

A close-up, shallow depth-of-field photograph of several camera lenses and filters. The central lens is in sharp focus, showing its internal elements and the mounting ring. To its left is a pink-tinted filter. To its right is another lens with a copper-colored ring. In the background, other lenses are visible but blurred. The overall lighting is warm, with a purple and pink gradient at the bottom.

Filters and Add-On Lenses

How/why Do Photographers Use Filters for Photography?



Photographers use a variety of filters attached to the front of their lenses to achieve specific effects.

Learning how to use these filters effectively can significantly elevate the quality of your photos.

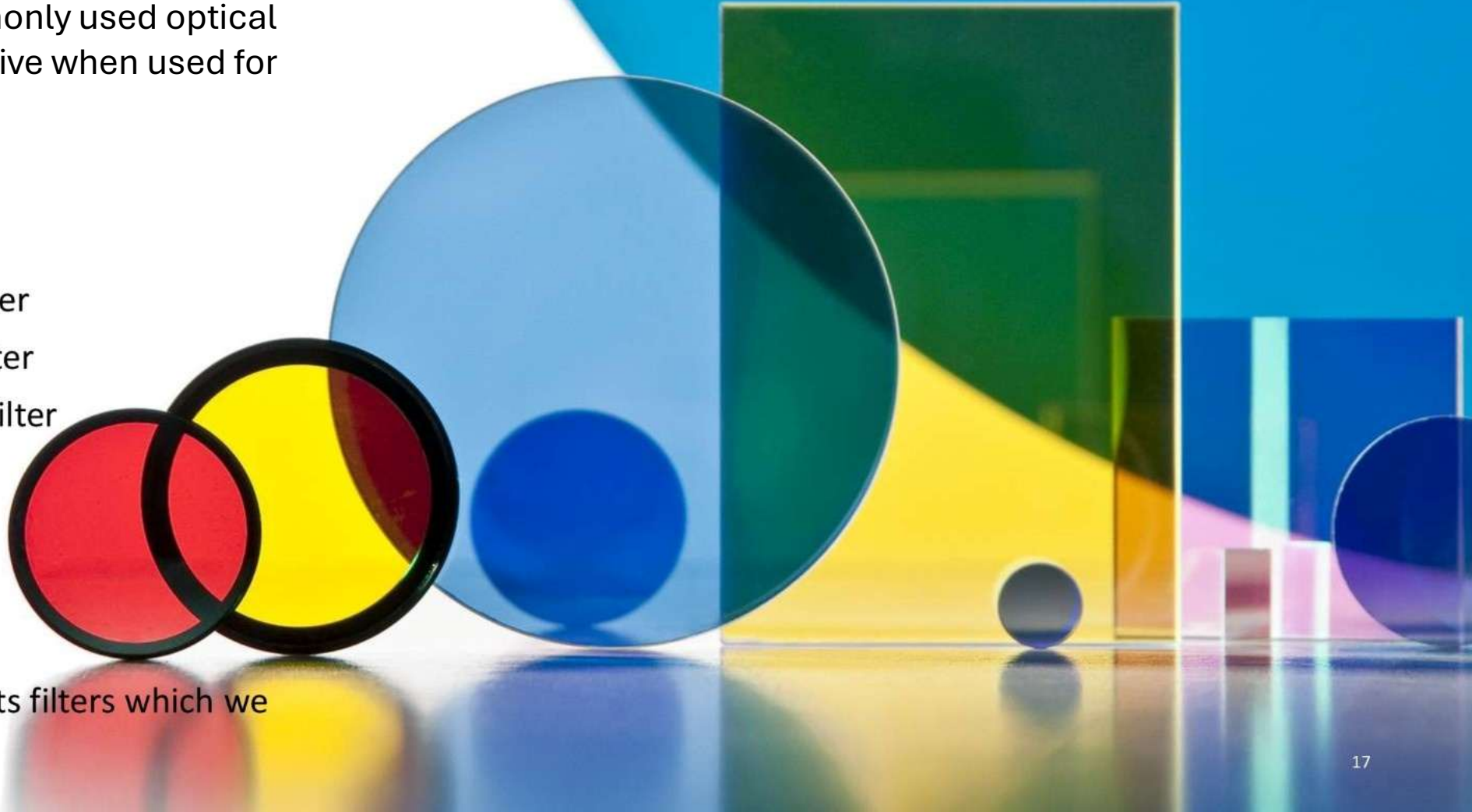
The Core Four Filters Revisited

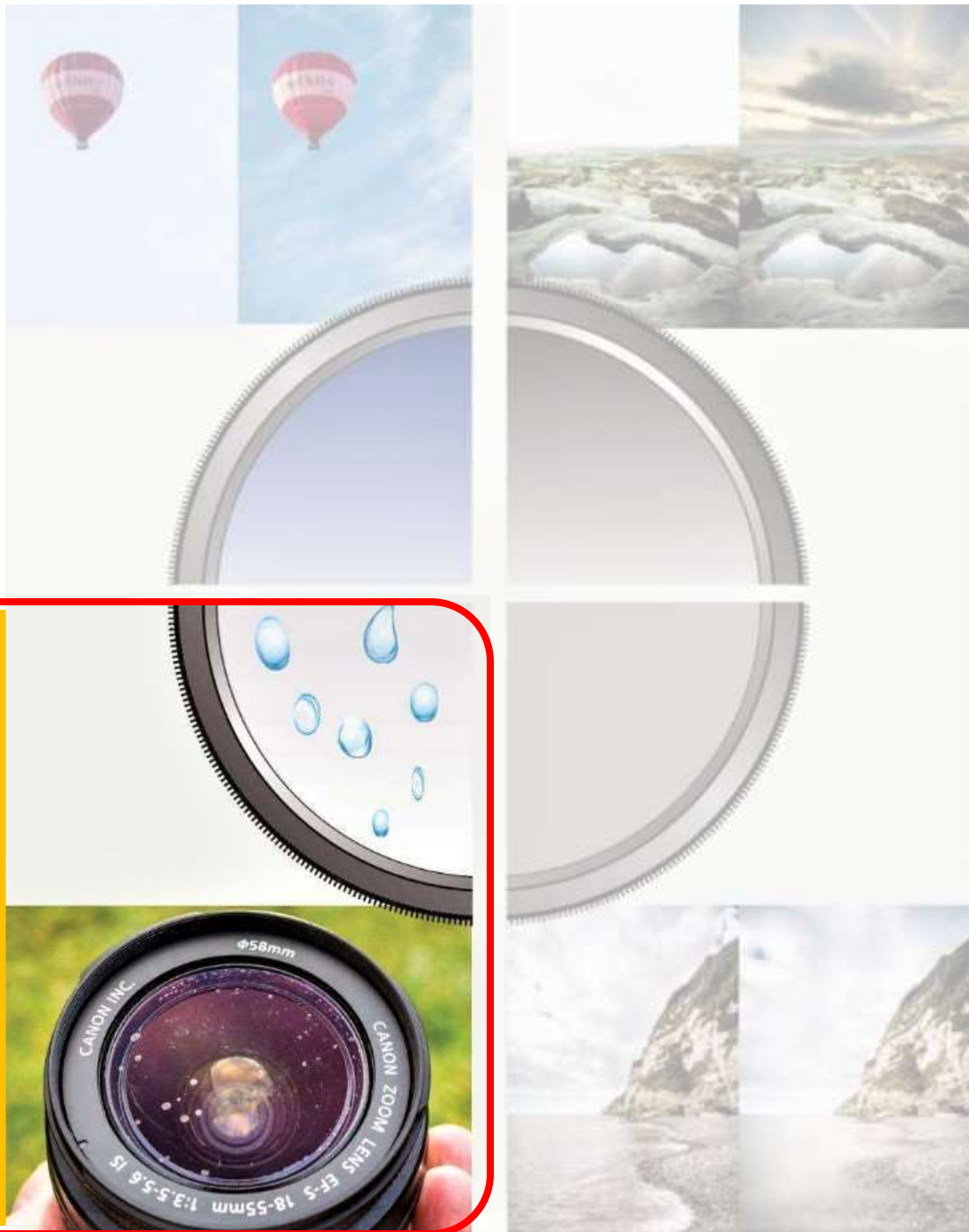
These are the most commonly used optical filters and are more effective when used for Landscape photography.

These filters are:

- UV - Ultra Violet Filter
- ND - Neutral Density Filter
- GND - Graduated ND Filter
- CPL - Circular Polariser Filter

There are also special effects filters which we can discuss later.





Ultra Violet - Protective Filter

The UV Filter does very little to your images.

