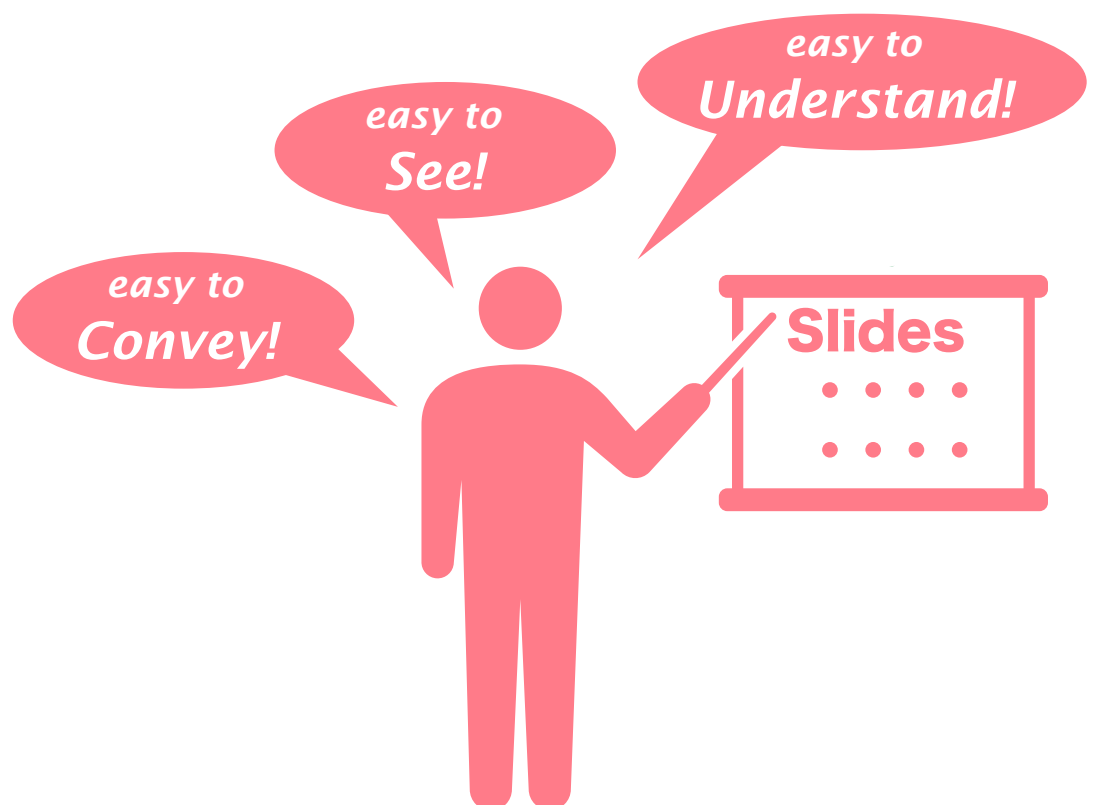


Preparing Information Design-Oriented Slides

Second Edition



Introduction

What is the purpose of a presentation?

It is to convey accurately what you want to convey to people with whom you want to communicate.

To fulfill this purpose, you need to prepare slides that are easy to read and understand.

What kind of slides are easy to read?

Information that is easy to understand at a glance

A slide is displayed only for a short time. There is not much time for the audience to see, think about and understand what is written on it. It is important to convey information in such a way as not to put too much burden on your viewer's brain.

Well-organized information

You may have a lot of information you want to share but, within a limited allocated time, you need to select key information and convey it in a simple way.

Clear and conspicuous information

The most important factor is to convey key information in an easy-to-understand manner.

Information design is a method of conveying the information you want to share with your audience in an easy-to-understand manner.

Learn how to prepare information design-oriented slides.

All figures in this learning material have been prepared using PowerPoint, which will be helpful when you prepare slides.

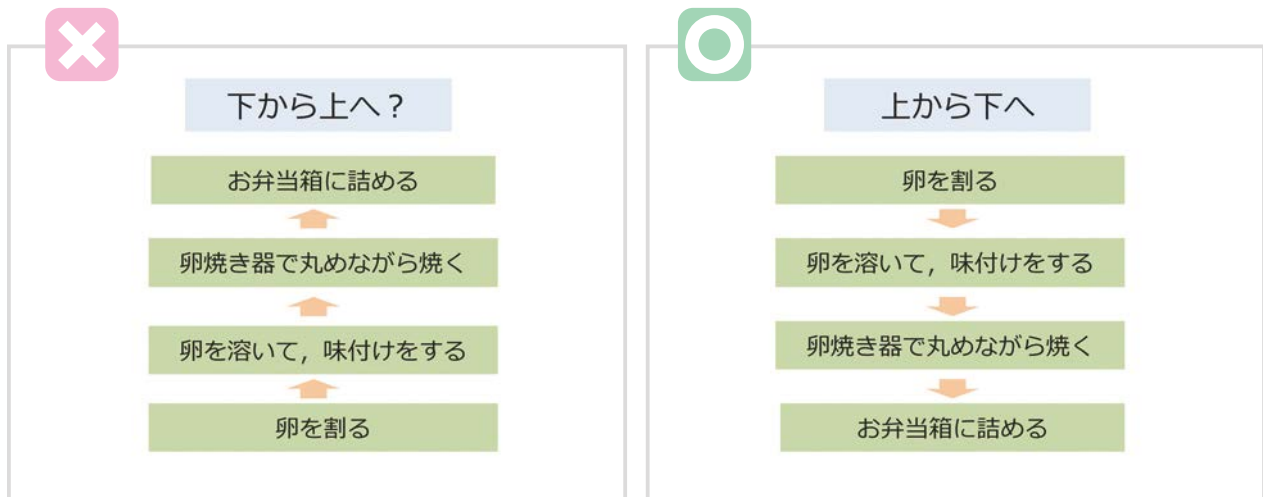
Table of Contents

Introduction	1
1. Eye movement in humans	3
• From top to bottom	
• From left to right	
• Do not place too many different pieces of information on one slide.	
• Space	
• Noise	
2. Easy-to-read layout	7
• Alignment	
• Left alignment	
• Grouping	
3. Charts	9
• Types of charts	
• 2D Charts and 3D charts	
• Decoration and noise on charts	
4. Fonts	15
• Font sizes	
• Font types	
• Space between lines and words	
• Text decoration	
• Use of a smaller size for units	
5. Colors	18
• Hue, saturation, brightness	
• Color tones	
• Base color, main color, accent color	
• The number of colors used for charts and figures	
• How to add contrast	
• Colors of frames and letters	
• Make key points easy to understand	
6. Overall structure.	25
• The amount of information on a slide	
• You do not have to add a title.	
7. How to prepare and deliver a presentation.	27
• Make sure you are well-prepared for your presentation.	
• At an actual presentation	
• Questions and answers	
Conclusion	29
Appendix: Copyright	29
References	30

1. Eye movement in humans

There are natural eye movements in humans. This chapter will help you learn about our natural eye movements.

