



Atomic Poems Worksheet

This year for Ada Lovelace Day, we are celebrating the work of Margaret Cavendish, and her Atomic Poems.

When Margaret Cavendish was writing, philosophers believed that atoms came in all different shapes and sizes, and that clusters of these different atoms made different materials and substances. In her poem, 'A World Made by Foure Atomes' (1653), Cavendish lists different types of atoms, and their shapes and movements. Here are the first ten lines of that poem:

*Sharpe Atomes Fire subtle, quicke, and dry,
The Long, like Shafts still into Aire fly.
The Round to Water moist, (a hollow Forme,)
The Figure square to heavy dull Earth turne.
The Atomes sharpe hard Mineralls do make,
The Atomes round soft Vegetables take.
In Animals none singly lye alone,
But the foure Atomes meet, and joyne as one.
And thus four Atomes the Substance is of all;
With their foure Figures make a worldly Ball.*

In the following exercise, we are going to think about different types of atoms – what shapes they might have, and how they might move, so that we can write our own Atomic Poem.

Writing Exercise

1. Make a list of as many different shapes and movements as you can:

Shapes <i>e.g. sharp, round</i>	Movements <i>e.g. quick, spinning...</i>

2. In the poem 'A World Made by Four Atomes', Margaret Cavendish describes the shapes and motions of the atoms of the four elements. Using your lists for inspiration, how would you describe the shapes and movements of the atoms in:
 - A fire - are matchstick atoms different to campfire atoms?
 - Water - do river atoms move any differently to sea atoms?
 - Earth – are the atoms in stones, soil, or sand different?
 - Air – how might the wind change the speed or movement of the atoms?
3. Cavendish describes the atoms of minerals as sharp and hard, and the atoms of vegetables as soft. How might Cavendish have described the atoms in:
 - Plastic
 - Glass
 - Wood – are the atoms in a tree, and a plank of wood different?
4. What about the atoms of living things?
 - A bird
 - A jellyfish
 - A spider
5. Look at the lists of shapes and movements that you wrote at the start. What's the most unlikely pairing between these two lists? What kind of object or being might have atoms that look, and move like that?
6. Let's think about the atoms in the body. Your body is made of motion, and movement – the movements of cells, atoms, breath. What parts of you are moving right now? Which movements can you feel? Which movements can't you feel?
7. Do the atoms in your brain move differently to the atoms in your blood? How?
8. Sound is motion too – it's the movement of air, and the membranes, and bones in your ear. If atoms made sounds, what sounds would they make? Could we hear them?
9. What about the room around you, the building – what's moving? What can you hear? What's moving that you can't hear?
10. What about the street outside? The sky? The planet? How are they moving?
11. What might happen if everything just... slowed down? Or sped up? Or stopped?

12. 'Atom' comes from the Greek atomos, meaning 'uncut, unhewn; indivisible'.
What else is indivisible?

13. What might happen if the atom, or the indivisible, was divided?

14. In 'Motion is the Life of all things' (1653), Cavendish writes:

*As darknesse a privation is of Light;
That's when the Optick Nerve is stopt from Light:
So Death is even a cessation in
Those Formes, and Bodies, wherein Motions spin.*

Just as darkness is the absence of light, death is the absence of movement.
What types of un-motion can you think of, what types of stillness? What might stop something from moving?

15. In 'Atomes and Motion Fall out' (1653), Cavendish writes:

*When Motion, and all Atomes disagree,
Thunder in Skies, and sicknesse in Men bee,
Earthquakes, and Windes which make disorder*

What else might happen when atoms don't move as they should?

16. For early natural philosophers first proposing the idea of a world composed of atoms, the opposite of the atom was the void. What shapes and what motions do you think of when you think of the void?

17. 'Atoms will dance', Cavendish writes. How would an atom dance? What style, what speed? With who, or with what partners?

Now you should have a list of lots of different types of atoms, and the way they move. Spend some time going over what you've written – pick out your favourite lines and images. Read over this list – think about the order. Is there any progression you could build on – perhaps a change in tone, or the size or scale of the atoms you're describing?

When you're happy with the words, finish assembling your Atomic Poem by heading over to <http://thisgirl.codes/atomic-poems/> to turn your list into a Fibonacci poem, using the Fibonacci Poem generator.



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