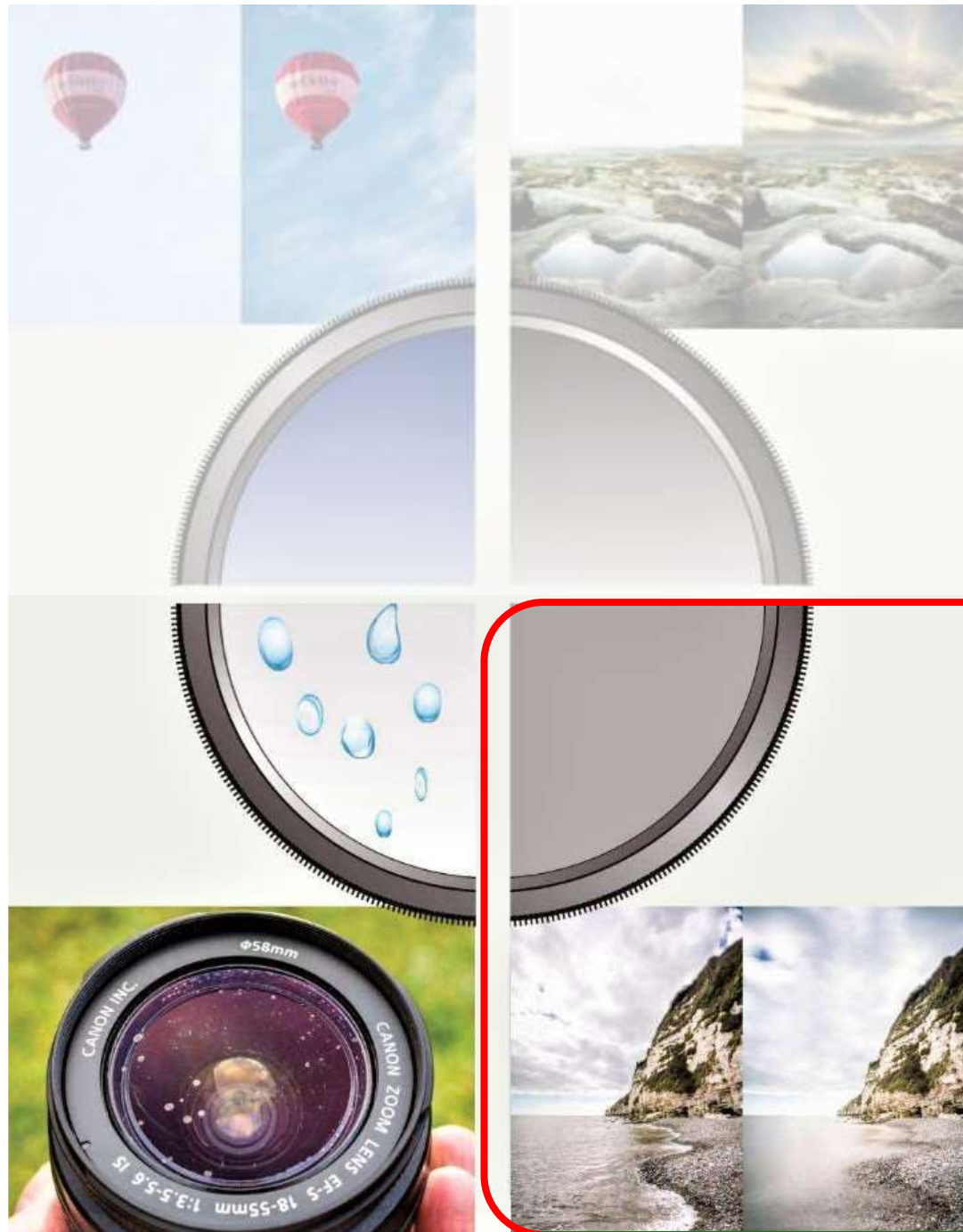
Sometimes called a Skylight Filter, this piece of glass is completely clear and only blocks ultraviolet light, which we can't see anyway.

Mainly used to protect the cameras front lens.

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Standard Neutral Density

They are simply dark pieces of glass that you place on the front of your lens, reducing the amount of light reaching the sensor, increasing the shutter speed required to capture the image.

Good for extra long shutter speed effects.



Graduated Neutral Density

They do a different job to the ND Filters.

Rather than reducing the overall amount of light reaching the camera's sensor.

GNDs only darken a portion of the scene, which is generally the sky, compensating for the difference in brightness between sky and land.



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Circular Polarising Lens

Probably the most popular filter. This filters out polarised light from the sun, it has a very noticeable effect on image:

- Deepens blue skies and enhances saturation.
- Cuts through atmospheric haze to increase clarity.
- Reduces or eliminates glare on the surface of water.



