



# FILM HISTORY

NAME \_\_\_\_\_

**SECTION 1:** A history of moving images, cameras and projection  
YOUR SUMMARY OF THIS SECTION:

**SECTION 2:** The Lumiere Brothers, short films and the feature film.  
YOUR SUMMARY OF THIS SECTION:

**SECTION 3:** Hollywood and emerging technologies.  
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**SECTION 4:** New cameras.  
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**SECTION 5:** CGI and the future.  
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# SECTION 1: A history of moving images, cameras and projection

## INTRODUCTION

Why IS this subject called Film Studies? What does Film mean? Where did it come from?

Film is a complicated noun. It means a lot and can bring about emotive reactions. It can also be a verb. But what does it mean and why do we use it?



Film itself refers to the material and object that traditionally was used to record, store and play back still images. Today the vast majority of still and moving cameras, such as the ones in phones, tablets, DSLRs and used to make feature films, use digital sensors to record images. Traditionally however, cameras needed to be loaded with specially created material called *film* that reacted when light was shown onto it. We'll look at this in more detail below, but the important thing to know is that this was a very difficult process and in order to create moving images, it essentially involved taking a lot of photos (still images) in quick succession and then in-turn, these had to be shown in quick succession. Let's take a look at the development of film cameras and projection to see how we got to where we are today and to understand how films get made.

## THE EARLIEST PHOTOGRAPHS AND THE CAMERA OBSCURA

The invention of the still image camera was, like many inventions, developed by multiple people over the course of history. But the camera, as we know it today, was invented by French inventor Joseph Nicéphore Niépce in (around) 1816. Today we recognise Niépce as technically taking the first photo on a homemade camera and his image was forced onto silver chloride covered paper. The camera, as is the case for all cameras in some form, was essentially a closed box that was pitch black inside. When light was let into the box via the lens, the 'thing' that the lens pointed at was then 'burned' onto the silver chloride covered paper thus creating an image. The actual process was much more complex than this, but it led the way for others to create processes that were more straight-forward.



You will find many different dates and names if you research "the first camera" online. Over a period of nearly 300 years people were inventing and developing techniques for capturing and projecting images. Niépce was the first to create and develop a photograph, called View from the Window at Le Gras. This can still be seen in the University of Texas in an oxygen free case, and is the oldest surviving photograph. Taken from an upstairs window at Niépce's estate in Burgundy, it's a very unclear image in part due to the way in which the process Niépce used chemical reactions to create an image. It's said that he had the camera in place and exposed to light for 2 days in order to create the chemical reaction he needed which involved almost literally burning the image onto the plate in his camera.

The Daguerreotype was the photographic process which was first widely available to the public and created much more readily recognisable images. From around 1840-1860, *daguerreotype* became the world-wide standard for creating images, after French inventor Louis-Jacques-Mandé Daguerre introduced the technique in 1839. To make the image, a sheet of silver-plated copper was polished to a mirror finish and treated it with fumes that made its surface light sensitive. Then it was exposed to light in a camera for as long as necessary, often for a few seconds. The resulting image was made visible by using mercury vapor and its sensitivity to light

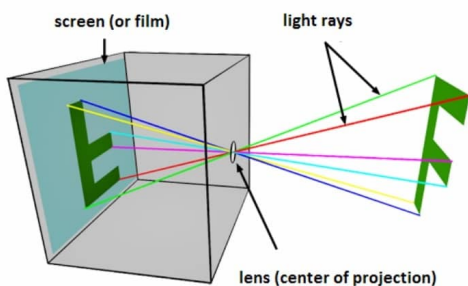


was removed a chemical treatment and then dried. The final image was easily ruined so was kept behind glass as the surface was very delicate, and even the lightest wiping could ruin it.



However, putting images behind glass wasn't the intent of photographers-people wanted to see the images and this has been the case for centuries. This desire to see images projected in large formats had was most readily seen in the success of the *camera obscura*. These show how light can be used to project an image onto a flat surface and can be made by anyone relatively easily. You may have also heard the term pinhole camera. The only difference between a pinhole camera obscura and not, is that a camera obscura generally uses a lens, while a pinhole just has the open hole.

This technology became popularized in the 17th and 18th centuries when artists used them to help project drawings they could then trace. But there was no actual way to preserve the image. This is why we credit Joseph Nicéphore Niépce with inventing the camera because by 1816 he had started, (though not fully successful) capturing images.



