



THINKING SKILLS

Paper 2 Critical Thinking

May/June 2025

1 hour 45 minutes

You will need: Answer booklet (enclosed)

- Answer **all** questions.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.

- The total mark for this paper is 50.
- The number of marks for each question or part question is shown in brackets [].

This document has **8** pages. Any blank pages are indicated.

Section A

Study the evidence and then answer Questions 1 and 2.

Source A**Article in national newspaper**

From an environmental point of view, using a wood-burning stove is the most harmful way to keep your house well heated.

Burning wood or coal releases high levels of fine particulate matter PM2.5 into the environment, both inside the home and outside in the surrounding area. PM2.5 is a dangerous form of air pollution that can cause or worsen a number of serious health conditions, such as asthma. Using wood or coal is an increasingly common way to heat homes, either in an open fireplace or in a closed stove. However, the environmental price is high. It is estimated that almost 40% of PM2.5 pollution detected outdoors has been caused by burning coal and wood for domestic heating.

For households without another source of heating, the best solution is to ensure that the stove meets the latest environmental standard. However, even the best modern wood-burning stoves emit as much PM2.5 as several truck exhaust systems. That's still too high.

Source B**Website of national advisory body representing solid fuel and biomass heating installers**

There has been media coverage recently of a suggested link between wood-burning stoves and air pollution. To reassure our members that the installation and maintenance of these stoves is an environmentally responsible activity, we have examined various research projects relevant to this topic.

Media articles often quote research stating that wood-burning stoves cause 38% of outdoor PM2.5 pollution. The figure is claimed to be the result of domestic burning of wood. However, closer inspection of what this research counted as 'domestic burning' shows that it covers much more than household heating. It also includes outdoor fires in gardens and on farms, industrial catering, barbecues, and various other non-domestic sources of PM2.5. With this information, the picture looks much less alarming. Our members should have no concerns about their work.

Source C**Website of wood-burning stove retailer and installer**

Burning a material in any form creates potentially harmful particles, such as PM2.5, and this includes wood. However, nothing keeps the occupants of a house warm better than a wood-burning stove. Happily, there are several easy steps people can take to reduce the PM2.5 emissions from their stoves to an acceptable level.

- Most importantly, replace an older stove with a modern one that meets the Enviro-Clean standard. These emit only one-fifth of the particles that old ones do.
- Ensure that installation of a new stove is carried out by a certified professional installer.
- Only burn dry, 'seasoned', wood.
- Arrange for the chimney or flue to be cleaned regularly by a properly equipped expert.

Source D

Editorial in European health magazine

Living in a cold house isn't just uncomfortable, it's unhealthy. If people are unable to heat their house, the average temperature in which they'll be living is 10° Celsius (50° Fahrenheit). That may not sound too cold, but it's not enough to protect their health. Anything below 18 °C (64.4 °F) is enough for harmful changes to occur in our bodies. Blood flow to the brain is restricted, which reduces our ability to think properly. The heart has to work harder pumping blood around our bodies, which raises blood pressure and increases the risk of stroke or heart attack.

How does this relate to the debate about the use of wood-burning stoves? Well, it puts into context the health risks run by people who cannot heat their houses other than by burning wood. These risks tend to get overlooked in the pleas by public health experts and environmental campaigners to ban wood-burning stoves.

Source E

Statement issued by environmental organisation

The United States is a good example of a country in which the use of wood-burning stoves is becoming more popular. There has been a big increase in the number of homes using wood fuel as the main or as a secondary source of heat. In the last six years, the number rose from an estimated 11.5 million homes to 12.5 million. Some people use wood as a source of heat for convenience. Others view the practice as a good tradition to uphold, or because they like to have their homes heated by blazing logs.

The health problems wood burning causes are well known now. Although restricting people's right to choose how they heat their homes might be seen by some as interference with their civil liberties, it is often neighbours who suffer the most from the pollution from wood burning. Smoke from a house's chimney is likely to enter nearby homes. These stoves should all be banned.

- 1 (a) Is Source B an argument? Justify your answer. [2]
- (b) Assess the reliability of Source B. [3]
- (c) Source A claims that 'From an environmental point of view, using a wood-burning stove is the most harmful way to keep your house well heated.'
- Identify and explain **two** weaknesses in Source A's support for this claim. [4]
- (d) Identify **one** inconsistency between Source A and Source C. [2]
- (e) Source E concludes that wood-burning stoves should all be banned. Explain the relevance of Source D to this conclusion. [3]
- 2 *You are advised to spend some time planning your answer before you begin to write it.*
- 'Wood-burning stoves should be banned.'
- To what extent do you agree with this claim? Write a short, reasoned argument to support your conclusion, using and evaluating the evidence provided. [8]

Section B

Read the following passage and then answer Questions 3, 4 and 5.

- 1 Genealogy – the study of family histories and lines of descent from ancestors – is an increasingly popular leisure activity. It takes a lot of time, hard work and commitment if it is done properly, but the benefits of this form of historical research make it worthwhile. Apart from its results, this type of activity is known to be good for the brain. Genealogy helps researchers develop an ability to examine and to analyse detailed information. It teaches them to focus on the most important facts, to discard irrelevant information, and to find new ways to make further progress. Successful genealogical research is like detective work.
- 2 Genealogy can be mind-broadening. It may reveal to people that their family roots are much more diverse than they realised. Researchers have unexpectedly discovered that their family came from a different country from the one in which they currently live. Such unexpected findings may upset some amateur genealogists. However, those who are committed to their research and do not merely view it as a way to pass some time on wet days will welcome having new areas of enquiry opened up to them.
- 3 Learning about their ancestors gives some people useful information about medical conditions to which they are likely, through their genes, to become vulnerable when they get older. Such knowledge allows researchers to make changes in their lifestyles and diet to minimise or eliminate the risk of being affected by these conditions. Genealogy saves lives. Nobody who wants to live a long and healthy life should ignore the possibilities for avoiding disease and illness that it brings.
- 4 Some researchers have found that, as a result of their genealogical activities, they have become more aware of their links to family members, past and present. This sort of expanded awareness can make people feel less lonely in the world, less isolated. Clearly, genealogy can lead to better mental health for everyone.
- 5 Critics claim that genealogy can result in information about one's ancestors being discovered that may cause embarrassment or discomfort to the researcher or to other family members. This may be true, but the researcher can use judgment when deciding what information to release or to withhold from relatives.

- 3 (a) Using the exact words from the passage as far as possible, identify the *main conclusion*. [2]
- (b) Using the exact words from the passage as far as possible, identify **two intermediate conclusions** from paragraphs 2 to 3. [4]
- (c) Using the exact words from the passage as far as possible, identify **one counter-assertion** in paragraphs 1 to 4. [2]
- (d) Identify **one unstated assumption** required by the reasoning in paragraph 3. [2]
- 4 (a) Explain why the reasoning in paragraph 1 does **not** rely on an *appeal to popularity*. [2]
- (b) Identify and explain **one** flaw or weakness in the reasoning in paragraph 4. [2]
- (c) What use does the argument in paragraph 1 make of an *analogy*? [2]
- (d) The first sentence of paragraph 5 contains a *counter-assertion*. Explain why the response to this assertion is only partially successful. [2]
- (e) Identify and explain **one** flaw or weakness in the reasoning in paragraph 2. [2]
- 5 *You are advised to spend some time planning your answer before you begin to write it.*

‘Relationships with friends are more important than those with family members.’

Write your own short argument to support **or** challenge this claim. The conclusion of your argument must be stated. Credit will not be given for repeating ideas from the passage. [8]

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