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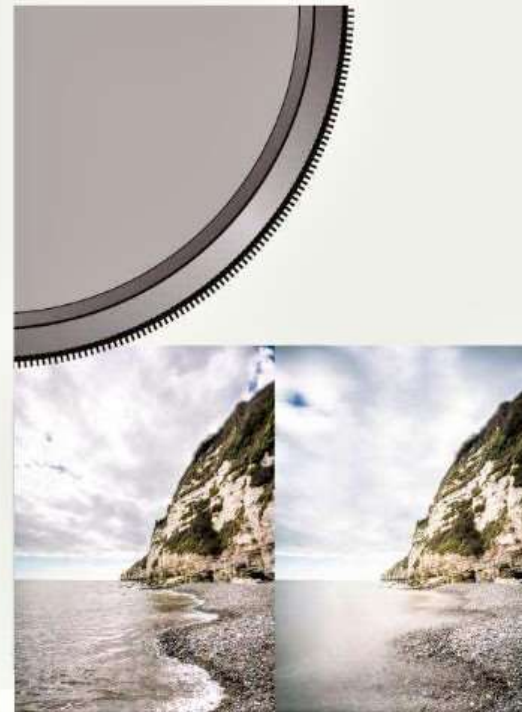
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Camera In-Built Filters (Digital Effects)

- What They Are
 - Many cameras (and smartphones) include digital filter modes or picture styles.
 - These simulate effects like sepia, monochrome, vivid colour, miniature tilt-shift, toy camera, or soft focus.
 - Unlike physical filters, they're applied in-camera processing rather than altering the light before it hits the sensor.

Pros

- Instant preview of the effect.
- No extra gear needed.
- Fun for experimentation and quick creative results.

Cons

- Effects are “baked in” to JPEGs — less flexible than RAW editing.
- Limited compared to the precision of physical filters.
- Can feel gimmicky if overused.



Screw On Filters

- Colour
- Graduated Colour
- Concept

Colour Filters

Shaping Mood & Contrast

- **Red/Green/Blue filters** – alter tonal contrast in B&W
- **Warming/Cooling filters** – shift colour temperature, adjust mood
- **Sepia/Tinted filters** – stylised, retro or artistic effects





The Role of Colour Filters

Colour filters are primarily used to enhance specific colours in black-and-white photography, although they may be used to add a colour tint to any image.

Red/Green/Blue filters

alter tonal contrast in B&W



No Filter



Red Filter

The first colour photograph (1861, by James Clerk Maxwell) used red, green, and blue filters — the same principle that later shaped B&W filter use.

Warming filters

Warming filters can help make up for the lack of colour in midday light and tries to add some reddish-orange colour to the scene.

◆ Warming Filters

- **What they do:** Add a subtle amber/orange cast.
- **Effect:** Makes skin tones look healthier, sunsets richer, and landscapes feel more inviting.
- **Use case:** Shooting in shade or overcast light, where things can look a bit “cold” or blue.



Without



With

Warming

Cooling filters

Cooling filters do just the opposite of the warming filter. They add blue to the scene to reduce the reddish-orange color.

- ◆ **Cooling Filters**

- **What they do:** Add a subtle blue cast.
- **Effect:** Neutralises overly warm light (e.g. tungsten indoors), creates a cooler, crisper mood.
- **Use case:** Balancing colour indoors, or giving landscapes a “fresh” feel.



- **Sepia/Tinted filters**
stylised, retro or artistic effects

Interesting Fact

Sepia's origins:

The name comes from the *sepia cuttlefish* — its ink was literally used to tone early photographs.



Graduated Colour Filters

Graduated RED Filter

Darkens the sky and makes black and white photo more dramatic



Graduated BLUE Filter

Boosts the blue sky colour while retaining the colour of the ground



Graduated ORANGE Filter

Helps capture stunning photos of sunrise and sunset



This is what's possible using Colour Filters in Photoshop. It just takes a lot more time.