The earliest "cameras" weren't used so much to take pictures as they were to study optics. **Camera obscuras** (see left) demonstrate how light can be used to project an image onto a flat surface. In some cases, these are similar to a *pinhole camera*. Camera obscuras became popular in the 17th and 18th centuries when artists used them to help project drawings they could then trace or even paint, but there was no way to preserve the image as

a direct copy of what was shown: as a photograph. This is why many people, including Joseph Nicéphore Niépce sought to invent the camera- because people wanted to capture images.

## THE EARLIEST MOVING IMAGES

Once the Daguerreotype process became familiar to many, not only were people looking to refine and improve the process, but the desire to see images projected in a way like a camera obscura drove the desire to see moving images. Early developments again came from France, and the *Phenakistiscope* was introduced in 1833 by inventor Joseph Plateau. This machine used a spinning cardboard disc attached vertically to a handle. There were a series of pictures showing different moments or images of something in motion and small slits that were spaced evenly around the rim of the disc were used for the user to look through whilst spinning the disc. The images within the phénakistiscope became distorted when spun fast enough to produce the illusion of movement and while most animations were not intended to give a realistic representation, people still looked to improve upon the process. The next machine to make a significant improvement was the Zoetrope which was a cylindrical version of a phénakistiscope and even had easily replaceable picture strips, was introduced as a toy by Milton Bradley in 1866 and became very successful. The next step from this was to create realistic images, and to do that, photographs were needed.



## KINETOSCOPE AND THE BLACK MARIA



The inventor Thomas Edison met with Eadweard Muybridge in 1888 in part, to discuss how to develop a system for projecting moving images. It was around this time that 35mm celluloid strips had become available and offered a fairly accurate reproduction on them and with the development of long, flexible celluloid strips by the Eastman Kodak Company, Edison and many others looked to take many photographs of people and objects in motion so that, when viewed back at speed, the illusion of movement was

created. It was in this period that modern movies were essentially conceived, and people came to discover that by showing between 12 and 24 photographs per second, you could replicate movement in

a way that appeared to modestly realistic. These photographs were taken by exposing light onto a strip or sheet of transparent plastic *film* coated on one side with a very thick, minute emulsion that contained almost invisibly small light-sensitive silver halide crystals. The short name for this? Film, film stock or film strip. What Edison and others needed, was now a way to show or project these images quickly enough so that it appeared as if they were moving. It was another French inventor, Louis Le Prince who invented the kinetoscope, but it was Thomas Edison and his employee William Dickson who created the first usable device. The kinetoscope was not a projector rather a wooden cabinet that one person could look into at a time. A series of spindles and an electronic wheel drew film continuously underneath a magnifying lens while an electric lamp shone up from beneath the film through a lens for the person to look through to see the moving image. The fundamental parts of this were later used for the opposite purpose-to make a camera which fed 'blank' film reels through the machine and let light in at specific moments. This was called the kinetograph. Of course, because film stock reacted to light, and Edison knew that in order to capture the images he wanted, he needed to control light itself. So, in 1893, he built what is now known as the first production studio, called the Black Maria.



The Black Maria was covered in black paper and had a huge window in the ceiling that opened up to let in sunlight to help produce clear images on film. To help this further, the building was also constructed on a giant turntable so the window could rotate toward the sun throughout the day, supplying the light Edison needed for the production of movies. When word spread about the new invention, performers flocked to the Black Maria from all over the country in order to be in the films. People such as dancers, pugilists, magicians and vaudeville performers all wanted to be in these moving image movies. Edison was happy to oblige, as he saw these as publicity opportunities and would often pose with the performers for newspaper articles.



## THE KINETOGRAPH AND THE CINEMATOGRAPH

It was around the same time that Edison was inventing the Kinetograph and creating the Black Maria, that two French Brothers were also looking at the issues of recording and projecting images to create movies. They invented a machine called a cinematograph and it was remarkably unique as it was both a camera *and* project the images it had taken. It was lighter than a kinetograph, produced a brighter image and projected a sharper image than the kinetoscope. Whilst Edison's machines were powered using electricity, the Lumiere's instead used manually-operated cranks, but the main difference was in its method of projection. The kinetoscope only allowed one person at a time to view the projected image and in a box. The cinematograph, however, could project the moving images onto a screen, so that a large audience could watch at the same time. The Lumiere brothers then, invented *the cinema*. After its initial showing in 1895, the cinematograph became a worldwide phenomenon with people watching the projected images back in fairs and exhibitions. Movies were short (less than 1 minute) and often simply recorded a small section of everyday life, like short documentaries, and it was in the power of watching something or someone that audiences had never seen before, that the power of the cinema began to emerge. The first moving images by the brothers was recorded and projected in 1895, with the short film *Workers Leaving the Lumiere Factory*.





