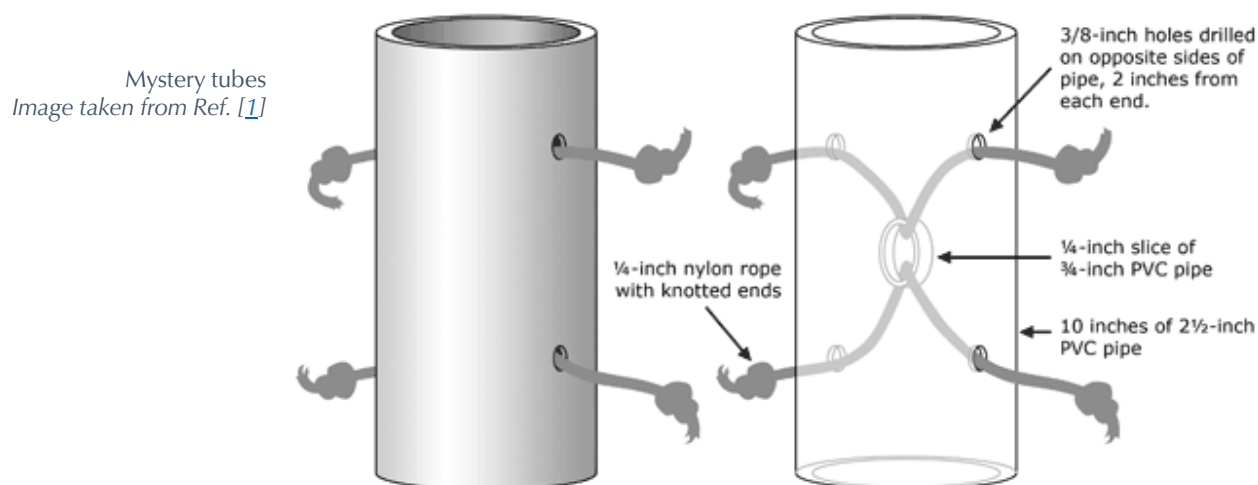
Investigating the atom

Instructions to build mystery tubes

One mystery tube requires:

- A PVC pipe: approximately 7–8 cm in diameter and 25 cm long (in US units: 10 inches of a 2 ½ inch PVC pipe)
- A ring: approximately 5–10 mm-wide cut from a PVC pipe approximately 2.5–3 cm in diameter (In US units: A ¼ inch slice of ¾ inch PVC pipe)
- A nylon cord: approximately 5–6 mm (¼ inch) in diameter, with knotted ends
- Drill for making four holes on the large PVC pipe (The holes should be slightly wider than the cord, while the knots should be large enough to prevent the cord from slipping through.)

Prepare the mystery tubes as shown in the image blow.^[1] Both ends of the tube must be sealed to prevent opening during the activity. Tubes and caps must be opaque to prevent any view of the interior.



Suggestions:

- For best results, make sure the two pieces of rope are of different lengths.
- Burn the ends of the rope to prevent knots from coming loose.
- Use a reversible sealing method for the caps to allow replacement of worn parts. Usually, the press-fit of the PVC caps onto the pipes is tight enough to prevent the assembly from being opened by hand.

References

[1] Instructions to build the mystery tubes:

https://undsci.berkeley.edu/lessons/mystery_tubes.html