

Do more. Share more. Be more.



# Scouts

**23rd Manchester  
(Birch with Fallowfield)**

## Abstract

What follows is a test, a demonstration, an exploration and some documentation about how to use this Beamer template/theme. It is split into separate parts (listed below) and covers why I created this theme,<sup>†</sup> how to use it, a reproduction of the Scout Branding Centre's Powerpoint slides, some test slides and an example walkthrough from the Beamer documentation.

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<sup>†</sup>In  $\text{\LaTeX}$ 's Beamer document class, a theme is essentially a template.



## What's Coming up...

- Part 1: How did this template come about?
- Part 2: Using the theme
- Part 3: Recreating the Scout Branding Centre's PP-T/POT template using this Beamer theme.
- Part 4: Testing the colours
- Part 5: Recreating the Beamer example Euclid's Presentation in this theme
- Part 6: Appendix
- Part 7: Highway Code Example

# Part I

How did this template come about?

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**How did this template come about? – Why a  $\text{\LaTeX}$  Beamer theme**



# Why a $\text{\LaTeX}$ Beamer theme

Just prep for another all section Scout Meeting

This is the story about how this Scouts Beamer template came into existence. In what follows, you'll find pictures, anicdotes, wild assertions, not a small amount of computing code and, I fancy, an embedded media file<sup>†</sup>

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<sup>†</sup>To see the embedded media incorporated in the slides, you'll need a PDF reader that understands “embedded” *rich* media (Adobe Reader v9+ and Okular v0.15+ are both known to work). You'll also need the embedded media alongside, 'cause it's not really embedded is it!

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How did this template come about? – Why a  $\text{\LaTeX}$  Beamer theme



## We had a Leaders' planning meeting over Zoom.

How do we startup after a (very) extended Easter break?

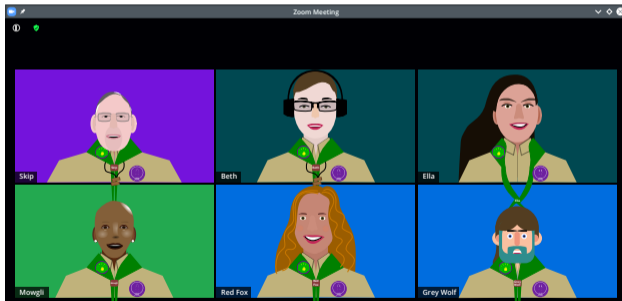


Figure: The actual<sup>†</sup> zoom meeting.

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<sup>†</sup>We did have a zoom meeting but it didn't look quite like this.

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How did this template come about? – Why a  $\LaTeX$  Beamer theme

There was<sup>†</sup> a pandemic going on don't you know!

With no meetings, I for one was stuck inside with little more to keep me out of trouble than generating sick memes.

What **were** our YMs doing?

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<sup>†</sup>is—at time of writing.

**Do less?**

**Share less?**

**Be less**



Do more. Share more. Be more.

How did this template come about? – Why a  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  Beamer theme



Scouts 

District was encouraging us to hold some kind of sessions for the wellbeing of the young members.

**But what could we do?**

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How did this template come about? – Why a  $\text{\LaTeX}$  Beamer theme



## Cycling badge

I'd noticed many of our young members and their families taking to their bicycles for their daily exercise.

I thought we could use this to drive through the Cyclist Activity badges across the various sections.





## So a Quiz! Quizzes work online, right?

Road safety and the use of roads is part of cycling.

And in Manchester we have:

- a lot of roads,
- a lot of tow paths (some accessible to bikes),
- a lot of dedicated and shared bike lanes,
- and lots of National Cycle Network routes.

How about a multiple guess quiz on some of our UK signage.

# ALL GSL'S LEARNING HOW TO UPLOAD FILES



## Also happening at the same time...

Scout HQ has been working on rebranding, and 23<sup>rd</sup> Manchester has been working as a group to overhaul our web presence.

I thought well, can't I just use something from the Scout Brand Centre?

# TO MAKE VIRTUAL SCOUTING

## Getting the information

- I found the UK government road sign website:  
<https://www.gov.uk/guidance/traffic-sign-images>.  
This had
  - zip files of all the signs graphics.
  - a spreadsheet describing the road signs.
- All I needed now was a way to make this into an online multiple choice quiz.

## Automation

Having identified 25 road signs that I could work with I now had the task of importing and resizing 25 images, formatting slides, and adding 25 captions.

But **What are computers for?** ...if not to make repetitive and time consuming tasks easy?

## Automation

- ① I considered writing a script to create slides using one of the PPTX APIs.
- ② I also considered copying the template to Google Sheets and writing a Google App script<sup>†</sup>

I'm also more at home with [Free and Open Source Software](#), how about something like [LibreOffice](#)?

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<sup>†</sup>I'm more familiar with GoogleDocs. Moreover, I don't have Microsoft at home and the O365 PowerPoint landscape is IMHO a buggy and featureless terrain.

## How about $\LaTeX$

I'd worked with  $\LaTeX$  before, in the world of academia. I had used it to write letters, articles and documents and occasionally the odd slide deck for work. This would be a bit different though,  $\LaTeX$  is a typesetting tool. In my experience good for scientific papers and simple non-glossy stuff.

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**How did this template come about? – Why a  $\text{\LaTeX}$  Beamer theme**



# Why a $\text{\LaTeX}$ Beamer theme

Creating the slides

## But...

It is kind of easy to write slides, once there's a template.  
For example, here is the code for the last two slides:

```
\frame{
\frametitle{How about \LaTeX}
I'd worked with \LaTeX before, in the world of academia.
I had used it to write letters, articles and documents
and occasionally the odd slide deck for work.
This would be a bit different though, \LaTeX is a typesetting tool.
In my experience good for scientific papers and simple non-glossy stuff.
}
\subsection{Creating the slides}
```



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**How did this template come about? – Lets look at the code.**



## **Lets look at the code.**

The following section is probably not for the faint hearted.

## Here comes a bash script to make us some slides

**And before you ask...** No! I didn't write the following script then execute it like some kind of crazy robot. I did this one step at a time, bit-by-bit over the course of about an hour<sup>TM†</sup>.

I searched the web; found the stuff; converted the format of the long list from the web; downloaded the images; made a short list of signs I liked; **g**repped<sup>‡</sup> the signs I liked into a loop where I converted my favourite signs to pdf and with a  $\text{\LaTeX}$  template spat out the file: `include.tex`. Then I merged that file into my scoutified CERN Beamer template. What follows is what you might get if you crush all that work into a hairy **bash** script.