**TASK:**

In no more than 100 words in the space below, explain which development or invention you believe was the most important from 1816-1895, giving reasons why.



**TASK:**

As we've discovered, in order to create something that looked like it was moving realistically, between 12 and 24 shots had to be shown in the correct order every second.

Most films these days run at around 24fps. Calculate how many individual shots are used in films of different lengths. Add your answer to the right of the run time but there is space below to do some working out.



1 minute long.	
24 minutes long.	
An hour long.	
A film that is one and a half hours long.	
A two hour long film.	
The runtime of the last two Avengers films.	
The runtime of Lawrence of Arabia.	
The total runtime of all the MCU films...	

## KEY DEVELOPMENTS IN FILM AND FILM TECHNOLOGY

As we've seen, the technology to record images and then project them in a way that created the sense that the images were moving realistically took a lot of development but this happened in a very short space of time. We generally accept that film as an art form began in 1895, but the technology used to make films has changed dramatically since then. Whilst the last 10 years in particular has seen a drastic change, with the introduction of things like drones, LED-panel screens for studios, motion-capture and more, we're going to study and learn 10 key pieces of technology and events that have helped to create the modern film industry.



The 10 key events are as follows:

<b>1895</b>	First moving images (Lumière brothers)
<b>1895-1927</b>	Development of silent cinema from early short films to full-length feature films, during which period the foundations of filmmaking were established - e.g. cinematography, the principles of lighting and continuity editing and an extensive range of mise-en-scène, including location shooting
<b>1920s</b>	Gradual emergence of a vertically integrated Hollywood film industry, established by 1930 into five major studios (Paramount, Warner Bros, Loew's/MGM, Fox [Twentieth Century Fox in 1935] and Radio Keith Orpheum [RKO]) and three minor studios (Columbia, Universal and United Artists) - the so-called Big 5 and Little 3
<b>1927</b>	Alan Crosland's, <i>The Jazz Singer</i> , starring Al Jolson - the first feature film with a soundtrack
<b>1935</b>	Rouben Mamoulian's <i>Becky Sharp</i> , the Technicolor Corporation's first feature length, 'three strip' colour film
<b>1948</b>	Paramount court case which prevented studios from owning all phases of the production, distribution and exhibition process ('vertical integration') which led, in the 1950s, to the emergence of independent film production and agents producing films for the Hollywood studios to distribute and exhibit
<b>1950s</b>	Emergence of widescreen and 3D technologies as a response to the growth of television and the corresponding decline in cinema attendance
<b>Late 1950s</b>	Although not the first examples, lightweight, portable cameras were produced suitable for hand-held use (which had an immediate impact on documentary filmmaking and were used by a new generation of directors in France - French 'new wave' directors)
<b>1970s (1975 specifically)</b>	Steadicam technology developed by cinematographer Garrett Brown (a stabilising device for hand-held cameras to keep image 'steady' whilst retaining fluid movement). First introduced, 1975
<b>1990s</b>	More widespread use of computer-generated imagery, most significantly pioneered by Industrial Light and Magic in the 1970s, resulted in a move away from filmed 'special effects' to visual effects created digitally in post-production to the computer generated imaging of characters in films.



## SECTION 2: THE LUMIERE BROTHERS, SHORT FILMS AND THE FEATURE FILM.

1895 - THE LUMIERE BROTHERS AND THE FIRST SHORT FILMS - <https://youtu.be/pySTmXv6CfQ>

As we've seen, the Lumiere brothers, Auguste and Louis, were among the first people to pioneer the creation and projection of moving images into short films. Their invention, the cinematograph was a worldwide sensation and for the first-time allowed people to not only take many photos quickly, but then play them back and project them onto a screen for an audience of many people to watch at once.