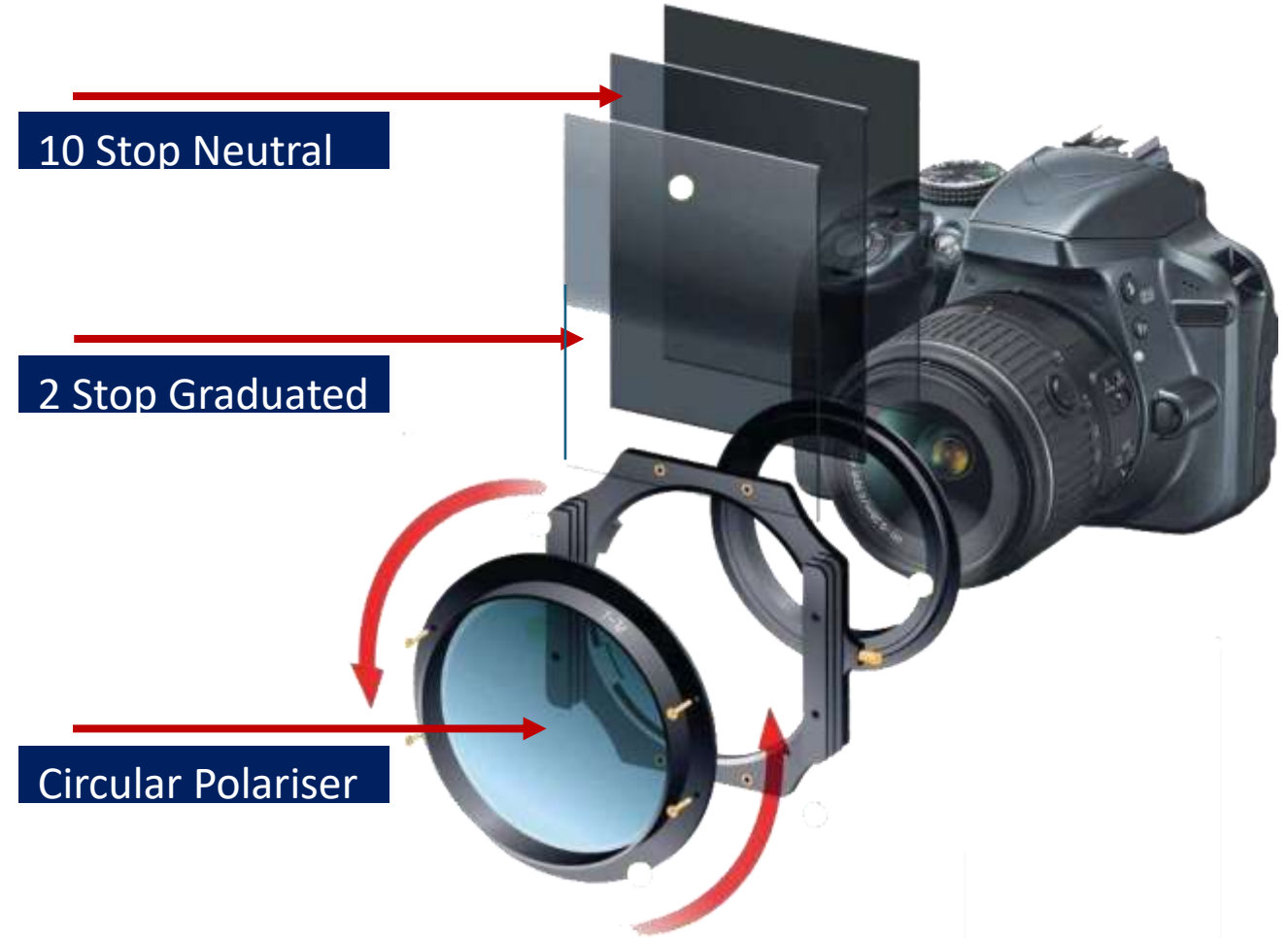


Can You Use Multiple Filters at the Same Time?

- Yes, you can use multiple filters simultaneously, but it's not always advisable.
- Stacking filters can lead to issues like vignetting or colour cast.
- However, in some situations, using more than one filter can help achieve a specific effect that one filter alone cannot provide.



You may remember from the first talk about filters that the final result of this image was achieved by using multiple filters, and all in-camera, not post-processed.



To be ready for any situation where an ND filter or Polariser may be needed, why not just attach an “ND 1000” variable filter, topped by a “Polariser” filter, to give you the best of both worlds.



Or you can buy specially combined filters which work well together. In this case it is an ND2-32 variable and a Polariser filter, both of which will affect the light in different ways.