▶ skip

---

<sup>†</sup>For large values of one hour<sup>TM</sup>.

<sup>‡</sup>`grep`, `egrep`, `fgrep`, `rgrep` - print lines matching a pattern

## Breakdown of bash script to make the quiz skeleton slides...

Lets start by getting the `Beamer` template<sup>†</sup>. I started with a Scouty tweak to the [CERN Presentation template](#) by Jérôme Belleman, but the git repository in the listing now holds the template used for this presentation:

---

<sup>†</sup>At the time of writing this template is only available to me in my [overleaf.com](#) account and private [github.com](#) repo.

## Breakdown of bash script (continued)...

I searched the web; found the UK Government's [traffic sign images](#) webpage. The following snippet (lines 6–14) screen-scrapes the site and downloads<sup>†</sup> the Excel file with all the road sign descriptions:

```
6 # The URL for the UK Government's traffic sign images webpage:
7 GOVURL='https://www.gov.uk/guidance/traffic-sign-images'
8
9 # Get Sign Descriptions form gov.uk
10 # Screen-scrape (yuk)
11 for url in `curl "$GOVURL" |tr '<' '\n' |grep
    ↪ 'href="[^"]*/traffic-signs-images-image-details.xls"' |sed -e
    ↪ 's,.*href="\([^"]*\)".*,\1,' `
12 do
13     curl -O "$url"
14 done
```

---

<sup>†</sup>Here I used [curl](#).

## Breakdown of bash script (continued)...

I used [LibreOffice](#) to convert the MS Excel document to something a bit more universal and which we can work with. Here, in the script, a sleepy loop is required here because LibreOffice runs this command asynchronously:

```
16 # Convert to CSV
17 libreoffice --headless --convert-to csv
    ↪ traffic-signs-images-image-details.xls
18 sleep 1
19 while ! [ -e traffic-signs-images-image-details.csv ]
20 do
21     sleep 1
22     echo "Still waiting for LibreOffice."
23 done
```

## Breakdown of bash script (continued)...

We need columns 12 and 3<sup>†</sup> from the CSV file. I've used the handy tool called `csvtool`. The results will be TAB separated and saved into a `.tsv` file.

```
25 # Extract eps filename and dump comments into TSV
26 csvtool -u TAB col 12,3 traffic-signs-images-image-details.csv >
    ↪ traffic-signs-images-image-details-eps.tsv
```

---

<sup>†</sup>The filename for the encapsulated postscript version of the sign, and its "Caption"

## Breakdown of bash script (continued)...

Screen-scraping the [gov.uk](https://www.gov.uk) site again we download all the signs in eps<sup>†</sup> format in their zipped bundles. We'll get each zip file and unzip it into the directory SignsDL for later.

```
28 # Now get all the sign images from gov.uk
29 mkdir -p SignsDL
30 for url in `curl "$GOVURL" |tr '<' '\n' |grep 'href="[^\"]*--eps.zip"' |sed -e
    ↪ 's,.*href="\([^"]*\)".*,\1,' `
31 do
32     curl -o tmp.zip "$url"
33     unzip -n -j -d SignsDL tmp.zip
34     rm tmp.zip
35 done
```

---

<sup>†</sup>Encapsulated postscript is widely supported vector format often used in the printing industry.

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**How did this template come about? – Take a break here.**



**Take a break here.**

...and make some coffee. That's what I did.



## Breakdown of bash script (continued)...

Coffee in hand, have a look through the signs and choose some nice ones. I chose these...



Then in my script I set a variable to hold the label for each:

```
37 #Have a look at the signs manually and make a list of interesting ones
38 SIGNS="2602.2 2603 2702 2928 4003.7 501 512 520 522 544 551.2 552 555 562
↪ 670V20 7001 770 810 827.2 833 834 950 951 953.1V 956 957 T201"
```

## Breakdown of bash script (continued)...

Convert the nice ones into a format we can use<sup>†</sup>.  
**Inkscape** can do this in batchmode.

```
40 # Convert the signs we want into pdf (with an RGB colour profile) using
    ↪ inkscape
41 mkdir -p Signs
42 for sign in $SIGNS
43 do
44     #Convert from CMYK eps to sRGB pdf using inkscape
45     if [ -e "SignsDL/$sign.eps" ]
46     then
47         inkscape "SignsDL/$sign.eps" -A "Signs/$sign.pdf"
48     fi
49 done
```

---

<sup>†</sup>Encapsulated Postscript is fine for  $\text{\LaTeX}$  but is often in a CMYK colourspace. We want an RGB colourspace for screens (not print), and since I'm using pdf $\text{\LaTeX}$  I'll convert to PDF format.

## Breakdown of bash script (continued)...

The next<sup>†</sup> slide shows how to make the slide template.  
(It needs a slide all to itself.)

The resulting template will be used like a [mail merge](#).  
However, instead of creating a letter template to later merge with a database of multiple customers' details, we've got a slide template, multiple sign images and a look up table for each sign's corresponding captions.

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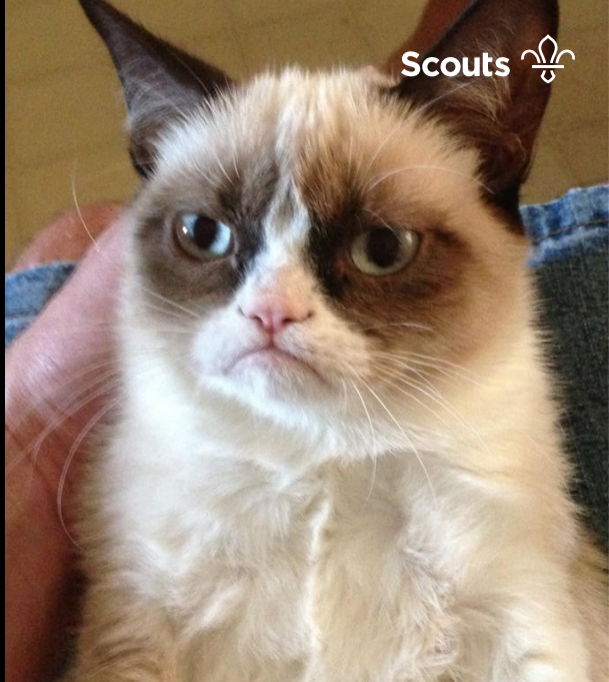
<sup>†</sup>Next but one.

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**How did this template come about? – Lets look at the code.**

Oh and the `cat` you're about to see  
isn't grumpy.  
It just means spit the following stuff  
out ( and the `'>'` sends it to a file).