Their films documented every day life in France, and some of their most famous films are WORKERS LEAVING THE LUMIERE FACTORY (1895), THE WATERER WATERED (1895) and THE ARRIVAL OF A TRAIN AT LA CIOTAT STATION (1896). It was the shared experience as well as providing insights into worlds and experiences never before seen by these audiences, that helped to establish the idea for the cinema experience that we know today-a large group of people communally watching moving images in a large, dark room.



**TASK:** In your own words, summarise the information above in this box. You **MUST** include any words in *italics* or names of people involved in this technological advancement.

1895 - 1927 - FEATURE FILMS - <https://youtu.be/ySCi-BecfjE>

The Lumiere's films were very short, often only a minute long, but with the method of shooting enough footage to create moving images now relatively easy, people were quickly experimenting with the format and developing longer and more complicated films.



Another Frenchman, George Méliès was arguably the most ambitious and well-known of the filmmakers at the time. He experimented with editing, special effects and telling stories in new, fantastic ways unlike many of his contemporaries who were still making what were essentially documentary films. His most famous film, A TRIP TO THE MOON is a sci-fi adventure film featuring special effects and which runs for approximately 9 minutes, far longer than anything the Lumieres had produced. Edwin S Porter made one of the first films to retell a narrative with THE GREAT TRAIN ROBBERY (1903). This 9-minute-long film used innovative practises such as shooting on location and in a studio as well as film techniques that had become popular, such as camera pans and a close-up. But it was the film THE STORY OF THE KELLY GANG in 1906 which was an hour long that really began to set the expectations for the length of a feature film. This continued, as did the innovation in visual storytelling, over the next 20 years. Films such as the controversial THE BIRTH OF A NATION (1915), pushed run times to over 2 hours, used techniques such as fade-outs and dozens of extras for the first time. The Director of BIRTH OF A NATION, D W Griffiths, was an ambitious innovator and his next film, INTOLERANCE, featured one



of the most extravagant sets ever built and a reported 67,000 actors, helping to emphasise the storyline which covers a period of over 2500 years in a runtime that runs over 3 hours. In Russia, one of the most enduring of the film language innovations of the time was developed, in the form of montage. The most famous example of this was seen in the film BATTLESHIP POTEMKIN (1925) and it arguably contributed more towards modern filmmaking than any other before.

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## SECTION 3: HOLLYWOOD AND EMERGING TECHNOLOGIES

1920s – THE BIG 5 AND THE LITTLE 3 - <https://youtu.be/zEvEwzNpivs>

As film became more popular and rapidly became a profitable business, a number of film studios emerged who were making a vast number of films and becoming very profitable as a result. By 1930 they became known as the Big 5 (the 5 biggest and most successful studios) and the Little 3 (the smaller, but still prominent studios). These big 5 studios, funded their own films, made them use directors and stars who they had exclusivity contracts with, shot the films in their own studios in Hollywood and would then put these films into cinemas that they owned. Some of these studios are still house-hold names today though some no longer exist. The 5 are Paramount, Warner Bros, Loew's/MGM, Twentieth Century Fox in and Radio Keith Orpheum, known as RKO.



Paramount had a roster of incredibly famous and successful film stars who made films exclusively for them, including the like of Gary Cooper and Marlene Dietrich. Warner Brothers was an innovative film studio, pioneering technology such as sound and colour in films. RKO produced 2 of the most famous films of all time in KING KONG (1933) and CITIZEN KANE (1941), MGM was a hugely successful studio financially and used that money to help develop colour film and a roster of star actors and directors and 20<sup>th</sup> Century Fox (named Fox Films until 1935) was a large studio with an often turbulent business.

The Little 3, Columbia, Universal and United Artists were, financially, not as successful as the Big 5, but were still successful in not only being responsible for some excellent, famous films but Columbia and Universal continue to be successful film studios to this day.

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1927 – THE JAZZ SINGER AND SOUND - <https://youtu.be/WAMm-K7LoyY>

Whilst many film studios and short films had been experimenting with sound in their films, it was THE JAZZ SINGER in 1927 that was the first feature-length film to feature a synchronised recorded music score and lip-synchronous singing and speech in some of the sequences. Its release marked the beginning of the end for silent film and the rapid rise of “talkies”-films with sound. Produced by Warner Bros, THE JAZZ SINGER had a crude, but effective method of creating a film with sound, using a “sound-on-disc system” which was ‘locked’ to the projector showing the film, so that the film could be played in synchronisation with the sound which came on a separate disc.



