

5.3 Air pollution from forest fires



What proportion of pollutants is released into the environment during a forest fire?



The creation of farmland by burning forests has increased excessively, with devastating consequences for the entire human race: the toxic gases produced by the fire have no national borders.

Fire is devilish: it consumes oxygen, produces carbon dioxide, thus fostering global warming, reduces forest areas as oxygen producers, and generates soot and other particulate matter which promotes lung diseases.

How could you design an experiment to determine what proportion of the weight “disappears” in the fire and what proportion of the weight remains behind?



Set up:

- aluminium bowl (tea light cup)
- lighter
- fireproof pad
- digital scale
- scissors
- newspaper

1. Weigh one gram of newspaper.
2. Roll the paper and bend it into an angle.
3. Place the angled paper (see picture) in an aluminium bowl and determine the total weight.
4. Light the paper, let it burn completely and then determine the total weight again.
5. Calculate the difference.



Observing and documenting:



- How much does the burned paper weigh?
- How can you explain the weight difference?
- How many grams of paper will be lost if you burn 100 g of paper?



How could you detect some of the substances which are produced during combustion?

Space for your sketches