Scouts 



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**How did this template come about? – Lets look at the code.**



```
51 # Make Template
52 cat<<'EOF' > template.tmp
53 \begin{frame}{What is this sign...}
54 \vspace{1cm}
55 \begin{minipage}{0.4\textwidth}
56     \vbox to \textheight{
57         \centering
58         \includegraphics[width=0.8\textwidth,height=0.5\textheight,
59             ↪ keepaspectratio]{Signs/{@LBL@}.pdf}
60         \vfill
61     }
62 \end{minipage}\hfill
63 \begin{minipage}{0.6\textwidth}
64     \vbox to \textheight{
65         \begin{enumerate}[A]
66             \item @1@
67             \item @2@
68             \item @3@
69             \item @4@
70         \end{enumerate}
71     \vfill
72     }
73 \end{minipage}
74 \end{frame}
75 EOF
```

## Breakdown of bash script (continued)...

Now we do the mail merge-esque bit, looping over the `$$SIGNS` we chose earlier. Line 77 just empties the file `include.tex`. Then in a loop (78–83), I've used `awk` to extract each caption from the tsv file. Then using `sed`, we place the sign in the template's `@LBL@` placeholder and then the real caption in a random position in the enumerated list e.g. `@1@` to form one answer of the multiple guess.

```
76 # Truncate and then create skeleton quiz file: include.tex
77 >include.tex
78 for sign in `echo "$$SIGNS" | tr ' ' '\n' |sort -R`
79 do
80   desc=`awk -F'\t' "/^$sign".eps\t/ {print $2}`
      ↪ traffic-signs-images-image-details-eps.tsv`
81   randpos=$((1 + RANDOM % 4))
82   sed -e 's/@LBL@/"$sign/" -e 's/@/$randpos@'"/$desc/" -e 's/./@/'
      ↪ template.tmp >> include.tex
83 done
```

## Breakdown of bash script (continued)...

The next slide shows how to make `main.tex`, the primary file in the creation of the slides. Here's an overview:

- line 90 Select the `Beamer` document class.
- line 91 Select my “scouts” theme
- lines 92–95 Give  $\text{\LaTeX}$  the author and other `\titlepage` info
- lines 96–103 Holds the actual content of the slides.
  - 98 The title page slide
  - 100 How we include the content from `include.tex`
  - 101,102 Trailing slides: thank you and copyright notice.

## Breakdown of bash script (continued)...

```
88 # Write the main latex file
89 cat <<'EOF' > main.tex
90 \documentclass[aspectratio=169,utf8,t]{beamer}
91 \usetheme{scouts}
92 \institute{\href{https://mansouthscouts.org.uk/our-groups/23rdManchester}{23rd-Manchester}}
93 \\ \href{https://mansouthscouts.org.uk/our-groups/23rdManchester}{(Birch~with~Fallowfield)}
94 \author{Grey Wolf}
95 \title{Do~more. Cycle~more. Be~more.}
96 \begin{document}
97 \logoslide[noheadlogo,type=stacked]
98 \frame[plain]{\titlepage}
99 \renewcommand*{\theenumii}{\Alph{enumii}}
100 \input{include.tex}
101 \section{Thankyou}
102 \frame{The images in this presentation are Crown Copyright and are licenced
      ↔ for use in this scout quiz context.}
103 \end{document}
104 EOF
```



## Compile it!

Now all that's left to do is edit `include.tex` to add the alternative answers to each slide/frame and any final tweaks. (I added two other versions of the county boundary signs and changed the NCN route from 14 to route 66.)



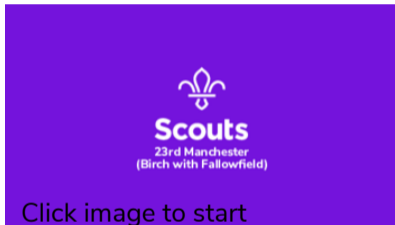
Finally compile the code with: `latexmk` and out should pop a `main.pdf`

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**How did this template come about? – Lets look at the code.**



Here's an animation<sup>†</sup> of the slideshow as it was:



You'll perhaps notice that the template I used in those slides was slightly different to this presentation.

---

<sup>†</sup> The PDF reader needs access to the media file.

Do more. Share more. Be more.

**How did this template come about? – Lets look at the code.**



For completeness here's an animation of what all that scripting stuff above now spits out:



And that's what the template it looks like at the time of writing.

With a couple of tweaks for example using the `\bgcolor` and `\twocolframe` macros the presentaion might look a bit like the one in [the appendix](#).

The scripts can be found bundled with this theme: `./Motivation/quizscript.sh` and the modified updated one `./Motivation/quizscript2.sh`.

Code more. Share more. Free software.

**Using the theme**



# Part II

## Using the theme

# About this template

## About this template

This theme is called [Grey Wolf's Scouts Beamer Theme](#). It was created as a follow up to a quickly, thrown-together, slideshow-based quiz for our local scout group's Zoom session during the pandemic of 2020.

The theme attempts to replicate the [Scout Brand Centre's](#) PowerPoint template using something called [L<sup>A</sup>T<sub>E</sub>X](#).

## Your licence to use this theme.

$\LaTeX$  is [free software](#). It is licensed under [LaTeX Project Public License](#) licence (LPPL). Many documents, [templates](#), [styles/packages](#), [classes](#) and [beamer themes](#) written for  $\LaTeX$  are released under free software licences like the LPPL or [GPL](#); much of the content is released under one or other of the [Creative Commons licences](#).

The code I have written for the [Grey Wolf's Scouts Beamer Theme](#) is hereby released under the GPLv3 licence (you are free to use any of my code provided here under the terms of that licence or any later version of the GPL at your discretion). Other components of this theme not written by me—for example, those provided by the [Scout Brand Centre](#)—or derived from other free software—for example, the OS2v3 version of the Nunito Sans font—carry their own copyright and licence terms.<sup>†</sup>

Presentations consisting of your content and compiled with this theme are yours. The licences are concerned with the subsequent distribution of this software. The Scout Association's trademarks must however only be used in accordance with The Scout Association's regulations.

What follows are a few slides describing this theme and how to use it.

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<sup>†</sup> See the theme's accompanying [LICENCE](#) and [README.md](#) files.

## The Font

This theme contains a copy of the [Nunito-Sans](#) font. I have had to make modifications to its encoding to enable it to work in  $\LaTeX$ . This means the TrueType (TTF) files referenced by the template are not the original Nunito-Sans TTF files. There are few practical differences. However, to satisfy the Licence conditions of the font I have called the resulting font NunitoSansOS2v3 to distinguish it as a derivative. Details are in the accompanying [README.md](#) file.