■ From top to bottom

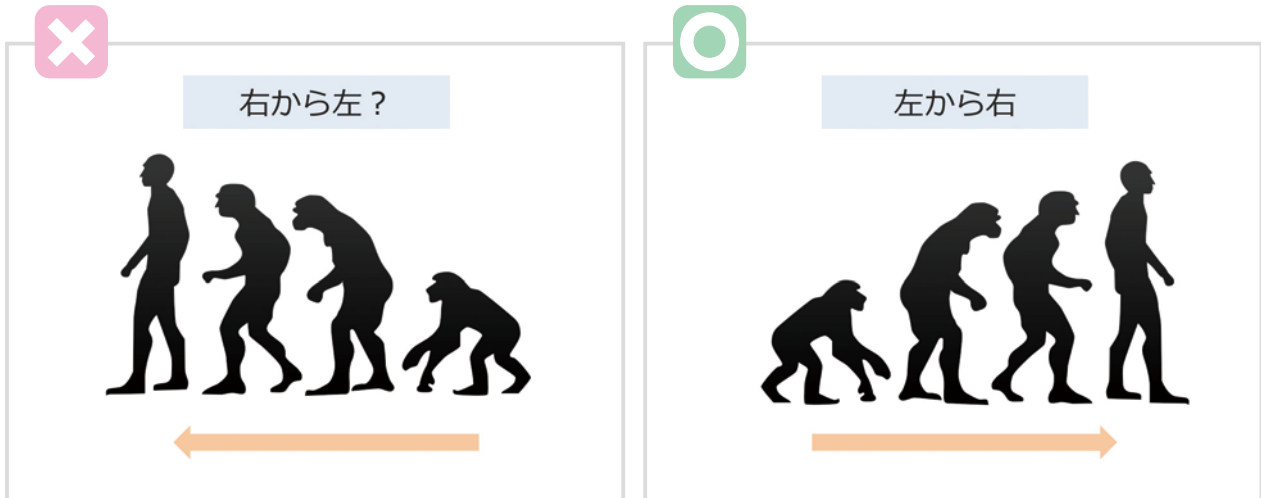


Which is easier to read?

After reading the title displayed at the top, you have to move your eyes downward to find where the flowchart starts. You then have to move your eyes upward again. This is unnatural.

It is more natural to move your eyes from top to bottom.

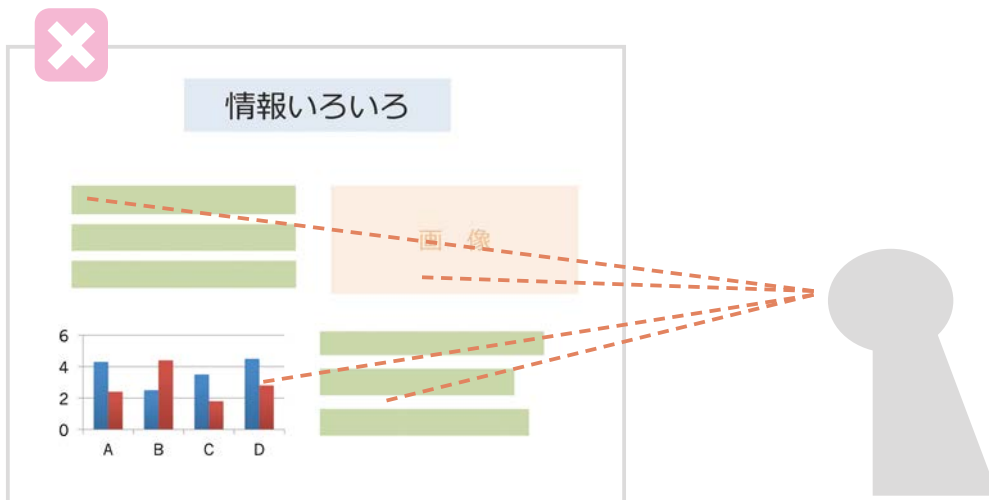
■ From left to right



Which do you find more natural?

When you use an illustration or a flowchart showing an order, it is more natural to move your eyes from left to right.

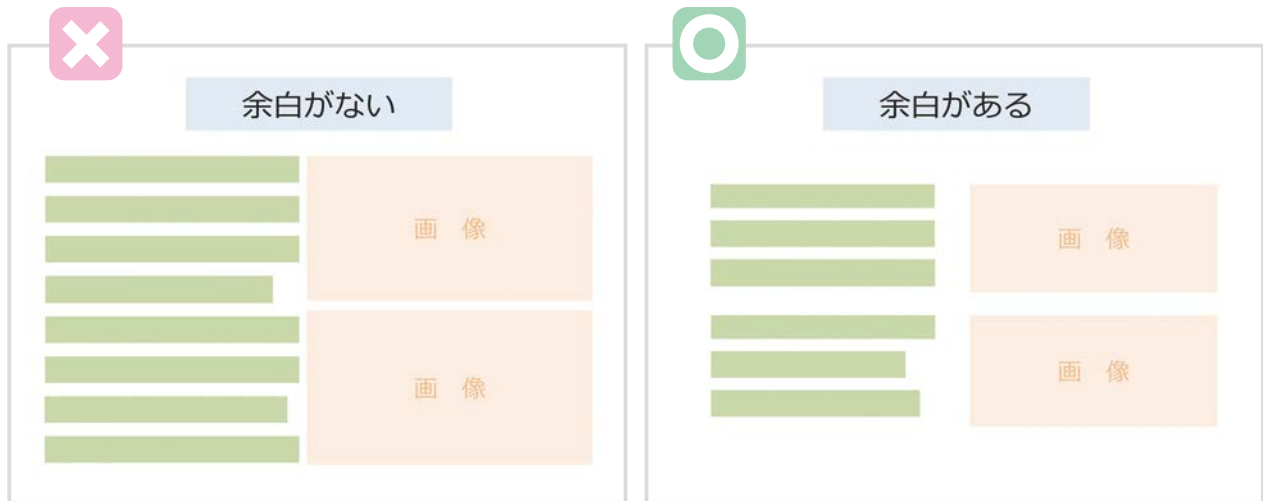
■ Make information on slide simple



In this example, viewers need to move their eyes in random directions. Each slide is shown for only about one minute. There is too much for viewers to see here and there to sort out information for that short time.

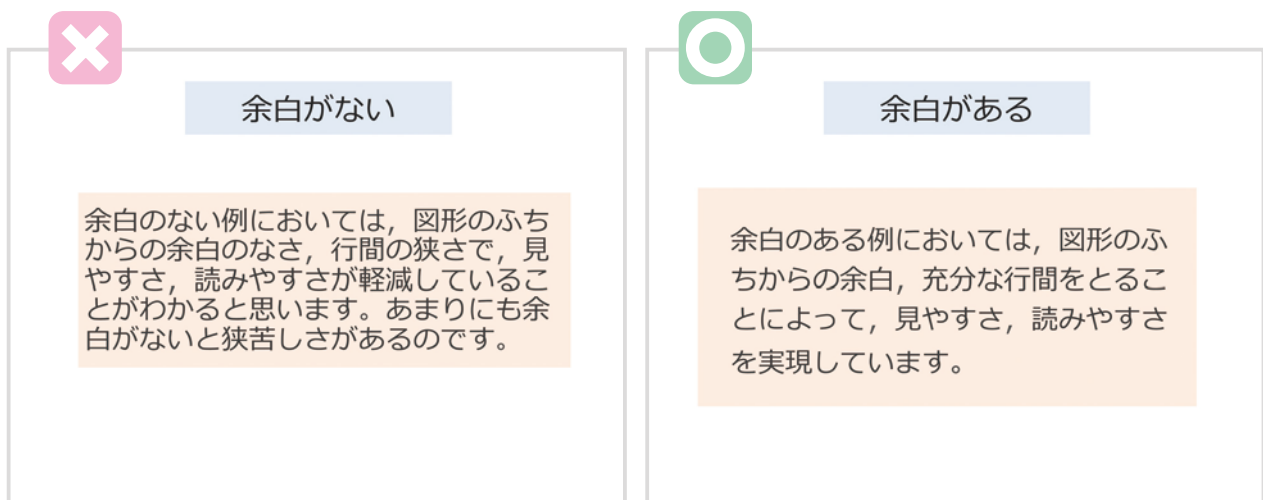
Try to limit the number of pieces of information included on one slide to one.

Space



Always make sure to leave enough space. Enough space helps viewers read the slide in a relaxed manner. This is an example of a slide containing text and figures. The text is shown in green. In the slide without space, the text and figures occupy almost the entire slide. This looks crowded and hard to read.

In the slide with space, there is a margin on every side and space between the lines and figures.



In the one without space, the text fills the entire slide and it is hard to read. In the one with space, there is a margin on the four sides and enough space between the lines, which makes the slide easier to read.

In preparing a slide containing framed text, you should use space effectively.

■ Noise

Our eyes tend to see everything written on a slide. Do not include irrelevant information.

