



ATOMS

Intro:

They're so unbelievably small, you can line up 1. _____ across the head of a pin.
There are 2. _____ different types, or 3. _____ as we like to call them,
And they may be classed as 4. _____ or non-metallic.
They often stick together to make 5. _____ or lattices.

They're atoms, hey brother.
They make up almost everything we discovered!

Verse 1:

In ancient Greece, 6. _____ thought he had a theory might just fit,
If we keep cutting stuff in half, eventually we'd reach a 7. _____ bit,
(He called them atoms, which means 8. _____, but we had no evidence until)
9. _____ said an element would have atoms all alike,
Reactions 10. _____ them, but they cannot be divided.

They're atoms, hey sister.
This is how we know what they consist of.

Verse 2:

JJ Thomson found 11. _____ when he put some cathode rays to the test,
He found they had a 12. _____ charge and mass so small atom theory was in a mess.
(How could anything be smaller than a 13. _____ ion!)
He said that atoms were like puddings that could not be turned to crumbs,
Where the cakey bit was 14. _____, and electrons were the 15. _____.

They're atoms, hey brother.
They're not the smallest thing we ever discovered.

Verse 3:

16. _____ scattered alpha rays through gold leaf in his lab.
He knew he'd found a 17. _____ when some alpha particles bounced right back.
He said that the electrons must be 18. _____ around it,
But the theory had some problems until Neils Bohr found,
Electrons stay in 19. _____ in quantum states where they're bound,
And when Chadwick found the 20. _____, the atom model was sound.

They're atoms, hey sister.
That is how what we know what they consist of

Fill out the table.

Particle	Mass	Charge
Proton		
Neutron		
Electron		

Complete the following tasks

1. Fill in the blank keywords and the table - if you are not sure, there are clues on the next page.
2. Circle sections in **red** that describe **an atomic model**.
3. Circle sections in **green** that describe **evidence**.
4. Circle sections in **blue** that describe **discoveries**.
5. Rewrite the lyrics in language that would be suitable for an exam.

Each of these words is used once.

shells	positive	plums	118	molecules
nucleus	neutron	rearrange	electrons	metals
Elements	Rutherford	Democritus	uncuttable	Dalton
100 million	negative	orbiting	hydrogen	smallest

Definitions

1. A number.
2. A number of elements on the periodic table.
3. A type of atom.
4. A, malleable, shiny substance, that conducts electricity.
5. A particle made of one or more atoms stuck together.
6. Ancient Greek philosopher.
7. The least big
8. Impossible to break apart
9. The scientist, who in 1803 came up with the first modern description of atoms.
10. Put in a different order.
11. The smallest charged particles that can be found inside atoms.
12. Not positive or neutral.
13. The lightest element on the periodic table.
14. Not negative or neutral.
15. A fruit.
16. The person who discovered that atoms have a nucleus.
17. The part of the atom at the centre that contains most of the mass.
18. Circling another object.
19. An area around an atom where electrons can be found.
20. A neutral particle found in the nucleus of an atom.