



**HOW TO WRITE
GOOD ALT TEXT**

INTRODUCTION

This document aims to assist in crafting Alternative Text (Alt Text) for images by offering guidelines. When creating Alt Text for images, the goal is to provide visually impaired users with the same information that sighted users would get from looking at the image. Good Alt Text clearly explains the key elements of the image in relation to the context in which it appears. On the other hand, bad Alt Text can be unclear or fail to communicate the purpose or educational content of the image.

Writing Alt Text can be tricky because it is somewhat subjective. There is usually more than one way to describe an image accurately. The aim is not to find the "perfect" description but to provide a description that makes sense and conveys the necessary information to visually impaired users.

Here are some questions to help you write effective Alt Text:

- Why is this image included?
- What information does it provide?
- What is its purpose?

Please note, Alt Text can change based on the image's context. For example, a picture of a historical building could require different Alt Text in a history textbook compared to an architectural guide. In the history textbook, the Alt Text might describe the building's historical significance and the events that took place there. In the architectural guide, the Alt Text might focus on the building's design elements, construction style, and architectural features.

TIPS FOR WRITING EFFECTIVE ALT TEXT:

1. Identify the Type of Image: Specify what kind of image it is (e.g., photograph, graph, cartoon, map). Avoid vague terms like "Image of". Screen readers inform users when they encounter images.
2. Understand the Image: Know the purpose of the image before describing it. If the image is just decorative, it does not need Alt Text.
3. Be Concise: Keep your descriptions short but informative. Lengthy descriptions can be tedious for screen reader users. Even detailed images often only need a brief description.
4. Be Clear: Make your descriptions straightforward and easy to follow.
5. Focus on Key Data: Emphasize the main data or concept presented in the image. Avoid repeating information already given in the surrounding text or caption. Keep descriptions relevant and avoid unnecessary details.
6. Use Correct Grammar and Language: Write clearly and use proper grammar. Match the language level of the main text. Use either American or UK English, consistent with the language used in the Manuscript.
7. Punctuation matters! End the Alt Text with a full stop to ensure that screen readers pause before continuing to read other content.
8. Only use plain text, so no stylistic markup (bold, italics, subscript, superscript etc.).

9. Exclude Irrelevant Information: Stick to information that adds scientific value. Avoid unnecessary descriptions, especially of people's physical appearances unless relevant.
10. Try to avoid text as images wherever possible.
11. Review Your Alt Text: Check your description without looking at the image. Make sure it allows a visually impaired reader to understand and use the information as well as a sighted reader.
12. Do not identify people in a photograph: When describing the Alt Text in a photograph, make sure the photo is anonymized, and no identifiable personal data is described.
13. Numbers, units, etc.
 - a. Always write '0' as 'zero'
 - b. Write abbreviations in full or units
 - c. Write math operators in words, not symbols – e.g. add, subtract, etc.
14. Add a space in between each character, e.g. angle A B C line D E. If you do not do this, some screen readers will try to read it as a single word.

COMMON MISTAKES

1. Mistaking Captions for Alt Text: Alt Text is different from a caption. A caption usually provides extra information not shown in the image. For example, a caption might read “A group of friends celebrate a birthday.” This does not specify if they are blowing out candles on a cake, opening presents, or playing games.
2. Adding Extra Information: Alt Text should describe only what is in the image without adding extra details. Including additional information can confuse visually impaired users or give them unfair advantages by providing information other users do not have. For example, do not assume a person holding a book in a classroom is the teacher unless it is clear in the image.
3. Describing Decorative Images: Do not write Alt Text for images that are purely decorative. If the image is just for decoration and does not add useful information, it should not have Alt Text read aloud. When the image has already been described as part of the text above, the image can be marked as decorative as well. This keeps the focus on the important content.

A wide variety of excellent alternate text examples over a wide range of topics are provided in the Diagram Center’s Image Description Guidelines (<http://diagramcenter.org/table-of-contents-2.html>)

- Art, Photographs, etc.: (<http://diagramcenter.org/specific-guidelines-final-draft.html#20>)
- Chemistry (<http://diagramcenter.org/specific-guidelines-b.html>)
- Comparisons (<http://diagramcenter.org/specific-guidelines-c.html>)
- Graphs (<http://diagramcenter.org/specific-guidelines-e.html>)
 - Line Graphs
 - Scatter Plots

- Pie Charts
- Maps (<http://diagramcenter.org/specific-guidelines-e-2.html>)
- Tables (<http://diagramcenter.org/specific-guidelines-h.html>)
- Math Equations (<http://diagramcenter.org/specific-guidelines-g.html>)

MEDICAL IMAGES

- Mention relevant details like anatomy, pathology, imaging modality (e.g., MRI, X-ray), and any notable features that are critical for understanding the image.
- Focus on abnormalities, anomalies, or regions of interest in the image.

