

Data vs. Information

Diffen > English Language > Grammar > Words

There is a subtle difference between data and information. **Data** are the facts or details from which **information** is derived. Individual pieces of data are rarely useful alone. For data to become information, data needs to be put into context.

Comparison chart

	Data	Information
Meaning	Data is raw, unorganized facts that need to be processed. Data can be something simple and seemingly random and useless until it is organized.	When data is processed, organized, structured or presented in a given context so as to make it useful, it is called information.
Example	Each student's test score is one piece of data.	The average score of a class or of the entire school is information that can be derived from the given data.
Etymology	"Data" comes from a singular Latin word, datum, which originally meant "something given." Its early usage dates back to the 1600s. Over time "data" has become the plural of datum.	"Information" is an older word that dates back to the 1300s and has Old French and Middle English origins. It has always referred to "the act of informing, " usually in regard to education, instruction, or other knowledge communication.

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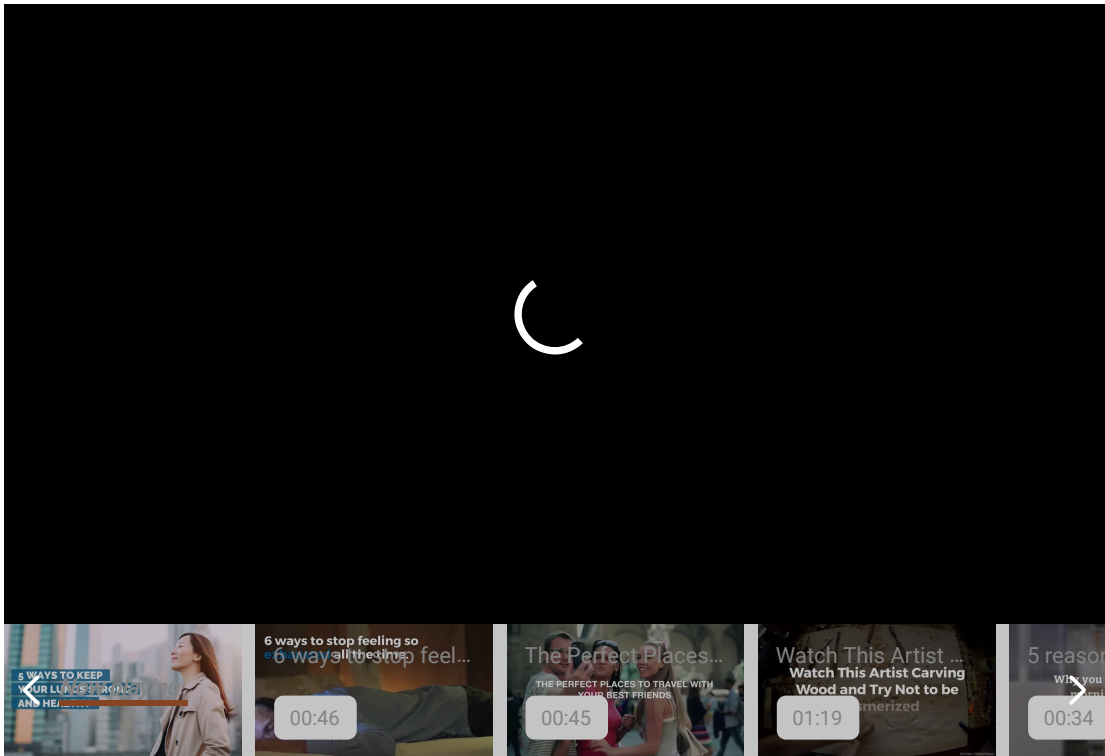
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Data vs. Information - Differences in Meaning

Data are simply facts or figures — *bits* of information, but not information itself. When data are processed, interpreted, organized,

"The numbers have no way of speaking for themselves. We speak for them. We imbue them with

structured or presented so as to make them meaningful or useful, they are called **information**. Information provides context for data.

for them. We imbue them with meaning." —Statistician Nate Silver in the book *The Signal and the Noise*

For example, a list of dates — data — is meaningless without the information that makes the dates relevant (dates of holiday).

"Data" and "information" are intricately tied together, whether one is recognizing them as two separate words or using them interchangeably, as is common today. Whether they are used interchangeably depends somewhat on the usage of "data" — its context and grammar.

Examples of Data and Information

- The history of temperature readings all over the world for the past 100 years is data. If this data is organized and analyzed to find that global temperature is rising, then that is information.
- The number of visitors to a website by country is an example of data. Finding out that traffic from the U.S. is increasing while that from Australia is decreasing is meaningful information.
- Often data is required to back up a claim or conclusion (information) derived or deduced from it. For example, before a drug is approved by the FDA, the manufacturer must conduct clinical trials and present a lot of data to demonstrate that the drug is safe.

"Misleading" Data

Because data needs to be interpreted and analyzed, it is quite possible — indeed, very probable — that it will be interpreted incorrectly. When this leads to erroneous conclusions, it is said that the data are misleading. Often this is the result of incomplete data or a lack of context. For example, your investment in a mutual fund may be up by 5% and you may conclude that the fund managers are doing a great job. However, this could be misleading if the major stock market indices are up by 12%. In this case, the fund has underperformed the market significantly.

Video Explaining the Differences

Etymology

"Data" comes from a singular Latin word, *datum*, which originally meant "something given." Its early usage dates back to the 1600s. Over time "data" has become the plural of *datum*.

"Information" is an older word that dates back to the 1300s and has Old French and Middle English origins. It has always referred to "the act of informing," usually in regard to education, instruction, or other knowledge communication.

Grammar and Usage

While "information" is a mass or uncountable noun that takes a singular verb, "data" is technically a plural noun that deserves a plural verb (e.g., *The data are ready*). The singular form of "data" is *datum* — meaning "one fact" — a word which has mostly fallen out of common use but is still widely recognized by many style guides (e.g., *The datum proves her point*).

In common usage that is less likely to recognize *datum*, "data" has become a mass noun in many cases and takes on a singular verb (e.g., *The data is ready*). When this happens, it is very easy for "data" and "information" to be used interchangeably (e.g., *The information is ready*).

References

- Data - definition and examples on *Wiktionary.org*
- Information - *Wiktionary.org*

Related Comparisons



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Comments: Data vs Information



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January 12, 2014, 4:49am

Data is an unprocessd info. While info.is processd data simple!

July 22, 2011, 10:13pm

010101001110100101010 is data which can be interpreted as a greeting which then exists as information in the interpreter. The interpreter could be human, computer or any other entity having procedural capacities which render the data 'informative'. At this point we cannot consider the data rendered as information but only 'informative' because only procedural, algorithmic agency will be involved. Our present day computers can do this. In the example above they could be designed to recognise the above data string, instructed to recognise that it is a product of relative primes, and then to rearrange it into a quadrilateral. To the computer it would not be information, only data rendered 'informative', but to a human being it would be a greeting (interpreted from visual data on a computer screen).

— 151.X.X.218

June 21, 2013, 10:22am

I thanks you for writing these website. These is very useful for my learnings.

— 46.X.X.100

June 23, 2008, 7:59am

for eg . Suppose we have marksheet with us , now in this case we have marks as the data and the complete marksheet is information.

— 59.X.X.112

June 23, 2008, 7:50am

this is becuae the raw data that is marks do not give any information to us , while from the processed data that is the different sorts of information in marksheet like total marks, percentage , division etc we get some information as to where the student stands in class. (at what position etc.)

— 59.X.X.36



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