TIPS FOR WRITING TECHNICAL DEFINITIONS

Definition types

- **Parenthetical**: Mentioned as an aside; not necessarily contained within parentheses; brief clarification that quickly and conveniently introduces a term that might not be familiar to your audience.

  A primary understanding of the hydrologic cycle, the exchange of water between the atmosphere and Earth, is necessary for understanding why it rains.

- **Sentence**: One sentence; more formal than parenthetical; can include a graphic for clarification.

  Hydraulic conductivity (i.e., the coefficient of permeability) is the rate at which water can move through a permeable medium.

- **Extended**: Detailed explanation (paragraph or more) of an object, process, or concept; usually begins with a sentence definition, which is elaborated to further describe how something works (or doesn't work), how it's used, it's strengths and limitations, and other related issues as needed; graphics are often, and best, used to illustrate.

Types of extended definitions include:

- **Graphics**: Highly useful in technical communication; must be accompanied by additional explanations; often used by newspapers to describe difficult scientific concepts to a general audience.

- **Examples**: Make abstract concepts easier to understand; clearly spells out exactly what you mean by the term or concept.

- **Partitioning**: Divides things or ideas into smaller parts and defines each of the parts separately; for example, the Strahler stream order might be broken down into defining each order of stream by size and relationship to other tributaries.

- **Principle of operation**: Describes how something works; great for describing systems or processes; usually accompanied by graphics.

- **Compare and contrast**: Defines what something is and also what it is not by using similar processes or systems that differ in some ways or that may be similar in some ways (see **Analogy**).

- **Analogy**: A specialized form of comparison in which the compared items don't have to be equal in type; for example, the Strahler stream order might be compared to the human circulatory system or the branches of a tree.

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- **Negation**: Distinguishes a term from another term that might be confused with it; for example, the difference between water quality criteria and water quality standards; if you describe what something is not, however, you must then describe what it is.

- **Etymology**: Uses the derivation of a word to help define it; for example, a school audience might benefit from knowing the root "hydro" before describing to them the "hydrologic cycle."

Definitions can be located in the following places within a document:

- In the text itself
- In an appendix
- In a footnote
- In a glossary, either at the beginning or end of the document
- In a marginal glossary (only if the document's design permits it)
- In a hyperlink (for online documents)

Write an effective definition

- Specifically state the category or distinguishing feature. For example, by defining a Bunsen burner as "a burner with a vertical metal tube connected to a gas source," misses the fact that many types of large-scale burners use metals tubes connected to a gas source. Instead, begin with a noun or noun phrase (a short one!).

  No: A turbidimeter is what is used to…
  Yes: A turbidimeter is a hand-held computer device that measures…

- Avoid circular definitions.

  No: A water quality criteria measurement system is a system that measures water quality criteria.
  Yes: A measurement system for water quality criteria evaluates water characteristics, such as…

- Use plain English. When writing for a general audience, aim to write so that people with an eighth-grade education will understand.

  More technical audience: Designated beneficial use describes the desirable use that water quality should support (e.g., drinking water, recreation, aquatic life). Each designated use has a unique set of water quality requirements that must be met for the use to be realized.

  Less technical audience: Designated beneficial use describes the intended purpose that the quality of the water must support. Each designated use has a set of water quality requirements that must be met for the intended purpose. For example, drinking water is a type of designated use, and the quality standards must be pure enough to be safe for drinking. Other designated uses

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include for recreational purposes (such as swimming or boating), or for fish and other water organisms, to name a few.

- Avoid introducing other new or potentially complex words in the definition itself.

  Hydraulic conductivity is the rate at which water can move through a permeable medium.

  What is a permeable medium? Some readers might not know; some might have an idea but aren't sure. You could define it, but doing so might get you into more trouble:

  A permeable medium is a medium of some kind that is permeable to water.

  Instead, you can defined permeable medium in the context of hydraulic conductivity:

  Hydraulic conductivity is the rate at which water can move through any given material, such as soil, sand, or rock.

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