You can find the font and accompanying files in the `texmf/fonts/` and `texmf/tex/latex/psnfss/` directories.



## Scout Brand Images

The scout brand images were obtained from the [Scout Brand Centre](#) website under licence. The Scout brand images are registered trademarks<sup>†</sup> and their use is further governed by Scouting policy.<sup>‡</sup>

Where possible I prefer to use vector graphics. The Scout Brand Centre provides various formats for the various logos. Some have margins; some are without margins. For consistency I have converted these into PDF files with RGB colourspace and without borders/margins. I rely on the theme to place the images at their correct location with suitable margins.

The brand related files are located in `./texmf/tex/generic/images/Branding/`

---

<sup>†</sup>See the corresponding entry registered with the UK Intellectual Property Office: [UK0003310891](#)

<sup>‡</sup>See Protected Scout logos, names, badges and awards: [POR 147](#)

## The Grey Wolf's Scout Beamer Theme files

In the remainder of this theme you'll find the usual **beamertheme**: font, color, inner and outer `.sty` files such as you might expect. You'll also find some **beamerscouts** `.sty` files which contain the various macros defined for the operation of the theme.

The Scout Branding PowerPoint template does not separate well into the inner and outer components like a normal a Beamer theme. Inner and outer themes, although present, may not work as expected. As such you should not assume that it will be possible to mix with other Beamer themes.

You enable this theme by adding the following line to your Beamer document's preamble: `\usetheme{scouts}`. This loads `beamercolorthemescouts.sty`, `beamerfontthemescouts.sty`, `beamerinnerthemescouts.sty` and `beamerouterthemescouts.sty` as you might expect. It also loads in the font setup package `NunitoSansOS2v3`, and a number of locally defined packages `beamerscoutschange colours`, `beamerscoutslogo`, `beamerscoutsbgimage` and `beamerscoutstwocolframe` which hold the larger macros defined for this theme. The macros are discussed in the following slides.

# Macros

In order of likely usefullness

## `\change colours`

This macro sets up all the colours and logos for the subsequent frames/slides. As is usually the case in Beamer, for a single frame, one can enclose the command and subsequent frame in curly brackets to limit its scope.

`\change colours` takes one mandatory argument: the **ScoutColour**. A further set of optional parameters may be specified to override specific aspects of that **ScoutColour**. There is also an additional boolean option: **inverse** which serves to invert the colour scheme (e.g. purple on white instead of white on purple for **ScoutPurple**).

For each **ScoutColour** option I have tried to make the theme follow, as best I can, the colours discussed in the Scout Brand Centre's Guidelines and demonstrated in the PowerPoint template.

At the beginning of all documents this macro is run with its default values. This sets the colour scheme to **ScoutPurple** and defines the headline and footline correspondingly.

## `\change colours{ScoutColour};` theme colours

To simplify things a bit I have defined the `ScoutColours` and the parameters to the `\change colours` similarly. The tables below show the RGB values for these colours. This macro may take any of the following `ScoutColours` for the mandatory argument:

Colour name (also <code>ScoutColour</code> option)	RGB value & predominant colour	<code>ScoutColour</code> option	Predominant colour
<code>ScoutPurple</code>	0x 74 13 DC	<code>ScoutNetwork</code>	<code>ScoutPurple/ScoutBlack</code>
<code>ScoutTeal</code>	0x 00 A7 94	<code>ScoutExplorers</code>	<code>ScoutPurple/ScoutBlack</code>
<code>ScoutGreen</code>	0x 23 a9 50	<code>ScoutScouts</code>	<code>ScoutScouts</code>
<code>ScoutRed</code>	0x E2 2E 12	<code>ScoutCubs</code>	<code>ScoutGreen</code>
<code>ScoutPink</code>	0x FF B4 E5	<code>ScoutBeavers</code>	<code>ScoutBlue</code>
<code>ScoutNavy</code>	0x 00 39 82	<code>ScoutAirScouts</code>	<code>ScoutBlue</code>
<code>ScoutBlue</code>	0x 00 6D DF	<code>ScoutSeaScouts</code>	<code>ScoutNavy</code>
<code>ScoutYellow</code>	0x FF E6 27		
<code>ScoutBlack</code>	0x 00 00 00		
<code>ScoutWhite</code>	0x FF FF FF		
<code>ScoutScouts</code> <sup>†</sup>	0x 00 48 51		

<sup>†</sup> This seems to be an exception to the branding colours. Allowed, but only for the Scouts section.

Optional parameters may be specified via key–value pairs. e.g.

```
\changecolours [href=ScoutBlue] {ScoutPurple}.
```

These are described in the table below.

key	default value	notes
inverse	<b>false</b>	Swaps background and foreground colours; chooses alternative logo.
alert	ScoutPurple	Sets the colour of text inside <code>\alert{alerted text}</code>
head	ScoutBlack	... the colour of text in the headline.
foot	ScoutBlack	... the colour of text in the footline, (only affects the date on the titlepage).
text	ScoutBlack	Sets the main text colour.
logo	ScoutPurple	Selects the logo in the header: the modern fleur-de-lis logo; only purple white or black.
href	ScoutPurple	Sets the colour of href label text <code>\href{https://example.com}{label}</code> .
eg	ScoutGreen	Specifies the colour of the title in the example environment.
proof	ScoutRed	... the colour of the title in the proof environment.
bullet	ScoutPurple	Sets the colour of itemize bullets and enumerations.
titles	ScoutPurple	Specifies the colour of frame titles and section titles.
subtitles	ScoutBlack	... the colour of frame subtitles and subsection titles.
bg	ScoutWhite	Selects background colour.
sectionlogo	<b>not set</b> <sup>†</sup>	Selects the logo in the footer e.g. scouts, cubs, beavers, ...
branch	<b>not set</b> <sup>†</sup>	Specifies the text used in the scout logo e.g. Air Scouts. Use with care.
bulletshape	<code>{\raisebox{0.5ex}{\textbullet}}</code>	It's possible to change the shape of the bullets.

<sup>†</sup>The section logo or branch text is set when a ScoutColour that represents a section or branch is chosen. For example when the ScoutColour ScoutCubs or ScoutSeaScouts is chosen.