One Filter, Two Functions

Eliminates reflections and adjusts the amount of light entering



SPECIAL

EFFECTS

FILTERS

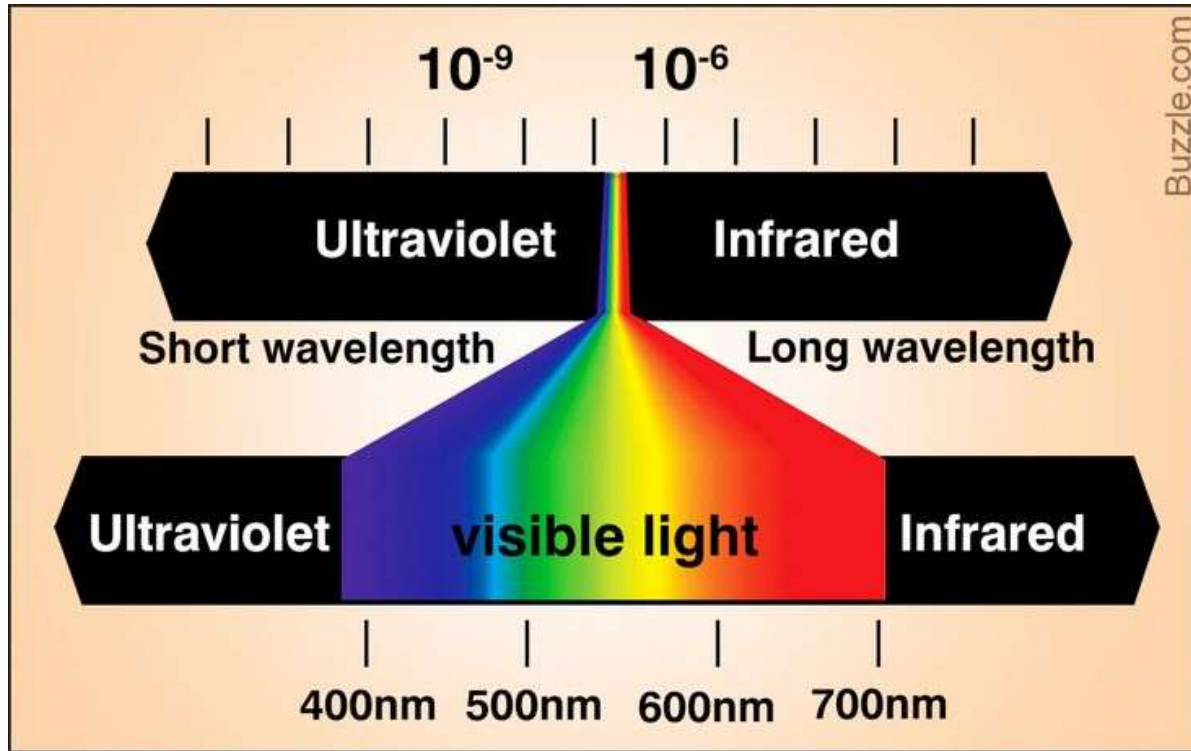
For Digital Photography





Infrared Filters

Infra Red Filters



Put simply, it's the art of capturing light and colour beyond what the human eye can see.

Our eyes can see a range of colours occupying light wavelengths between about 380 and 750 nanometres (nm). Colours at the low end of that range appear to us as violet, while those at the high-end appear to be a deep red.

As such, rays below that spectrum are referred to as "**ultraviolet**", while those that sit above it are called, "**infrared**". Infrared or IR photography therefore lets us capture details that aren't visible to the naked eye.

The technique is mainly used for surreal landscapes, allowing the photographer to produce bright white foliage and turn clear blue skies jet-black.

IR photography can be done in colour or monochrome – all you need is an infrared filter to block out all the visible light and allow the camera's sensor to capture the infrared spectrum.



Close-up Filters



Although not strictly filters, close-up lenses come into the filter range.

Suitable for close-up shooting and creates macro effects, such as the details of flowers, insects, jewellery, water drops, garage kit and words, etc.

Starlight Filters

Starlights include 4 Point, 6 Point, and 8 Point Cross Star Special Effects Filters.

These star filters turn lights into bright stars, and create beautiful, twinkling effects.

Great for night, landscape, and portraits photography.