Some use a template with their university's name on it for all the slides they use for a presentation. Do you think it is necessary to do so? Use a template with the university's logo on it only for presentations delivered outside of the university. Even in such a case, use the template only for the first slide.

Even if there is sufficient free space on a slide, avoid inserting irrelevant illustrations. To use figures and images as effective information, regard anything irrelevant as noise.



ノイズの例

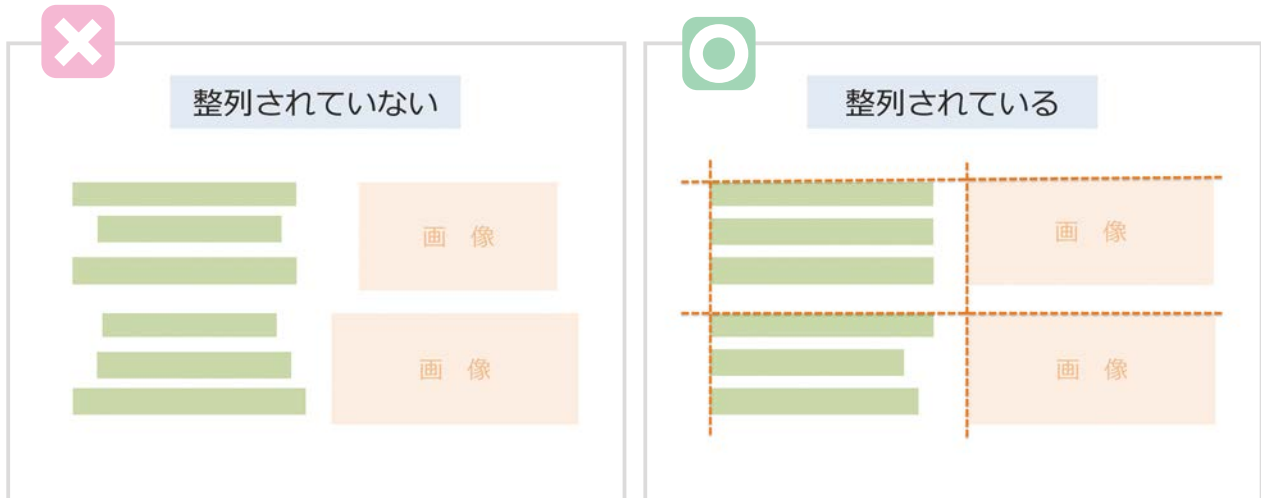
もみじ大学

内容に直接関係のない,
ロゴやイラストなども,
ノイズになる可能性があります。



2. Easy-to-read layout

■ Alignment



If text and figures are poorly-aligned, the readers have to move their eyes unnecessarily frequently. The slide does not look ordered. As shown on the right, justification aligns the text more beautifully. Unnecessary eye movement is not necessary to read the slide anymore.

■ Left alignment



If you center the text, the left side becomes ragged and unaligned. There is not much space left. Left alignment allows more space, which makes it more comfortable to read. Use left alignment as much as possible.

■ Grouping



グループ化されていない



- ・ロシアンブルー
毛色はブルー, 目はグリーンが特徴
- ・スコティッシュフォールド
耳が折れているのが特徴



グループ化されている



- ・ロシアンブルー
毛色はブルー, 目はグリーンが特徴

すきまがある



- ・スコティッシュフォールド
耳が折れているのが特徴

When text and figures are not grouped, it makes it difficult to determine the relationships among them.

Put those items in the same group close to each other and put those in different groups apart.



さらに・・・



- ・ロシアンブルー
毛色はブルー, 目はグリーンが特徴



- ・スコティッシュフォールド
耳が折れているのが特徴

You may enclose those items in the same group in a frame, or use different colors for different groups to make it easier to differentiate between them.

Use the grouping technique to make it easier to grasp information at a glance.

3. Charts

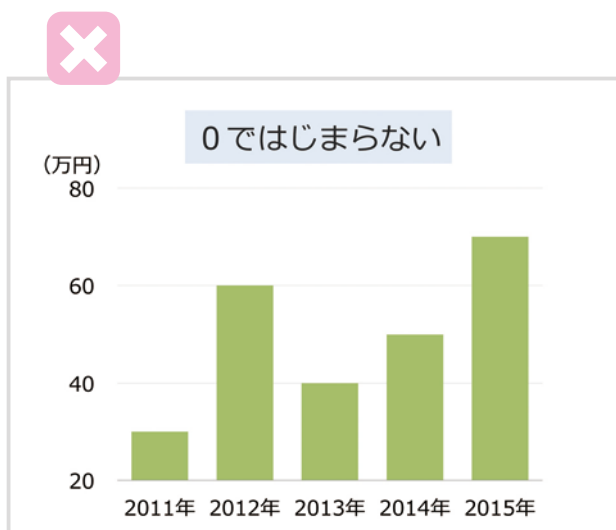
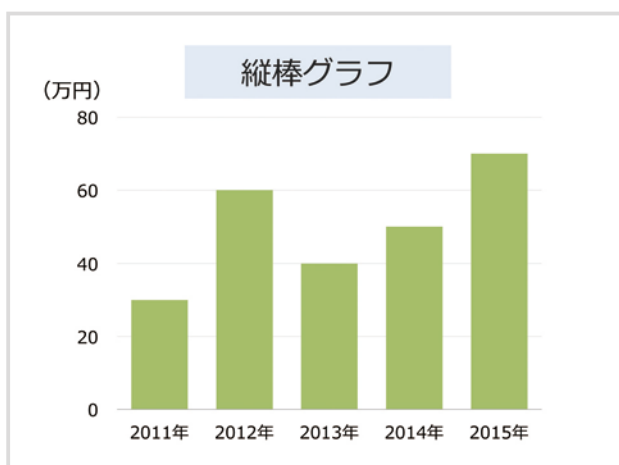
This chapter explains how to use charts. Charts are used to sort out data and large amounts of information to make them easier to understand. Understand the features of different charts and learn how to convey information using charts.

Noise in charts prevents information from being conveyed easily. In this chapter, learn how noise can be an obstacle.

■ Types of charts

● Bar charts

Features: A bar chart is suitable for describing absolute quantities. With a bar chart, it is easy to compare figures.

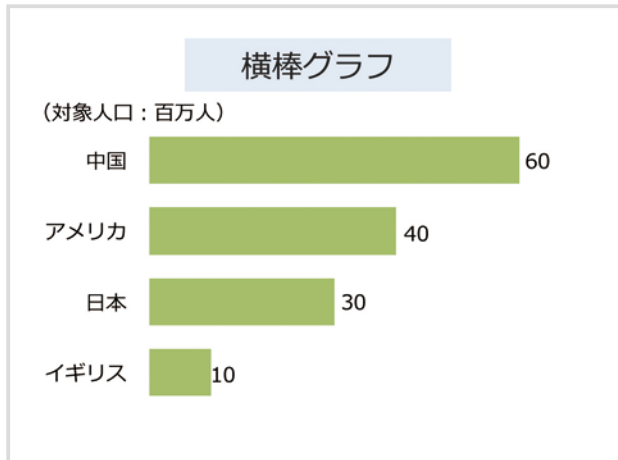


Bar charts are used for comparisons. For this purpose, do not make the spaces between the bars too wide. If there are many bars, the spaces should be about half as wide as the bars. Even if there are not so many bars, the spaces between the bars should be the same width as the bars.

For a bar chart, the zero line is essential. If you omit the zero line, the values shown by bar length will not be clearly displayed. In the chart on the right, which does not start from zero, the value in 2013 looks as if it is twice as large as that in 2011. However, the actual figure for 2013 is 40, while the figure for 2011 is 30. Therefore the former is not twice as large as the latter.