## \logoslide

The `\logoslide[]` macro produces a frame/slide with the scout logo. For contrast it will be rendered in inverse colours to the current `ScoutColour`. The macro itself can take the following optional arguments in the form of a set of key–value pairs:

Key	Values	Default	Notes
<code>type</code>	<code>fleur-de-lis, stacked, all</code>	<code>all</code>	This option selects the logo to use. The option <code>all</code> is the busiest with a fleur-de-lis, over the text <code>Scouts</code> over some other text.
<code>noheadlogo</code>	<code>boolean</code>	<code>false</code>	If true, temporarily removes the logo from the headline.
<code>noheadtext</code>	<code>boolean</code>	<code>false</code>	If true, temporarily removes all title text from the headline.
<code>text</code>	<code>any text</code>	<code>empty string</code>	If specified will cause this text to be present in the <code>all</code> version of the logo.

If the `text` option is null, or not set, and the `type` is set to `all` then this macro uses `text` set via the `\institute` macro in the preamble and is rendered through Beamer thus: `\insertshortinstitute[width={\textwidth},center,respectlinebreaks]`. If that is not set either then the stacked logo will be displayed.

## `\twocolframe`

This is perhaps the weakest macro in the entire theme. It creates a frame with two columns using the Beamer `columns` macros. The reason it exists is largely to work with the macro `\bgimage`, placing text nicely across from or over a half filled background. It expects two mandatory arguments—one for each column—though each may contain nothing. While writing these slides, however, I noticed I needed to do something to make frametitles work and margins with variable sized `bgimages`. Thus, we have the following optional key–value pair options:

Key	Values	Default	Notes
<code>leftcol</code>	<code>length</code>	5cm	This is the size of the left column.
<code>rightcol</code>	<code>false</code>	5cm	This is the size of the right column.
<code>title</code>	<code>whatever</code>	<code>empty string</code>	If specified, places the text as the frame title.
<code>titleright</code>	<code>whatever</code>	<code>empty string</code>	If specified and title is not, this option places this as part of the frame title in a parbox above the righthand column.
<code>titleleft</code>	<code>whatever</code>	<code>empty string</code>	If specified and title is not, this option places this as part of the frame title in a parbox above the lefthand column.

This macro essentially creates three columns using Beamer’s `column(s)` environment ignoring the current value of `\textwidth`. The central column has no content and so only effects a separation between the other two columns.



## \bgimage

In the Scout Brand Centre's PowerPoint template various slides are presented with a shipout background image. This theme provides the macro `\bgimage[]{}` as a convenient way to achieve the same effect. The mandatory option is the path to the graphic to be shipped out in the background. The optional key-values are as follows:

Key	Values	Default	Notes
gravity	N, NE, E, SE, S, SW, W, NW, C	C	If the image can be placed in such a way that it might move about, this option allows some control over its position. e.g. C aligns the image with a central point; NW will align the bottom and right sides of the image with the chosen viewport.
position	f, l, r	f	f:full slide; r and l split the slide into left and right placing the image.
transparency	0–1	0.0	This fades the image to the background colour in effect at the time. 0: no fade; 0.5: places the image at 50% opacity over the background, 1: the image will effectively be invisible.
ignoreaspectratio	boolean	false	If true will stretch/squash the image to fit the selected viewport. Requires fit=all.
fit	all, width, height		If specified, the image will be scaled sufficiently to snugly fit the image 'height', 'width' or whole: 'all' into the viewport. Otherwise the image will be scaled to completely cover the view port and will be clipped if it doesn't fit precisely.
onlytextwidth	boolean	false	Limit image viewport horizontally to <code>\textwidth</code> .
onlytextheight	boolean	false	Limit image viewport vertically to slide text area; <code>onlybodyheight</code> will also avoid frametitles.
margin	length	0 pt	Image margin; also: <code>marginleft</code> , <code>marginright</code> , <code>margin</code> top, <code>margin</code> bottom.
alwaysshow	boolean	false	In non-beamer modes (e.g. handout) transparency is set to 0.8. Set this to override.

## \headervisibility

This macro controls what is currently visible in the headline. Running with out options will reset all options to their defaults.

Key to enable	Ket to disable	Default	Notes
showheadtext	hideheadtext	show	Show/hide headline text.
showheadlogo	hideheadlogo	show	Show/hide logo in headline.
showtitle	hidetitle	show	Show/hide title in headline text.
showparts	hideparts	show	Show/hide part name in headline text.
showpartnum	hidepartnum	show	Show/hide part number in headline text.
showsections	hidesections	show	Show/hide section in headline text. It will show the current section in preference to the part unless combined is enabled.
combined	separate	separate	Show/hide part and section together in headline text. <sup>†</sup>

<sup>†</sup>If enabled this can make the headline a little busy.

## `\togglecolours`

This macro is used internally by the `\titlepage` `\section` `\subsection` `\part` and `\logoslide` macros. It toggles the inverse option for the current `ScoutColour` and then executes `\change colours`. This allows the slides created with these page macros to adopt the inverse colour scheme providing contrast to the current flow of the presentation.

I dare say you could use this macro too if you so wished. It does **not** take into account any optional overrides to `\change colours` that may be in effect at the time. If you need to take these choices into account your best bet is just to keep track of those options and make an appropriate call to `\change colours` yourself.

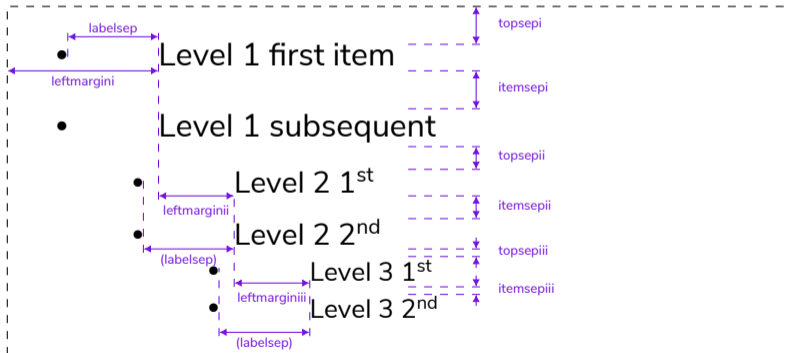
## \itemseps

In the process of trying to bend Beamer to my will and copy Scout Brand Centre slides as accurately as I could, I found I needed to change the spaces in itemised lists. I created the `\itemseps` macro to help me to do this.