Linear Mirage Pentaprism Filter

Nano-B Series

Unearth the Extraordinary
in the Ordinary

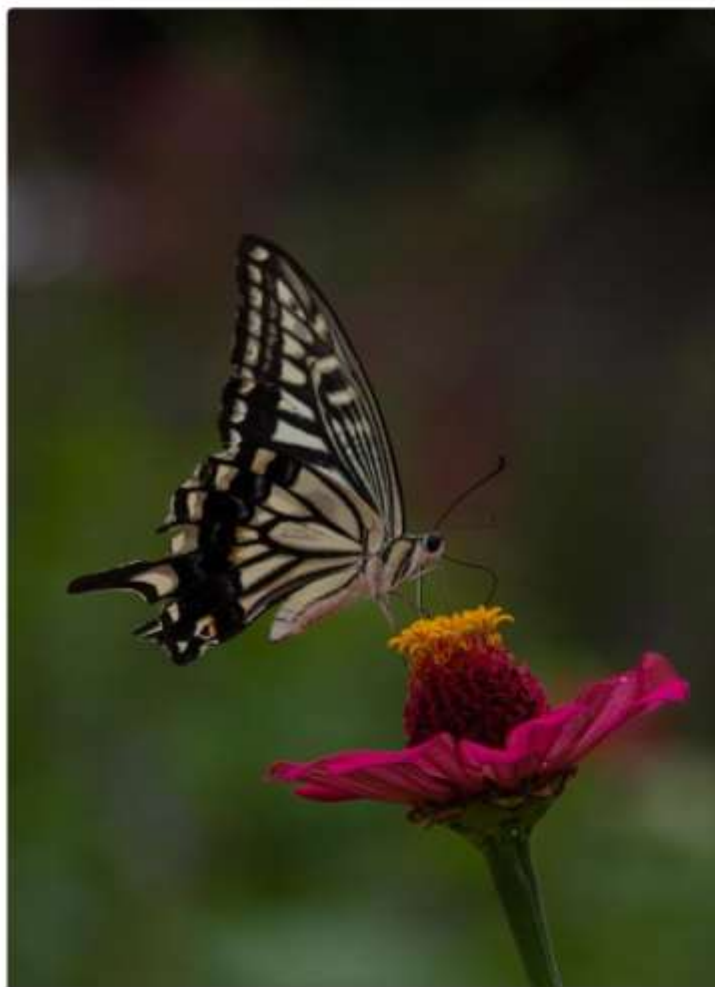
Linear Five-Sided Split-Image Effect

*This is a new one for
me and it looks like
a pretty cool toy.*





Rotate the filter or adjust the focus
to capture different effects



Without Filter



With Filter



Nano-Basic Whirlpool Effect Filters

Ideal for Photo and Video Creation



Filters That *Cannot* Be Fully Replicated In-Camera or in Post

1. Polarising Filters

2. Neutral Density (ND) Filters

3. Graduated Neutral Density (GND) Filters

4. Infrared (IR) Filters

Filters That Can Be Simulated

- **Colour filters** (warming, cooling, sepia, B&W contrast)
easily mimicked in-camera or in post.
- **Soft focus / diffusion filters**
can be approximated with blur or glow effects, though the optical “bloom” of highlights is often more natural in glass.
- **Tinted or creative filters**
mostly replicable with digital effects.



Add-on Lenses

Add-on Lenses

Add-on lenses in photography refer to lenses that can be attached to the front of a camera in the same manner as filters, to enhance its capabilities.

These lenses can be used to change the focal length; aperture; and other specifications of the camera, allowing photographers to achieve different types of shots and compositions.



Focal Length Lenses

Focal length add-on lens can change the angle of view of the camera, allowing for different perspectives on the subject.

For example, a wide-angle lens can capture more of the scene, while a telephoto lens can bring distant subjects closer to the camera.



Image Quality

The quality of the lens can impact the overall image quality.

A high-quality lens can help capture great photos even with a cheap camera, while a low-quality lens can make the best camera mediocre.





Typical Types

- **Wide-Angle** – expands field of view
- **Telephoto** – magnifies distant subjects
- **Macro** – enables close-up focus
- **Fisheye** – extreme distortion, creative fun