● Horizontal bar chart

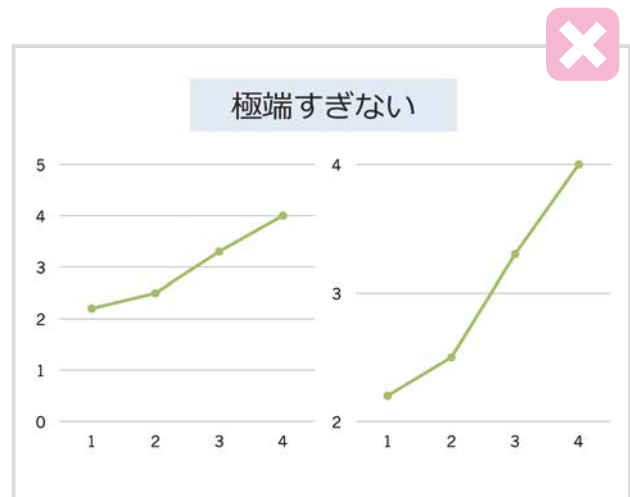
Features: A horizontal bar chart is suitable for ranking items with the same attribute.



When there are many items to compare or the items' names are long, a horizontal bar chart is more suitable than a vertical one. As this is used to compare rankings, it is recommended that you place the items in descending order from the longest to the shortest. With a horizontal bar chart, it is harder to make comparisons than with a vertical one. It is therefore recommended that you write the values on the side.

● Line chart

Features: A line chart is suitable for showing increases and decreases in values over time.

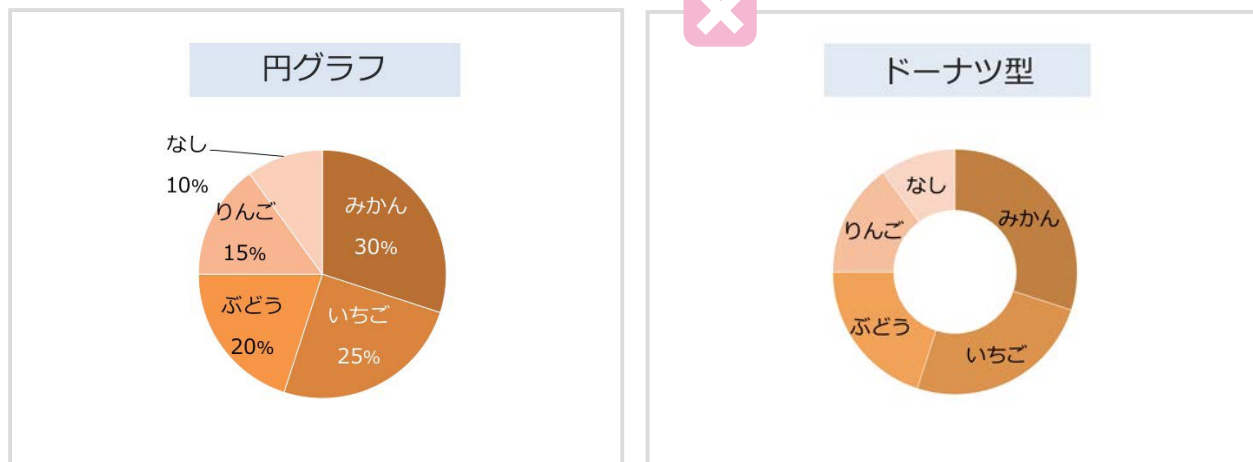


The intervals on the scale on the horizontal axis must be uniform to correctly convey information on change over time.

The two charts on the right are based on the same data, with different maximum and minimum values on their scales. A line chart does not necessarily start from zero, but the chart on the right exaggerates the difference. There is no blank space. The divisions on a scale should be set appropriately.

● Pie chart

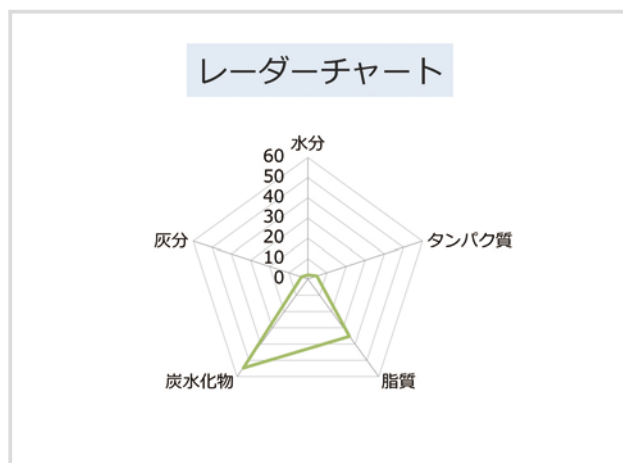
Features: A pie chart is suitable for showing proportions of a whole.



Sort from the largest to the smallest proportions. Start the pie chart values at the top of the pie in order from the largest to the smallest. The number of segments should not be too large. Five or six segments would be reasonable. If you use a doughnut-shaped chart, due to the white part in the middle, you cannot see the center. For this reason, it is hard to compare relative values. Avoid using a doughnut-shaped chart.

● Radar chart

Features: A radar chart is suitable for comparing multiple items that constitute an element to show its tendency.

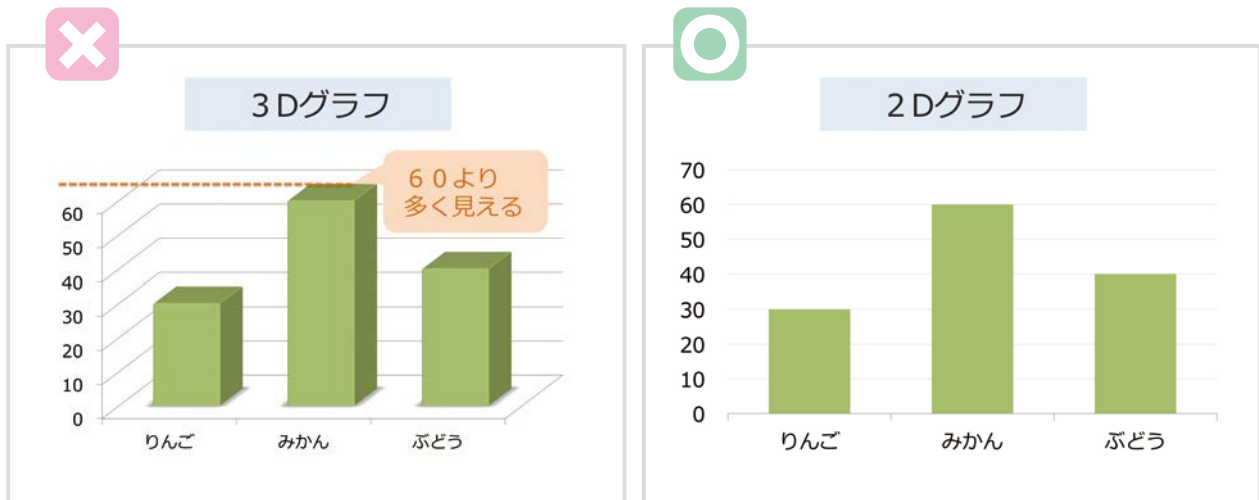


In addition to the charts introduced in this chapter, there are others as shown below:

Band chart: Suitable for showing differences between items.