If executed without options it will reset all the lengths to their default; with options it will change specified lengths. These options/lengths are described below and illustrated on the next slide.

option	Default	orientation	Notes
<code>topsepi</code>	1 em	vertical	Distance between previous line and the 1 <sup>st</sup> item at level 1
<code>topsepII</code>	0.75 em	vertical	Distance between previous line and the 1 <sup>st</sup> item at level 2
<code>topsepIII</code>	0.5 em	vertical	Distance between previous line and the 1 <sup>st</sup> item at level 3
<code>itemsepi</code>	0.6 em	vertical	Distance between items at the 3 <sup>rd</sup> level
<code>itemsepII</code>	0.6 em	vertical	Distance between items at the 3 <sup>rd</sup> level
<code>itemsepIII</code>	0.6 em	vertical	Distance between items at the 3 <sup>rd</sup> level
<code>labelsep</code>	2 mm	horizontal (backwards)	The distance back to the item label from the current indent.
<code>leftmarginI</code>	4 mm	horizontal	The distance from the margin to the 1 <sup>st</sup> level indent.
<code>leftmarginII</code>	4 mm	horizontal	The distance from the 1 <sup>st</sup> to the 2 <sup>nd</sup>
<code>leftmarginIII</code>	4 mm	horizontal	The distance from the 2 <sup>nd</sup> to the 3 <sup>rd</sup>

## `\itemseps` in pictures.



## Part III

Recreating the Scout Branding Centre's PPT/POT template using this Beamer theme.

Do more. Share more. Be more.



# Scouts

Do more. Share more. Be more.



# Scouts

**23rd Manchester  
(Birch with Fallowfield)**



Do more. Share more. Be more.



Do more. Share more. Be more.

Scouts 



Do more.  
Share more.  
Be more.

A presentation by

**Grey Wolf @ 23rd Manchester (Birch with Fallowfield)**



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Be more.

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Grey Wolf @ 23rd Manchester (Birch with Fallowfield)

2021-02-16

Scouts 

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Be more.

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Grey Wolf @ 23rd Manchester (Birch with Fallowfield)

2021-02-16

Scouts



Do more. Share more. Be more.

**Divider With \* eg (\section)**



# **Divider With \* eg (\section)**

Subhead goes here (\subsection)

# Divider Example again (\section)

Subhead goes here (\subsection)

# **Divider Example again (\section)**

Subhead goes here (\subsection)



# **Divider Example again (\section)**

Subhead goes here (\subsection)

Do more. Share more. Be more.  
**Divider Example again (1section)**



Be part of something amazing.  
Put your skills to use and learn new  
ones. Give young people the skills  
they need to succeed in life and  
discover how being a part of the  
Scouting family can be as rewarding  
for you as it is for them.

**#SkillsForLife**  
[scouts.org.uk/join](https://scouts.org.uk/join)



Do more. Share more. Be more.  
**Divider Example again (1section)**

Scouts 



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## Skills For Life

Scouting gives young people the skills to succeed. These include:

- Character skills like resilience, initiative, independence and tenacity
- Employability skills like leadership, teamwork, and problem solving
- Practical skills like coding, cooking and First Aid.







Be part of something amazing. Put your skills to use and learn new ones. Give young people the skills they need to succeed in life and discover how being a part of the Scouting family can be as rewarding for you as it is for them.

**#SkillsForLife**  
[scouts.org.uk/join](https://scouts.org.uk/join)



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As Scouts, we believe in preparing young people with skills for life.

That's why we encourage our young people to do more, learn more and be more.

Each week, we help over 460,000 young people enjoy fun and adventure while developing the skills they need to succeed in life. We're talking teamwork, leadership and resilience: the skills that make all the difference.

**#SkillsForLife**  
**[scouts.org.uk](https://scouts.org.uk)**

## Welcome

We're so proud to share our brand with you. This guide will help you understand who we are, what we do and how we present ourselves to the world. Please use our brand with pride and treat it with respect. When we have a strong, unified and consistent brand, making our benefits clear we will attract more support for Scouting.

## Skills For Life

Scouting gives young people the skills to succeed. These include:

- Character skills like resillience, initiative, independence and tenacity
- Employability skills like leadership, teamwork, and problem solving
- Practical skills like coding, cookind and First Aid.

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That's why we encourage our young people to do more, learn more and be more. Each week, we help over 460,000 young people enjoy fun and adventure while developing the skills they need to succeed. We're talking about teamwork, leadership and resilience: the skills that make all the difference.

These skills have helped Scouts become astronauts and Olympians, but teachers and social workers too.

We believe in bringing people together and helping them feel part of something bigger. We celebrate difference and stand against intolerance, always. We're a worldwide force for good, creating stronger communities and inspiring positive futures.

[#SkillsForLife](#)

**Lorem ipsum dolor sit amet, consectetur adipiscing elit. Pellentesque vestibulum eu nibh eget pellentesque.**

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Pellentesque vestibulum eu nibh eget pellentesque. Donec egestas risus eget mauris ultricies scelerisque. Donec massa felis, faucibus congue varius sit amet, varius eget mi. Donec commodo tortor quis metus congue, eget lacinia eros pharetra. Ut feugiat rhoncus tincidunt. Morbi et ullamcorper nisl. Donec commodo tortor quis metus congue, eget lacinia eros pharetra. Ut feugiat rhoncus tincidunt. Morbi et ullamcorper nisl.

Donec massa felis, faucibus congue varius sit amet, varius eget mi. Donec commodo tortor quis metus congue, eget lacinia eros pharetra. Ut feugiat rhoncus tincidunt. Morbi et ullamcorper nisl. Aenean bibendum tempus congue. Vivamus suscipit tincidunt lorem gravida tempor. Curabitur ultricies consectetur fermentum. Maecenas fringilla ac nulla id maximus. Suspendisse dictum lectus et gravida interdum. Praesent facilisis tortor a leo ornare, eu vulputate massa.



**Dwayne Fields**  
Scout Ambassador

Dwayne is a polar explorer and speaker. He is the first black Briton to reach the North Pole, and only the second black man in the world to achieve this feat. Born in Jamaica, he grew up in Hackney, London.



**Helen Glover**  
Scout Ambassador

Helen is a two-time Olympic champion and triple World Champion, winning British women's rowing's first ever gold medal at London 2012.



**Tim Peake**  
Scout Ambassador

ESA Astronaut Major Tim Peake is also a former Cub Scout and an advocate of the power of Scouting to help young people develop skills for life.



**Bear Grylls**  
Chief Scout

Bear was appointed in 2009 as the youngest ever Chief Scout of the United Kingdom. He has inspired hundreds of thousands of young people with his positivity, passion for adventure, courage and leadership.

