

Newspaper on Fire

Question/Problem: What happens if you compress newspaper into a block and set it on fire?

Prototype

Materials:

1. newspaper
2. wood
3. nails
4. clamps or something heavy

Picture:



Newspaper block



Wood Frame

Clamps

weights



Procedure:

1. cut the wood
2. nailed the wood together
3. used a shredder to shred the newspaper
4. put newspaper in frame
5. strongly clamped down clamps onto the frame to compress the newspaper
6. Waited until compressed enough then took it out
7. Light newspaper on fire

Hypothesis:

If you compress newspaper strips and light it on fire then it will not completely burn.

Experimental variables:

Independent variable: Compressed newspaper strips

Control Group: Non compressed newspaper strips

Dependent variable: Newspaper catching on fire

Constants: Size of the block. Lighter. Environment.

Procedure:

1. take it out of the frame and take it outside.
2. measure the weight of the block
3. light block on fire
4. start timer
5. watch
6. weigh what left

Data Table:**Trial**

	Trial 1	Trial 1 2nd burn	Trial 2	Trial 3
outcome	Worked	Worked	Failed	Worked partially
temperature	60 °F	60°F	23°F	34°F
compression time	1 month	1 month	12 hours	8 hours
Burned area based on weight	3%	5%	99%	50%
Burning time	4 minutes	2 minutes	4 minutes	10 minutes
Weight of the block	12 oz	10 oz	8 oz	16 oz

Conclusion:

My original hypothesis was that ",If you compress newspaper strips and light it on fire then it will not completely burn". In trial one the outside layer of the newspaper block got burned because there were pieces of newspaper sticking out. Since the block was burned so little I decided to light it again. In trial two the block quickly burned down. In trial three the block kept burning longer than in trial one but eventually stopped. The overall average of this project is that it works. Yes, this experiment supported the original hypothesis because the blocks didn't completely burn. Though the results may not be valid because of the uneven compression, weather (wind, humidity, temperature), and the way the block is lit. If I were to repeat this experiment again, I would do it differently by compressing the papers longer and more evenly with more weight on it. I would also sprinkle the outer layer of the block before compression to get the loose parts stick to the rest of the brick. The overall conclusion that I have formulated from the data and experience is that compressed newspaper bricks catch fire as quick and don't stay on fire as long as non compressed newspaper bricks.