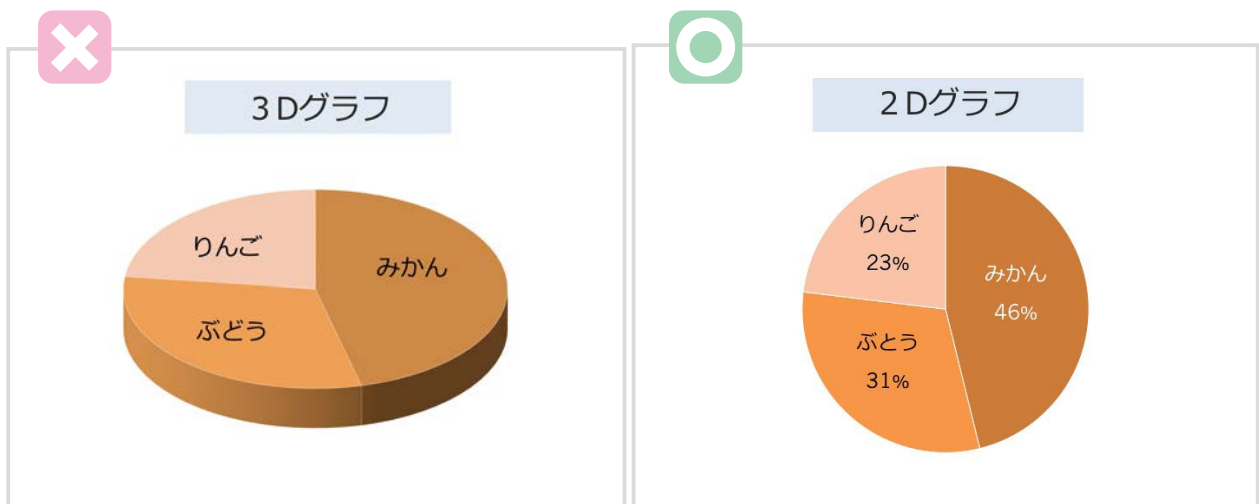
Scatter plot: Suitable for showing the relationship between two items.

2D charts and 3D charts



Do not use 3D charts.

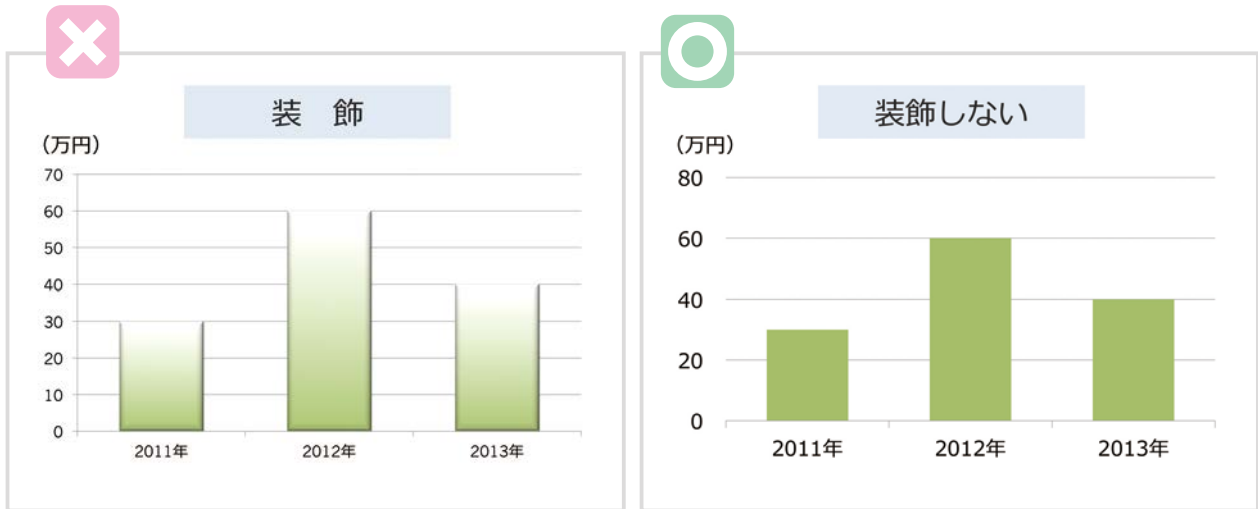
In the chart on the left, the value for orange is 60, but it does not appear to be so. In a 3D chart, the values cannot be identified clearly. Let me remind you that charts are used to convey data and information correctly in an easy-to-understand manner. Values displayed in a 2D chart are easier to understand than in a 3D chart.



In this 3D pie chart, the segment for “grape” appears to be larger than its actual size. This kind of chart easily gives the wrong information. A 2D chart conveys information more accurately.

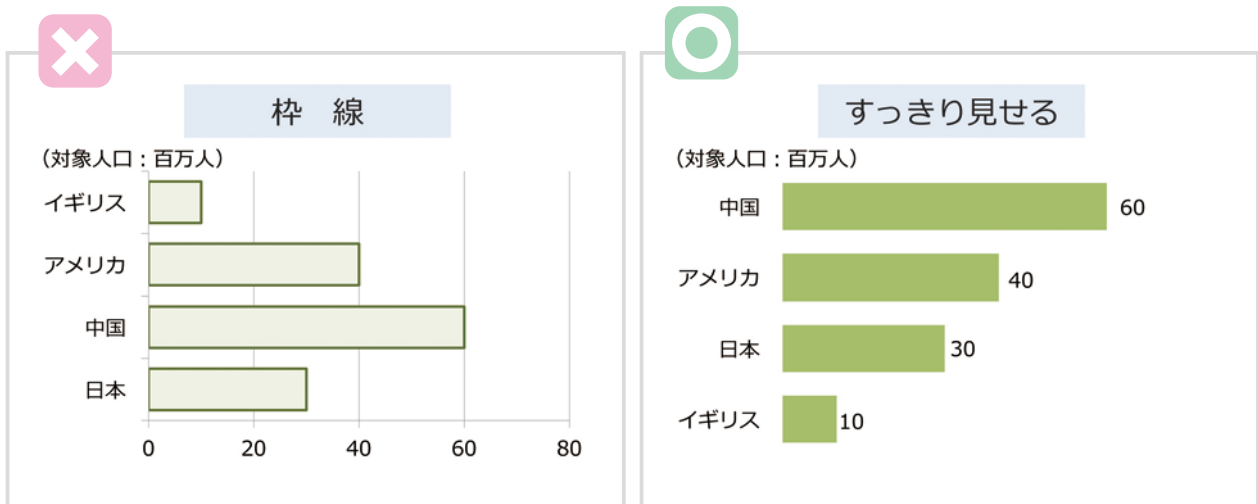
Remember that 3D charts can easily give the wrong impression.

■ Decoration and noise on charts



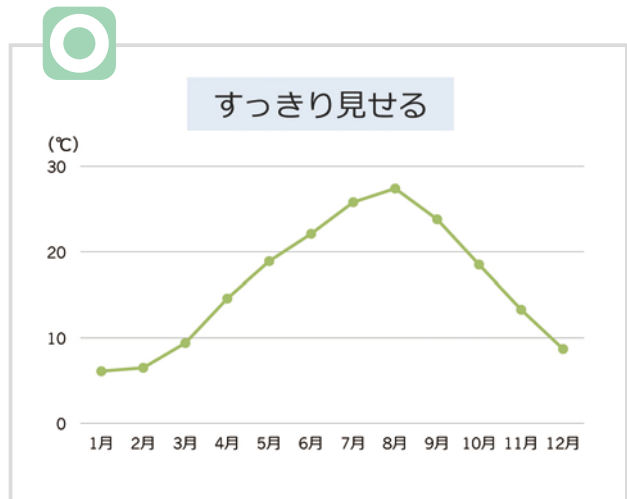
In the chart on the left, gradation, shading and three-dimensional effect are used.

The chart on the right is based on the same data as the chart on the left, but it is simpler since excessive decoration has been removed and the number of scale lines has been reduced. When we see these lines, we tend to try to understand what information they depict. Therefore, remove unnecessary information. The chart on the right is obviously easier to understand. You can grasp the information at a glance.



In the left bar chart, the bars are framed but these frames are unnecessary. In the right chart, the frames and scale lines have been removed.

You must omit noise and only include essential information.



In the left chart, the effects of light and shadow are used.

Without excessive decoration and with a reduced number of scale lines, the chart on the right is simpler than the one on the left. The large markers have been replaced with smaller ones to make it easier to understand the change.

品名	単価 (円)
鉛筆	1 0 0
消しゴム	5 0
ノート	1 5 0
ファイル	2 0 0

品名	単価 (円)
鉛筆	100
消しゴム	50
ノート	150
ファイル	200

I'll also explain about noise in a table. Which do you find easier to understand?

In the table on the left, the primary color is too bright to look at. The lines are too conspicuous and create noise in the table. The text is aligned at the bottom of each table cell, close to the bottom line of the cell. This alignment reduces its readability.