**Thank you**



# Part IV

## Testing the colours

Do more. Share more. RGB more.  
**ScoutScouts**



**ScoutScouts**

**SCOUTS**

Do more. Share more. RGB more.  
**ScoutScouts**



# **ScoutScouts**

ScoutScouts Subsection

**SCOUTS**

## ScoutScouts Content I

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## ScoutScouts Content II

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## Itemize

### Example

- First Level 1
  - Second Level 1
  - Second Level 2
- First Level 3
- First Level 4

## Enumerate

- ① 1
- ② this is two
- ③ three

Do more. Share more. RGB more.  
**ScoutCubs**



**ScoutCubs**

**cubs**



Do more. Share more. RGB more.  
**ScoutCubs**



# **ScoutCubs**

ScoutCubs Subsection

**cubs**

## ScoutCubs Content I

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## ScoutCubs Content II

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## Itemize

### Example

- First Level 1
  - Second Level 1
  - Second Level 2
- First Level 3
- First Level 4

## Enumerate

- ① 1
- ② this is two
- ③ three

Do more. Share more. RGB more.  
**ScoutBeavers**



**ScoutBeavers**

**BEAVERS**

Do more. Share more. RGB more.  
**ScoutBeavers**



# ScoutBeavers

ScoutBeavers Subsection



## ScoutBeavers Content I

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## ScoutBeavers Content II

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## Itemize

### Example

- First Level 1
  - Second Level 1
  - Second Level 2
- First Level 3
- First Level 4

## Enumerate

- ① 1
- ② this is two
- ③ three

Do more. Share more. RGB more.  
**ScoutExplorers**



# ScoutExplorers

EXPLORERS

Do more. Share more. RGB more.  
**ScoutExplorers**



# **ScoutExplorers**

ScoutExplorers Subsection

EXPLORERS

## ScoutExplorers Content I

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## ScoutExplorers Content II

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## Itemize

### Example

- First Level 1
  - Second Level 1
  - Second Level 2
- First Level 3
- First Level 4



## Enumerate

- ① 1
- ② this is two
- ③ three

Do more. Share more. RGB more.  
**ScoutNetwork**



**ScoutNetwork**

**network**

Do more. Share more. RGB more.  
**ScoutNetwork**



# **ScoutNetwork**

ScoutNetwork Subsection

**network**

## ScoutNetwork Content I

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## ScoutNetwork Content II

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## Itemize

### Example

- First Level 1
  - Second Level 1
  - Second Level 2
- First Level 3
- First Level 4

## Enumerate

- ① 1
- ② this is two
- ③ three

Do more. Share more. RGB more.  
**ScoutSeaScouts**



**ScoutSeaScouts**



Do more. Share more. RGB more.  
**ScoutSeaScouts**



# **ScoutSeaScouts**

ScoutSeaScouts Subsection

## **ScoutSeaScouts Content I**

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## **ScoutSeaScouts Content II**

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## Itemize

### Example

- First Level 1
  - Second Level 1
  - Second Level 2
- First Level 3
- First Level 4

## Enumerate

- ① 1
- ② this is two
- ③ three

Do more. Share more. RGB more.  
**ScoutAirScouts**



**ScoutAirScouts**

Do more. Share more. RGB more.  
**ScoutAirScouts**



# ScoutAirScouts

ScoutAirScouts Subsection

## **ScoutAirScouts Content I**

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## ScoutAirScouts Content II

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## Itemize

### Example

- ⦿ First Level 1
  - ⦿ Second Level 1
  - ⦿ Second Level 2
- ⦿ First Level 3
- ⦿ First Level 4

## Enumerate

- 1
- this is two
- three

## Part V

Recreating the Beamer example Euclid's  
Presentation in this theme

Do more. Share more. BC more.

**What Are Prime Numbers?**



# What Are Prime Numbers?

## What Are Prime Numbers?

### Definition

A **prime number** is a number that has exactly two divisors.

## Example

- 2 is prime (two divisors: 1 and 2).

## Example

- 2 is prime (two divisors: 1 and 2).
- 3 is prime (two divisors: 1 and 3).



## Example

- 2 is prime (two divisors: 1 and 2).
- 3 is prime (two divisors: 1 and 3).
- 4 is not prime (**three** divisors: 1, 2, and 4).

## **There Is No Largest Prime Number**

Theorem

*There is no largest prime number.*

Proof.

Ⓐ Suppose  $p$  were the largest prime no.

Ⓓ But  $q + 1 > 1$ , thus divisible by some prime number not in the first  $p$  nos. □

Proof.

- A Suppose  $p$  were the largest prime no.
- B Let  $q$  be the product of the first  $p$  nos.
  
- D But  $q + 1 > 1$ , thus divisible by some prime number not in the first  $p$  nos. □

Proof.

- A Suppose  $p$  were the largest prime no.
- B Let  $q$  be the product of the first  $p$  nos.
- C Then  $q + 1$  is not divisible by any of them.
- D But  $q + 1 > 1$ , thus divisible by some prime number not in the first  $p$  nos. □

Proof.

- A Suppose  $p$  were the largest prime no.
- B Let  $q$  be the product of the first  $p$  nos.
- C Then  $q + 1$  is not divisible by any of them.
- D But  $q + 1 > 1$ , thus divisible by some prime number not in the first  $p$  nos. □

The proof used *reductio ad absurdum*.

Do more. Share more. BC more.  
**What's Still To Do?**



# What's Still To Do?

Do more. Share more. BC more.

**What's Still To Do?**



# What's Still To Do?

Extra text here



## What's Still To Do?

Answered Questions

How many primes are there?

Open Questions

Is every even number the sum of two primes?

## What's Still To Do?

### Answered Questions

How many primes are there?

### Open Questions

Is every even number the sum of two primes? [1]

## An Algorithm For Finding Prime Numbers.

```
int main (void)
{
std::vector<bool> is_prime (100, true);
for (int i = 2; i < 100; i++)
if (is_prime[i])
{
std::cout << i << " ";
for (int j = i; j < 100; is_prime [j] = false, j+=i);
}
return 0;
}
```

## An Algorithm For Finding Prime Numbers.

```
int main (void)
{
std::vector<bool> is_prime (100, true);
for (int i = 2; i < 100; i++)
if (is_prime[i])
{
std::cout << i << " ";
for (int j = i; j < 100; is_prime [j] = false, j+=i);
}
return 0;
}
```

Note the use of `std::`.

## Further Reading



[Goldbach, 1742] Christian Goldbach.

A problem we should try to solve before the ISPN  
'43 deadline,

*Letter to Leonhard Euler, 1742.*

# Part VI

## Appendix

# Part VII

## Highway Code Example

Do more. Cycle more. Be more.



**Scouts**



Do more.  
Cycle more.  
Be more.