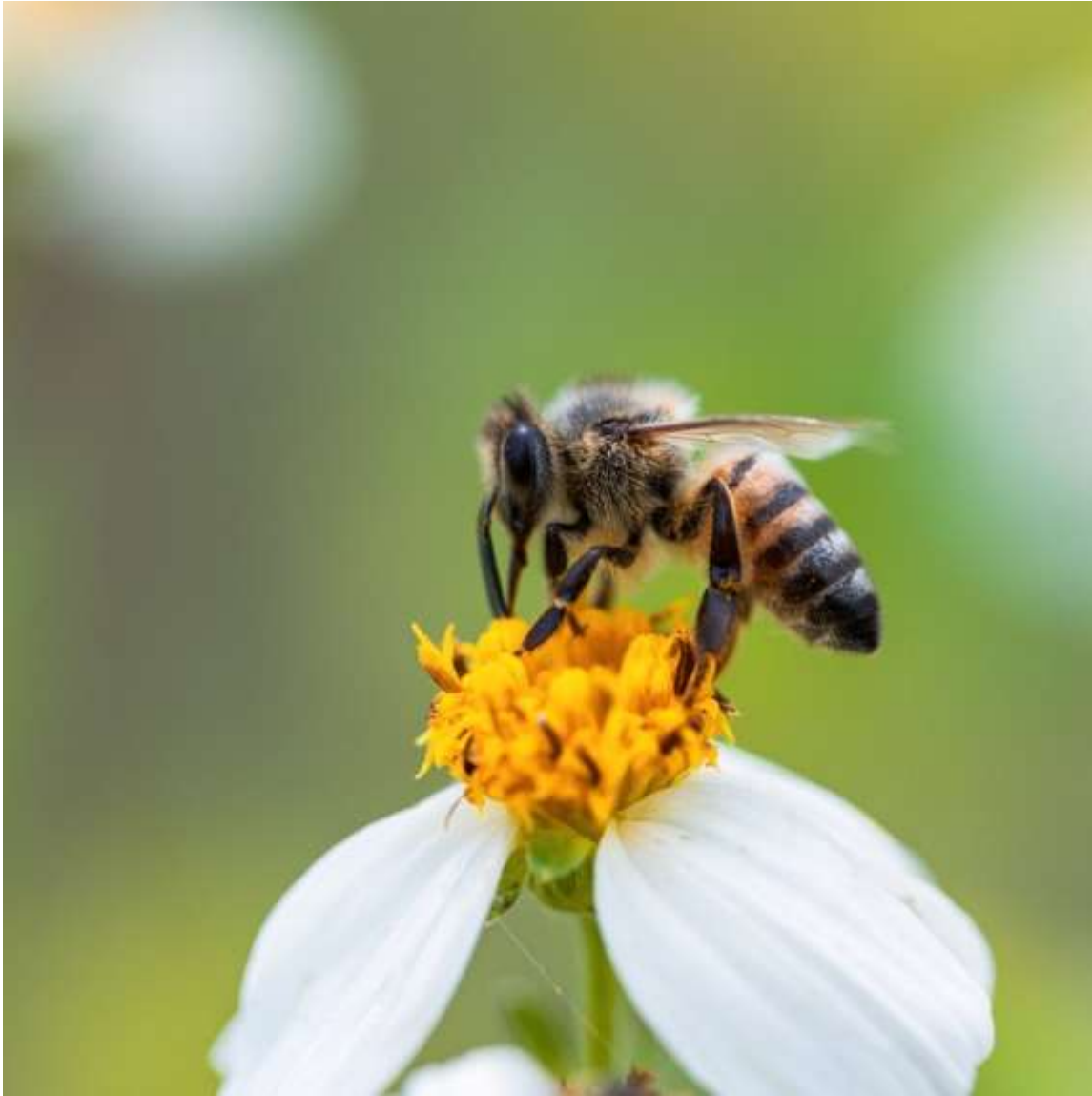
Wide-Angle – expands field of view

- With a 2 in 1 design, the Wide-angle lens can be instantly converted into a 10X macro lens by having its wide-angle lens removed.
- The impressive macro lens helps magnify by 1 to 2 times based on the magnification ratio of your lens.

Telephoto – magnifies distant subjects



- A telephoto add-on lens is light and practical and is a great alternative to a full size telephoto lens.
- It has 2x magnification which will improve the viewing distance of your camera
- You just need to screw this lens on the front of your existing lens or adapter. Easy to install and remove, save your time and facilitate your use.



Macro –

magnifies close subjects

- With a Macro lens you can get really close to your subject and photograph insects and bugs at a high magnification.
- Macro Add-on lenses usually come as a detachable addition to a Wide-Angle or Telephoto lens.



This is a good example of using a Fish-Eye lens, see how the sides curve into the picture.

Courtesy of Pat Jacobs Digital Photography Group 2

Fish-Eye – more of a novelty

- More of a novelty than a useful addition, the Fish-Eye lens will produce an image which is contorted by interesting.
- They also usually come as a detachable addition to a Wide-Angle or Telephoto lens but can be purchased separately.

Close-up Filter –

enables close-up/macro focus

- Close-up diopters with +1, +2, +4 and +10 magnification
- With close-up filters, you can achieve maximum magnification to make your small picture visible.
- Macro photography without a macro lens.



Conclusion

If you want to control light? → Filters

If you want to change perspective? → Add-On Lenses

Filters :

- Technical ->> Neutral Density, Graduated Neutral Density
- Creative ->> Colour, Infra Red, Polariser - PLUS the Odd Ones

Lenses :

- Wide-Angle, Close-Up/Macro, Telephoto/Zoom, or stylised



Quick Cleaning Tips for Lenses and Add-Ons

1. Front and Rear Elements

- Use a **blower** first to remove loose dust.
- Follow with a **microfiber cloth** or lens tissue — gently, in circular motions.
- If needed, use a drop of **lens cleaning fluid** (never directly on the lens — apply to the cloth).

2. Threads and Mounts

- Check for grime or misalignment on the screw threads or bayonet mount.
- A dirty or loose connection can affect focus and sharpness.

3. Internal Fog or Fungus

- Hold the lens up to light — look for haze, spider-web patterns, or cloudiness.
- If present, it may need professional cleaning.