Sound has come a long way since, from stereo (two separate speakers), to surround sound and more recently with Dolby Atmos, a technology which uses dozens of tiny speakers placed throughout a theatre that allows the filmmakers and exhibitors to control exactly where, when and how an individual sound is heard by an audience.

**TASK:** In your own words, summarise the information above in this box. You **MUST** include any words in *italics* or names of people involved in this technological advancement.



1935 – COLOUR FILM - <https://youtu.be/nQBy1ozakAU>

As with sound, film studios were working on competing technologies to create colour films for years before 1935 and the release of BECK SHARP. Created using a three strip technology called Technicolor, the complex process involved various film strips and large, bulky cameras and needed bright, clear light to shoot in. Despite this, it was a huge success and within 20 years not only were the vast majority of films now colour, but companies sought to constantly improve and refine the technology in order to create clearer, more accurate colour reproduction.



TASK: In your own words, summarise the information above in this box. You MUST include any words in *italics* or names of people involved in this technological advancement.



1948 – THE PARAMOUNT DECREE - <https://youtu.be/XCvk7OzZgtU>

The American film industry, mostly based in Hollywood in California, had become incredibly successful and mostly very profitable. This was, in part, due to how the film industry had evolved to become *vertically integrated*. This meant the film companies used their money to make their films, starring actors they had under exclusive contracts and would then only show the films in cinemas that they owned. If an audience member wanted to see Gary Cooper in a film an audience would likely have to watch him in a film made by Paramount which was then shown only in a Paramount cinema. Having such exclusivity rights was technically illegal in America as the law attempted to create a free-market whereby companies were free to compete and engage in competition that was free and open to everyone. In 1948 however, that all changed and there were many consequences from this decision. Some, such as Paramount selling their cinema chain, were relatively minor. However, this ruling paved the way for the end of the dominance of the Big 5 and gave rise to many more independent film studios and cinemas in later years, arguably offering audiences a more varied and wide-range films.



TASK: In your own words, summarise the information above in this box. You MUST include any words in *italics* or names of people involved in this technological advancement.



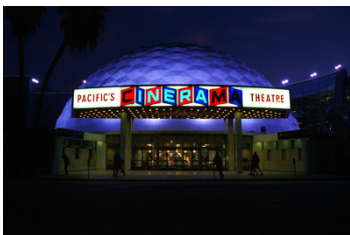
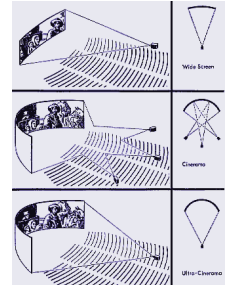
## 1950s – WIDESCREEN AND 3D – Video here: <https://youtu.be/qE4-Qqlo9Po>

In 1950 there were 6 million TVs sold in America, by far the highest number sold in the country before. Before the decade was out, over 67 million TV sets had been sold. Estimates suggest that the vast majority of homes had a TV in by 1960, fuelling a



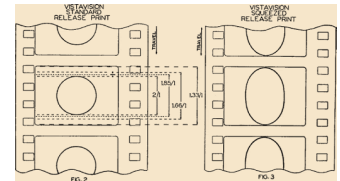
dramatic rise in the need for TV programming, but also contributing towards the decline in cinema attendance. In 1946, approximately 70% of the 177 million people who lived in the USA went to the cinema at least once a week. 10 years later, this figure was closer to 25%-a huge decrease. One of the main reasons for this was the rise of TV ownership and as a result, film and cinema companies needed to develop

technologies that gave people a reason to visit the cinema again. With colour TVs being developed and improving all the time, cinema looked to giant, wide screens and 3D as a means to entice people away from the homes and offer an experience that simply could not happen in homes.



“Widescreen” was essentially that-large movie screens that were rectangular and wide in shape. They offered not only a larger picture than before but allowed filmmakers to create wide images of landscapes and large-scale scenes that would have not been as spectacular if on the traditional screen shape and size. As with most technologies and advancements in film and cinema, a

range of competing technologies emerged during this time. One such unique idea such was Cinerama, which involved using 3 projectors at once to create a huge image that was incredibly wide image projected on a huge curved screen. Cinerama was seen as more of a gimmick and while some films were moderately successful, it was an extremely expensive and complex format to work in. More traditional widescreen technologies included Cinemascope which was developed by 20<sup>th</sup> Century Fox which used a special lens attached to existing equipment and VistaVision by Paramount which involved using a 35mm film strip but filmed and projected sideways, to create a wider, 70mm size image, which resulted in a widescreen image.