A presentation by

**Grey Wolf @ 23rd Manchester (Birch with Fallowfield)**



## What is this sign...



- A** Rope bridge challenge activity ahead
- B** Disco dancers ahead
- C** Zebra crossing ahead
- D** Please remember to step from the moving walkway

## What is this sign...



- A** Knees bend, arms stretch ra, ra, ra.
- B** Entrance/exit to a car park, private road...
- C** Do the Hokie Cokie
- D** Caution referendums

## What is this sign...



- A Cyclists must carry hula-hoops
- B Only pedal cycles allowed
- C Riding of pedal cycles prohibited
- D Fallowfield loop ahead

## What is this sign...



- A The other way
- B This way
- C One-way traffic in direction indicated (sign for pedestrians)
- D That way

## What is this sign...

HEREFORDSHIRE

HERTFORDSHIRE

HAMPSHIRE

- A Places beginning with H ahead
- B Warning, Musicals
- C County boundary signs
- D Hurricaneshires

## What is this sign...



- A** Pardon Me!
- B** S.P.A.G.
- C** Skittles or bowling
- D** Other danger ahead. Plate beneath indicates the nature of the hazard

## What is this sign...



- A Bike cupboards on your left
- B You must leave your bike here and carry on on-foot
- C Bike pole vaulting contest here
- D Route comprising a separated track and path for cycles and pedestrians

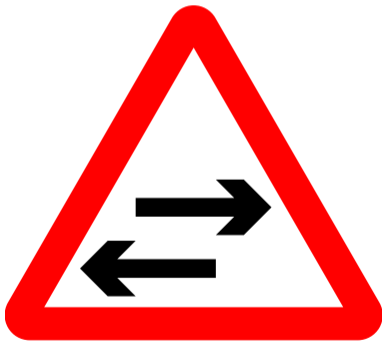


## What is this sign...



- A Buses are heavier than trams
- B Vehicle piggy-back zone
- C Trams are lighter than buses
- D Route for use by buses and tramcars only

## What is this sign...



- A** It wasn't me
- B** Tweedledum
- C** Two-way traffic on route crossing ahead
- D** Tweedledee

## What is this sign...



- A Helicopters ahead
- B Hospital ahead with accident and emergency facilities
- C Warning big letter 'H' ahead
- D Hospital with accident and emergency dept

## What is this sign...



- A Triangles ahead
- B Look, your left shoelace is undone
- C Caution elephant poo
- D Road works or temporary obstruction of the carriageway ahead

## What is this sign...



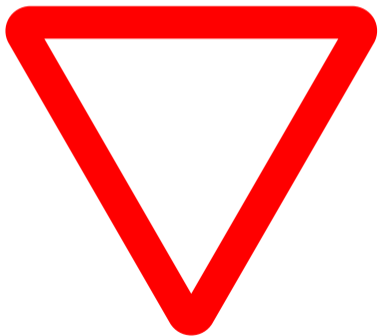
- A Welcome to Lancashire
- B Garden centre
- C Mmmm, Cadbury's roses
- D Tourist symbol for England only:  
Tourist attraction recognised by a  
regional tourist board or the  
English Tourist Board

## What is this sign...



- A Road limited to 66 bicycles at a time
- B Follow these signs to get to Los Angeles
- C Rock'n'roll music reference ahead
- D A national cycle network route that follows the Rochdale canal to Leeds and beyond

## What is this sign...



- A** Junction ahead controlled by a STOP or GIVE WAY sign
- B** Sign thieves operate here
- C** Um, something might be upside down (again)
- D** White cats in snow

## What is this sign...



- A Always park on the wobbly lines
- B Watch out for large jelly-fish
- C Dip your headlights
- D Quayside or river bank ahead



## What is this sign...



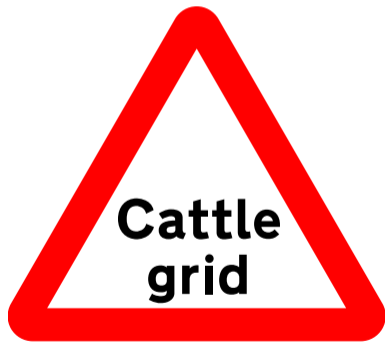
- A Minimum speed 20 mph
- B 20 points if you hit this sign
- C Happy birthday to you
- D Maximum speed limit of 20 miles per hour

## What is this sign...



- A** Junction ahead leading to a parking place for pedal cycles
- B** Bicycles being chased by large letter P's must go upwards here.
- C** Picycles over there
- D** Toilet but only for cyclists

## What is this sign...



- A** Cat-at-at-at-tt-le-le gri-d-d-d-d ahead, too late!
- B** No barbeques here
- C** Caution ankle twisters
- D** Cattle grid ahead

## What is this sign...



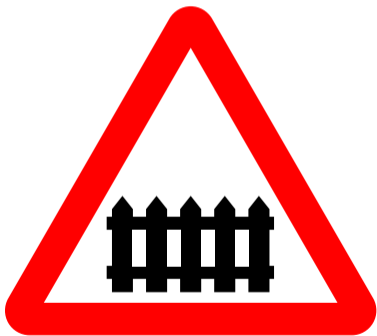
- A** Duck! Beaver paper aeroplane testing zone
- B** Foul! Hand-ball
- C** Frogs?
- D** Wild fowl likely to be in road ahead

## What is this sign...



- A Bend ahead to the right
- B Bow to the scout leader on the right
- C We open at ten past six
- D Low flying boomerangs

## What is this sign...



- A** Level crossing with gate or barrier ahead
- B** Window cleaner has fallen over
- C** Caution, escaped zoo animals
- D** Caution fencing ahead

## What is this sign...



- A Divining rods at the ready
- B Tune your engine
- C Caution the letter 'Y' has fallen over
- D Dual carriageway ends ahead

## What is this sign...



- A** The bridge is down quick go right, go right I tell you!
- B** Procrastination
- C** Start of temporary diversion route to the right
- D** Look a squirrel



## What is this sign...



- A** It will be raining bikes later
- B** Hold hands with your adult while they think about bikes
- C** Route for use by pedal cycles and pedestrians only
- D** Gosh isn't that bike big?

## What is this sign...



- A** A can I press it button A toucan crossing button
- B** Near side light signals and instructions for pedestrians and cyclists at a Toucan crossing
- C** A red herring crossing button
- D** A zebra crossing beacon

## What is this sign...



- A** Only bicycles with triangular wheels allowed
- B** Cycle route ahead warning
- C** Cyclists must wear a wizards hat at all times
- D** Cyclists must carry a hazard warning triangle

Do more. Cycle more. Be more.  
**That's all folks!**



**That's all folks!**

Do more. Cycle more. Be more.  
**That's all folks!**



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