For example, “CT scan of the chest showing a large mass in the left lung” provides more context than “Chest CT.”

- Specify the type of imaging technique used (e.g., ultrasound, CT, X-ray).
 - If relevant, include spatial relationships or orientation markers (e.g., “Frontal view of an X-ray showing a fractured right femur”).
 - **Patient Anonymity:** Ensure that no personal identifiable information is included in the description.
Maintain patient confidentiality and comply with relevant data protection laws.
4. If the image is part of a series, ensure that each image’s Alt Text allows it to be understood in sequence and individually.

For example, for a medical image like an X-ray of a leg:

“X-ray of the right leg, frontal view, showing a transverse fracture of the mid-shaft of the tibia with slight displacement but no visible involvement of the fibula.”

For an MRI scan:

“MRI of the brain, axial view, showing a hyperintense lesion in the left temporal lobe, suggestive of a glioma.”

EXAMPLES

IMAGES THAT CONVEY INFORMATION

Informative photos should have Alt Text. It is not necessary to describe every detail but highlight the most essential elements relevant to the story.

Example 1

*25. All of the following cells, shown in various stages of mitosis and meiosis, come from the same rare species of plant.



- What is the diploid number of chromosomes in this plant?
- Give the names of each stage of mitosis or meiosis shown.
- Give the number of chromosomes and number of DNA molecules per cell present at each stage.

Source: MacMillan Learning

Alt-text: Three cells are drawn. All cells show the spindle apparatus originating from opposite poles of the cell (here the poles are shown at the right and left sides of the cell).

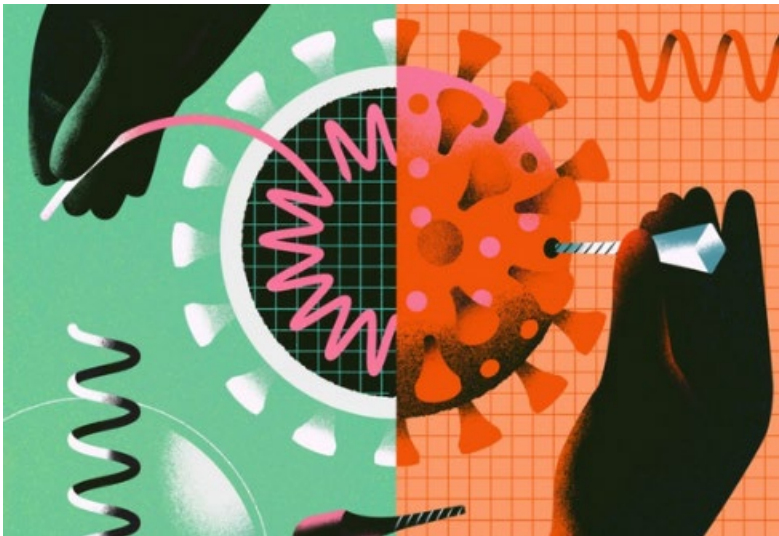
Example 2



Caption: Water flows from a vessel held by a god in this seal of an Akkadian king from around 2200 BC, about the time that a drought affected the empire.

Source: Nature - [Did a mega drought topple empires 4,200 years ago?](#)

Alt Text: Relief created from a cylinder seal from the Akkad dynasty showing water gods and buffalo.



Caption: ©Illustration by Kasia Bojanowska

Alt Text: Conceptual illustration showing a virus being edited.