In the table on the right, horizontal lines are only used under the item names and at the bottom. The two lines are enough. The text is left aligned and the values are right aligned.

3. Fonts

■ Font sizes

フォントサイズ	
36pt	スライドの作り方
32pt	スライドの作り方
28pt	スライドの作り方
24pt	スライドの作り方
20pt	スライドの作り方

While the font size you use should be determined depending on the size of the venue, it is generally recommended that you use a font size of at least 28 points for slides. Fonts smaller than 28 points may appear too small.

■ Font types

フォントの種類	
和文	明朝体 ゴシック体
欧文	serif体 Sans-serif体

Fonts for the Japanese language are roughly divided into Mincho and Gothic; while those for Western typography are serif and sans-serif.

Mincho and serif are suitable for long articles but not for slides.

フォントの種類

書体 書体
FONT FONT

Letters in Mincho and serif typefaces have a serif, a small triangle-shaped serif attached to the end of a stroke, like those circled shown above. Because there are thick and thin parts in each letter, these typefaces are not easy to read from a distance, for example, in a presentation in a large venue.

Lacking serifs, Gothic and sans-serif typefaces are easier to read from a distance. In Japanese, a serif is also called “uroko,” meaning fish scale, or “hige,” meaning whisker. “Sans” means without (in French).

Mincho is suitable for long articles, for example, documents to be distributed.

Space between lines and words



行間・字間がない

行間・字間のない例においては、見やすさ、読みやすさが軽減していることがわかると思います。あまりにも隙間がないと狭苦しさを感じます。パッと見て全部を読むのが困難になります。

行間・字間のない例においては、見やすさ、読みやすさが軽減していることがわかると思います。あまりにも隙間がないと狭苦しさを感じます。パッと見て全部を読むのが困難になります。





行間・字間がある

行間・字間のある例においては、十分な隙間をとることによって、見やすさ、読みやすさを実現しています。

行間・字間のある例においては、十分な隙間をとることによって、見やすさ、読みやすさを実現しています。

Which do you find easier to read? It is understandable that you want to include as much information as possible in one slide. However, without sufficient space between words and lines, the slide is extremely hard to read from a distance. The space between lines should be around 1.1 to 1.3 times as wide as the width of the bar. Too much space between words makes it hard to read. Use appropriate spacing between words.

■ Text decoration

<p> 文字装飾</p> <p>過度な文字装飾はしない</p> <p>過度な文字装飾はしない</p> <p>過度な文字装飾はひなみ</p> <p>過度な文字装飾はひなみ</p>	<p> テキストの強調化</p> <p>伝えたい大事なポイントがある場合には、コントラストをつけましょう。</p> <p>↓</p> <p>伝えたい大事なポイントがある場合には、コントラストをつけましょう。</p>
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Do you find the text on the left easy to read?

Avoid excessive text decoration. It is important to make your presentation slide easy to read even from a distance.

If you want to emphasize specific words or phrases in text, you may change the font color and/or font size. It is also effective to use a bold font.

■ Use of a smaller size for units

You may often want to use numbers in your presentation. In such a case, use a smaller size for the unit than the numerical part. This makes the number more conspicuous. When the number is more important than the unit, use a smaller size for the unit to emphasize the number.

単位は小さく	
1,000人	1,000人
500回	500回
45%	45%
60kg	60kg
4月25日	4月25日

5. Colors

■ Hue, saturation, brightness

The three attributes of color are hue, saturation and brightness.

● Hue

Hues include red, blue and yellow. The circle on the right is called a color wheel. Colors opposite each other, such as green and purple, are called opposite or complementary colors. You can enhance the color contrast by combining complementary colors. Colors next to each other are called analogous colors. A combination of analogous colors reduces color contrast.



● Saturation

Color saturation is used to describe the intensity of color. In the figure on the right, the saturation intensity increases from left to right.

On a slide, too high saturation strains the viewer's eyes. If you use a color with a high saturation, it will be difficult to coordinate colors.



低い 彩度 高い

● Brightness

Colors have different degrees of brightness. The brightest color is white and the least bright color is black.

On a slide, if you use too bright a color, it will sometimes be too pale to see.



低い 明度 高い

■ Color tones

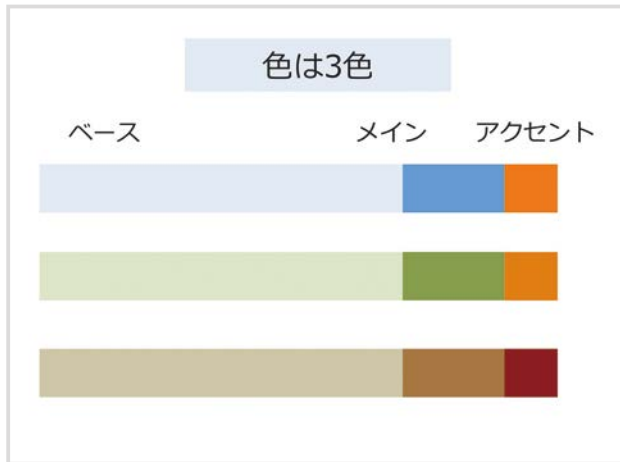
The color tone differs depending on the combination of saturation and brightness. If you select colors within the same range of tone, you can achieve uniformity. If you don't want to use analogous colors, you should take into account color tones.



For a PowerPoint slide, if you select colors from those arranged horizontally side by side, you can achieve good color matching.

For a slide, colors in the middle tier are easy to use.

■ Base color, main color, accent color

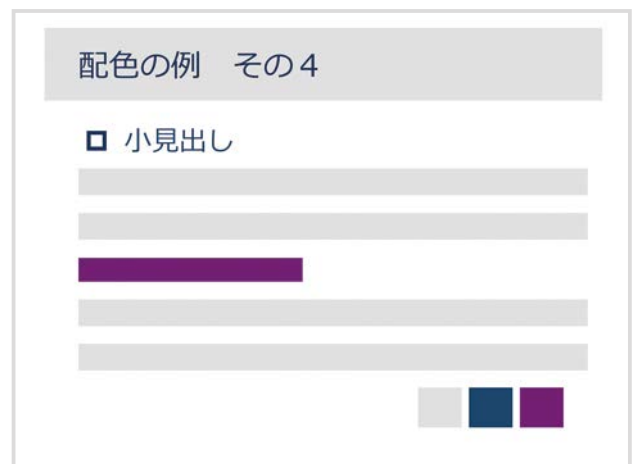
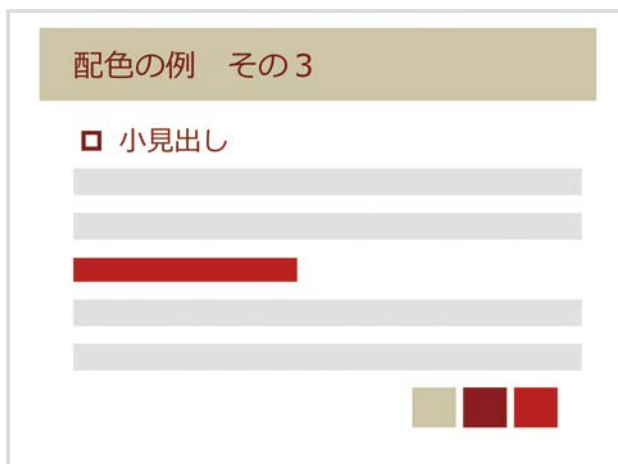
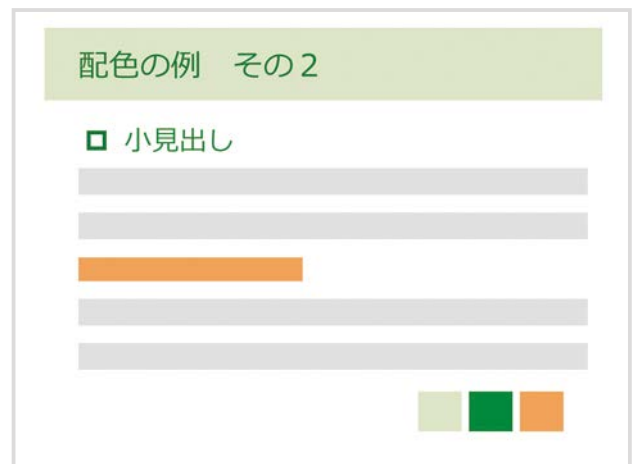
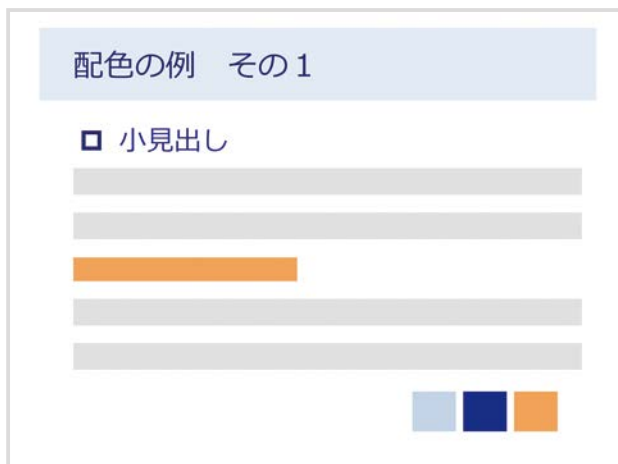


