Effective written documents

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What?   So what?

Information ▶ Message

Interpretation
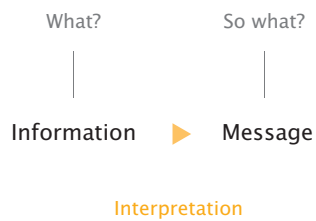
Get your audience to

■ pay attention to,

■ understand,

■ (be able to) act upon

a maximum of messages, given constraints

To optimize communication…

First law
Adapt to your audience

Second law
Maximize the signal-to-noise ratio

Third law
Use effective redundancy

To construct your document…

1 **Plan the document**
Gather your thoughts

2 **Design the document**
Define a structure

3 **Draft the document**
Convey messages

4 **Format the document**
Reveal the structure

5 **Revise the document**
Improve iteratively

Planning the document

Find answers to the five planning questions.

Why	Purpose
Who	Audience
What	Content
When	Time constraints
Where	Space constraints

Designing the document

Global component
(on the first page)

Header

Foreword

Summary

Abstract

Header	Title		
Screening	Author(s)		
			Is this for me?
Foreword	Context	Why the need is so pressing or important	
Motivation	**Need**	Why something needed to be done at all	
	Task	What was undertaken to address the need	
	Object	What the present document does or covers	
			Do I care?
Summary	**Findings**	What the work done yielded or revealed	
Outcome	**Conclusion**	What the findings mean for the audience	
	Perspectives	What the future holds, beyond this work	
			Do I need more?

Drafting the document
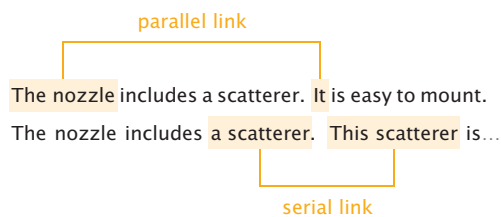
Balance your structure across the document
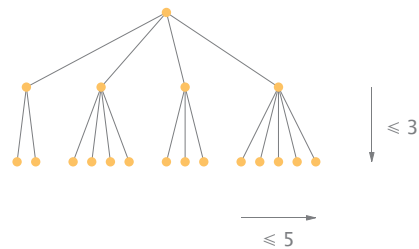
Construct no more than three levels (ideally), typically called chapters, sections, and subsections.

Divide in no more than five branches (ideally), for example, no more than five sections per chapter.

In a table of contents, display two levels only, such as chapters and sections, to allow a global view.

≤ 3

≤ 5

Structure each paragraph in theorem–proof fashion

parallel link

The nozzle includes a scatterer. It is easy to mount.
The nozzle includes a scatterer. This scatterer is…

serial link

Convey each message through one paragraph that remains meaningful (to a point) out of context.

First, state your message upfront [*theorem*], ideally in the very first sentence of the paragraph.

Then, develop the message logically [*proof*] into a parallel or serial structure (or a combination).

Construct sentences that reflect your ideas

Also, avoid taxing the readers' short-term memory: keep together what goes together, within and across sentences, and place short items before long ones.

Express each idea by means of one sentence. Complex ideas may well require complex sentences.

Use the idea's topic as grammatical subject and be consistent with this choice across sentences.

Place your main content in the main clause and any subordinate content in a subordinate clause.

Strive for readability through word choice

Be clear

Be accurate

Be concise

Strive to convey immediate, unambiguous meaning.
Tell the truth, the whole truth, nothing but the truth.
Be clear and accurate in as few words as possible.

Formatting the document

The format must reveal the structure visually.

Proximity	Close items have related content.
Similarity	Similar items play a similar role.
Prominence	Prominent means more important.
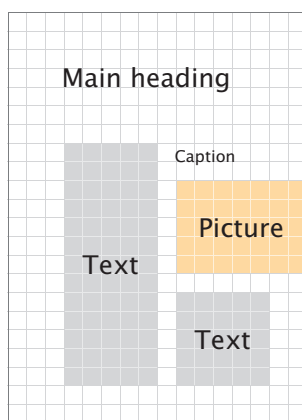
Visual structure is about how the page looks,

and not about how individual items on the page look. You can achieve so much with spatial arrangement alone (absolute and relative positions on the page).

Constraints are the key to (visual) harmony,

so impose yourself strict constraints (one typeface at one or two sizes set in black, a design grid, etc.), which you can relax (consistently) when necessary.

Main heading

Caption

Picture

Text

Text

Revising the document

Be open-minded, not defensive: listen to what readers have to say, then decide what requires editing. If you must argue with someone, defend your ideas, not your words.

Test	Ask someone else to read it.
Edit	"Think big" ⇒ work on paper.
Proofread	Check one feature at a time.