Example 3



Source: [The Open Notebook](#)

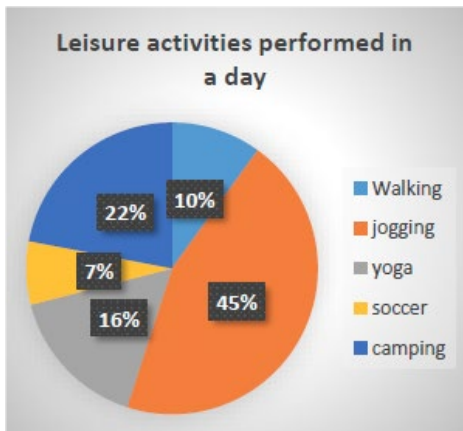
Alt-text: Collage of 9 people wearing face masks, goggles, or face shields. One image says 9 miradas with a small camera eye in the 9.

Note that in this alt-text example, “9 miradas” is not in quotation marks; this is because using these punctuation marks within alt-text will make the text not render properly.

INFOGRAPHICS, CHARTS, AND MAPS:

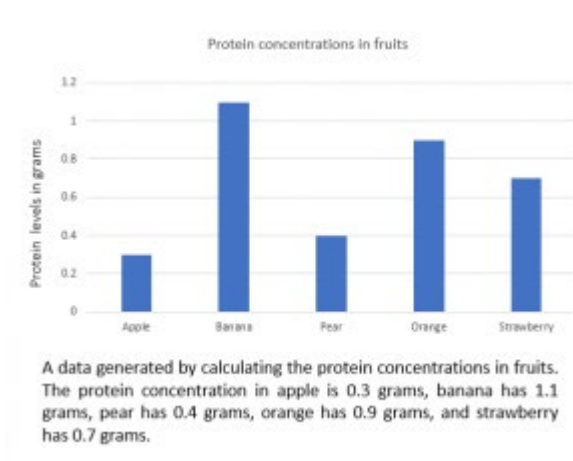
Provide as much information as possible about the content of infographics, charts, and maps. Do not just state what the graphic is about; describe the key aspects of the information within it. If you cannot describe everything, prioritize the most valuable information. Use surrounding text and captions for additional details.

Example 1



Alt-text: Pie chart describing leisure activities. Jogging is performed by 45 percent, camping by 22 percent, yoga occupies 16 percent, walking is done by 10 percent, and soccer by 7 percent.

Example 2



Alt-text: Bar graph describing the protein concentrations in fruits. The X-axis shows the different fruits and the Y-axis shows the protein levels in grams ranging from 0 to 1.2 at an interval of 0.2 grams. The highest protein concentration was found in banana and the lowest protein concentration was found in apple.

MATH AND CHEMICAL EQUATIONS

Examples:

In the case of images of mathematical expressions, the Alt Text should describe the expression in spoken mathematics. Avoid using symbols or characters with mathematical usages (such as operators, fractions, units etc.) which may not be announced as expected by screen readers.

$$\frac{a + b}{d}$$

Insufficient Alt Text

"(a + b) / d"

Sufficient Alt Text

"The quantity of a plus b divided by d."

"Fraction where the numerator is a plus b and the denominator is d."

HEADSHOTS WHICH HAVE NO INFORMATIVE CONTEXT:

If you have a simple headshot where the caption includes the person's name and the photo does not add any additional information, Alt Text is not needed. The caption already provides the necessary details.



Anders Fogh Rasmussen. Source: [NATO](#)

Alt-text: None

IMAGES THAT ARE (MOSTLY) DECORATIVE:

For decorative images like stock photos or illustrations that do not add meaningful content to the story, you usually do not need captions or Alt Text. However, if the image supports a concept in the story or is the main image, adding Alt Text can enhance the user's experience.

Example 1



©Mariska van der Stigchel

Alt-text (optional): A middle-sized brown dog with pointed ears and a black muzzle lies on a wooden floor, gazing directly at the camera with a calm expression. The dog has a sturdy build, with its front paws placed gently on a rope toy with a blue ball attached to it.

Example 2



Source: [After the Paper | Human Intestine Chip: From Emulating Host-Microbiome Interactions to Disease Modeling and Therapeutic Development](#)

Alt-text (optional): Electron microscopic image showing a cluster of rod-shaped bacteria (obligate anaerobic bacteria culture) on a textured blue surface (living intestinal epithelium)

LOGOS

The alt-text should be the name of the organization/website. It is not necessary to add words as “logo”. It is also not necessary to say “link to...” because screen readers already announce to users that they are on a link.

SPRINGER NATURE

Alt-text: Springer Nature

Contact Details

For questions related to this document, please contact your Springer Nature contact person or e-mail us at: authorsupport@springernature.com.