The number of colors used for a slide should be limited to around three. Too many different colors on a slide make it appear disorderly and less uniform.

The three colors are as follows:

- ・ Base color
The base color is used for large spaces, such as backgrounds and boxes. High-brightness colors with low saturation are recommended.
- ・ Main color
The main color is used for titles. Low-brightness colors are recommended.
- ・ Accent color
The accent color is used for parts you want to emphasize. Use a color with a hue that is opposite to the hue of the main color to make the part conspicuous.

Refer to the chart above for the proportions of these three colors. The base color should approximately account for 70%, the main color for 20% and the accent color for 10%. Overuse of the main and accent colors makes the slide noisy due to their strong colors.



These are examples of how to use the three colors: base, main and accent colors.

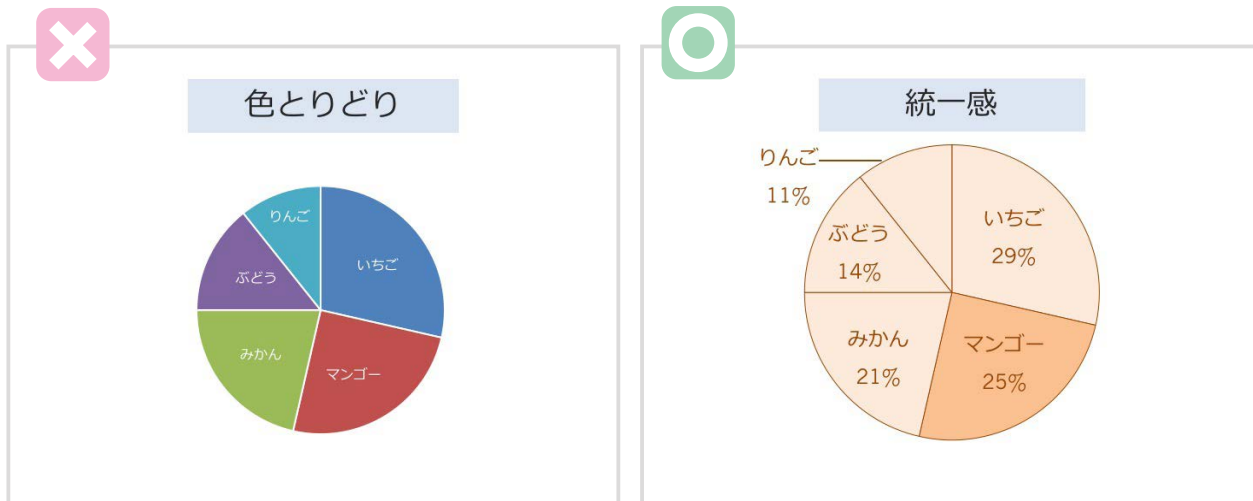
There are many websites showing color schemes. The websites below show various color palettes for you to refer to:

<https://color.adobe.com/ja/create/color-wheel/>

<http://coolors.co/>

<http://plttts.me/>

■ The number of colors used for charts and figures



If you use Excel or PowerPoint, a multicolored chart as shown on the left is created by default.

With any version after 2007, you can select various designs. If possible, you should change the colors and lines using the “graphic settings” to make the chart readable. By reducing the number of colors and selecting the same hue, you can achieve uniformity.

As shown in the figure on the right, if you want to emphasize “mango,” you may use a different color only for “mango.”



In the figure on the left, many different colors are used. In the figure on the right, the use of a darker color only for the part you want to emphasize makes it easier to understand and gives uniformity.

■ How to add contrast



There are three main ways to add contrast:

1. Using different levels of brightness
2. Using different levels of saturation
3. Using the opposite color

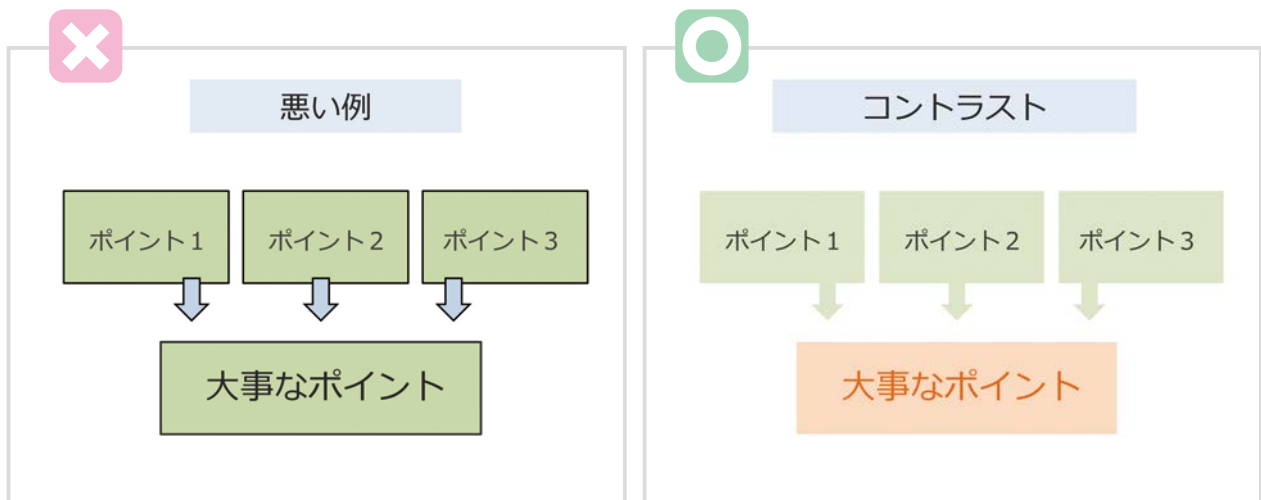
To enhance contrast, when determining the accent color, take into account the base and main colors.

■ Colors of frames and letters



Colors for frames and letters should also be carefully chosen. In the examples on the left, the letters are hard to see. As shown in the examples on the right, choose two colors that have a strong contrast, for example, a pale color for the background with a dark color for the letters; or a dark color for the background with the letters in white.

■ Make key points easy to understand



In the example on the left, even points that are not particularly important are framed and emphasized. It is unclear which is particularly important and which is not. The arrows are also framed, which makes it difficult to tell how these points are related.

In the example on the right, a less bright color is used for arrows and points 1 to 3, and all the frames were removed. A bright color is used for the key points. After excessive frames have been removed, there are no longer any obstacles.

Do not use “color filling” and “framing” simultaneously. Use one or the other.

6. Overall structure

■ The amount of information on a slide





As explained above, the following should be taken into account when preparing slides:

- Information should be well-organized and simple enough to understand.
- Text and images on a slide should be designed in such a way that the audience at the back of the venue can see and understand them easily.

Each slide is shown only for about one minute. With this in mind, you can determine how many letters, figures and charts can be included on one slide.

If you find a slide hard to see and understand but do not want to reduce the amount of information, do not hesitate to increase the number of slides. Even if you increase the number of slides, it will not greatly affect the time you need for your presentation. The number of slides differs but the time required for explaining does not, because the amount of information you want to convey is the same.

As explained in the section for fonts, if you use a small font when the spaces between words and lines are small, the slide will be hard to read.

 <p>赤ずきんちゃん</p> <p>むかし、むかし、あるところに、ちいちゃいかわいい女の子がありました。それはたれだっで、ちよいとみただけで、かわくなるこの子でしたが、でも、たれよりもかれよりも、この子のおばあさんほど、この子をかわいがっているものではなく、この子を見ると、なにかもちやりたくてやりたくて、いったいなにをやっているのかわからなくなるくらいでした。それで、あるとき、おばあさんは、赤いびろうどで、この子にずきんをこしらえてやりました。すると、それがまたこの子によく似あうので、もうほかのものは、なんにもかぶらないと、きめてしまいました。そこで、この子は、赤ずきちゃん、赤ずきんちゃん、とばかり、よばれるようになりました。</p> <p>ある日、おかあさんは、この子をよんでいいました。 「さあ、ちよいといらっしやい、赤ずきんちゃん、ここにお菓子がひとつと、ぶどう酒しゅがひとびんあります。これを赤ずきんちゃん、おばあさんのところへもっていらっしやい、おばあさんは、ご病気でよわっていらっしやるが、これをあげると、きっと元気になるでしょう。それでは、あつくならないうちにおでかけなさい。それから、そとへでたら気をつけて、おぎょうぎよくしてね、やたらに、しらない横道へかけだしていったりなんかしないのですよ。」</p> 	 <p>赤ずきんちゃん</p> <p>むかし、むかし、あるところに、ちいちゃいかわいい女の子がありました。</p> <p>それはたれだっで、ちよいとみただけで、かわくなるこの子でしたが、</p> <p>でも、たれよりもかれよりも、この子のおばあさんほど、この子をかわいがっているものではなく、</p> 
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The slide on the left is hard to read and will not make the viewer feel like reading and understanding it. Make your slide as simple as the one on the right, which the viewer can easily understand at a glance.

■ You do not have to add a title.

Each slide should generally be titled, but you do not necessarily have to title every one.



In the example on the left, due to the insertion of a title, the items on the chart are small and not easy to read. In the example on the right, the title has been removed and the chart part can occupy a larger space.



The picture in the example on the left is small, but the picture on the right is larger and more readable. The one on the right better conveys the information. In the one on the left, the explanation section is also small.

If the space for a picture or an explanation is too small to fully convey the necessary information, make it bigger, even if you cannot add the slide title.

7. How to prepare and deliver a presentation

■ Make sure you are well-prepared for your presentation.

● Check the venue in advance.

Obtain information about the venue in advance, if possible.

(1) Brightness of the venue

- Can the light be turned off around slides or not?
- If there are windows in the venue, do they have curtains? Can you close them to make the room dark?
- Does the screen reflect or absorb the light?

These are things you should check in advance. If you cannot make the venue sufficiently dark, the letters and figures may look too pale. In this case, you will need to use darker colors for figures and charts.

(2) Location of the screen

- How far the screen is from the audience
If the screen is placed away from the audience, you may have to use a larger font.
- Is the screen large or small? Is it placed high or low?

If the screen at the venue is small, you should choose a font size most suitable for the screen. If the screen is placed at a low height, the lower part of the slide may not be visible to the audience at the back of the venue. In such a case, avoid placing key points on the lower part of the slide.

- Is the aspect ratio 16:9 or 4:3?

The design of the entire slide can be altered depending on the aspect ratio. Therefore, you should check the setting of the projector beforehand.

(3) Check the connecting cable

Check what kind of connecting cable to the projector is used, whether HDMI or VGA. You may need an adaptor to connect to your PC.

● Perform a rehearsal.

You cannot deliver a good presentation without rehearsing. You should rehearse your presentation. You may perform a rehearsal alone but it is better to do in front of your teacher and/or friends. By actually presenting your presentation aloud, you can identify parts of your speech that do not flow well. Check the following in a rehearsal:

- Does your presentation flow smoothly?
- Are all the slides designed in such a way that you can easily explain them?
- Can you finish your presentation within the allocated time?

■ At an actual presentation

● Stand and look at your audience.

Stand so that you can look over the entire audience. Do not keep looking at the slides. Look at your audience when you talk to them so that you can check how they are responding to your presentation.

● Don't just read.

Some presenters write down the script of their presentation in the Notes panel. If you do so, you may end up just reading it monotonously. To convey your ideas, don't just read what is in the Notes panel. Memorize it.

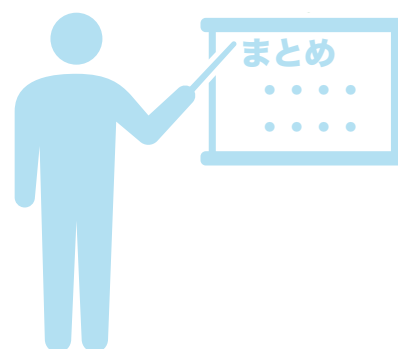
● Complete your presentation within the allocated time.

The start and finish times of a presentation are usually predetermined. If you don't finish your presentation within the allocated time, it will affect the following schedule. You must keep in mind that there may be other speakers. Make sure to finish your presentation within the allocated time.

■ Questions and answers

Some show the words "Thank you" on their last slide. It is enough just to say so. You don't have to show it on a screen. At the end of an academic presentation, there is generally time for a Q&A session. During the duration of the Q&A session, if a summary of your presentation is shown on the screen instead of just "Thank you," it is easier for the audience to ask questions.

Ask your academic advisor or friend to make a note of questions you receive from your audience so that you can use them in your learning and research in the future.



Conclusion

I mentioned in the introduction that, in a presentation, you need to convey what you want to convey in an easy-to-understand manner. Do you now understand how to do so?

In preparing your slide and delivering your presentation, always keep in mind that the purpose is to convey the information that you want to share in an easy-to-understand manner.

■ Appendix: Copyright

If you want to incorporate figures tables, photos, videos, sentences or other works created by other people into your slides, you must make sure not to violate copyright laws.

(1) Clarify sources

Whenever you intend to use a third party's copyright protected work, you must clarify its source.

(2) In the case of presentations delivered free of charge

If a presentation is delivered free of charge at a venue that is open to the public for free, use of a third party's copyright protected work will not infringe on any copyright.

(3) Keep in mind public transmission rights

The following activities are regarded as "public transmission" under the Copyright Law. You must receive permission from the copyright holder:

- Posting a presentation material on a website that contains a third party's copyright protected work.
- Videotaping a presentation in which a third party's copyright protected work is used and posting it on a website.

To receive formal permission for copyright, you are required to undergo complex procedures. However, as long as you fulfill the following requirements for quotations, you do not have to apply for copyright use:

1. The material has already been made public.
2. The quotation is compatible with fair practice.
3. The use of the quotation is limited to the extent justified by the purpose of the quotation, such as news reporting, critique or research.
4. There is a clear distinction between the quoted part and other parts.
5. The quotation is distinguished from other text, for example, by enclosing it in brackets.
6. There is a necessity to use the quotation.
7. The source is clearly identified.

If these requirements are not fulfilled, you should prepare your own material instead of using a third party's work or use materials that can be used without copyright permission.

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All references listed here are in Japanese.

Materials used here

Figure of human evolution on page 4

Source: https://commons.wikimedia.org/wiki/File:Human_evolution.svg

Pictograms on the cover, page 22 (Little Red Riding Hood) and page 25

Human Pictogram 2.0: <http://pictogram2.com/>

Font on the cover

FG Library

<http://fontgraphic.jp/blog/item/107-fglovelydownload.html>

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