The development of 3D was even more complex, using new and again, competing technologies to create an experience that was simply unachievable on home screens. It was film pioneer Edwin S Porter who developed some of the first 3D technologies for film in 1912, but between 1952 and 1954 a slew



of feature films, cartoons, short films, documentaries and experimental films used *anaglyph* and *polarization* techniques to create 3D images that aimed to create brand new experiences. This process involved However, the format was essentially dead by 1955, in part due to the costs and problems of making and projecting the image, but also because audiences often felt that the quality of the films were lacking and eventually stopped watching.

Of course, over time, widescreen TVs became the standard format and 3D became a novelty format which improved over time and made comebacks in the late 80s and then the mid to late 2000s.

**TASK:** In your own words, summarise the information above in this box. You **MUST** include any words in *italics* or names of people involved in this technological advancement.

## SECTION 4: NEW CAMERAS

LATE 1950s - PORTABLE CAMERAS - <https://youtu.be/X8P3Clx-EtY>

The earliest hand-cranked cameras, such as the cinematograph, were too heavy and bulky to be easily moved and carried around. They also needed tripods in order to keep the camera steady and out of the hands of the operators who were unable to hold the heavy machines. Filmmakers did begin to attach cameras to things like trains, wagons and horses in order to create variety and develop their visual style, but it took further development in camera technology to progress these ideas further. As we will learn about in the Cinematography unit, camera accessories like *cranes* and *dollys* were invented and cameras were then able to move in a wider variety of directions with improved fluidity. These camera movements helped to establish the language of camera movement as we understand it today and allowed filmmakers to create a 'mobile frame', rather than a purely static one like photographs of old.



However, filmmakers sought an increasing amount of movement and freedom and in World War 2, 16mm film (half the regular size film strip) allowed the development of smaller, more portable cameras and this then led to the development of cameras that were even more portable. This in turn led to filmmakers developing their own artistic styles which aimed to produce a more 'realistic' and less rigid visual style. This is perhaps best seen in the *French New Wave* movement which wanted to reject traditional film making styles and create a new, unique and innovative style. This can be seen in the use of wheelchairs and modified cars being used to mount lighter cameras that provided unique perspectives into the lives of characters. Many critics took against this often "shaky", "mobile frame" style because, in part, it did not follow formal, classical Hollywood styles. However, the influence of the French New Wave is undeniable, whether seen in horror films to create immediacy and realism, or in action films to create pace and offer engaging and dramatic perspectives.



**TASK:** In your own words, summarise the information above in this box. You **MUST** include any words in *italics* or names of people involved in this technological advancement.

## 1970s - THE STEADICAM - <https://youtu.be/gKQCs8c8z6k>

One of the developments that came from the creation and development of increasingly portable cameras was the Steadicam. As we have seen, many found the visual style of the French New Wave to be jarring, unpleasant even and the jerky, mobile shots and scenes were, to some, difficult to watch. What was undeniable however, was the possibilities that moving the camera around afforded-no longer were filmmakers content to stick to the classic, rigid styles of classical Hollywood and instead wanted to be able to offer fresh, immediate and innovate movements



and perspectives. So, how could these two competing ideas, a mobile camera but one that offered a smooth and steady frame, be achieved? By the creation of the *Steadicam*, by cameraman Garrett Brown. His invention involved placing a camera onto a complex mechanical setup that ensured that any knocks or jolts were absorbed, resulting in the ability to place the camera in a range of

places and situations but avoiding the previously shaky and uneven picture.

Australian Garrett was an experienced and successful cameraman and put his invention to use first in the 1976 film *BOUND FOR GLORY*, but it was his use of the Steadicam in *ROCKY* (also released in 1976) that really caught the imagination of filmmakers and filmgoers alike. The now famous scene of Rocky running up the steps of the Philadelphia Museum of Art was captured using a Steadicam and the smooth movement of the camera makes it almost look and feel like Rocky and the audience are gilding up those stairs. The Steadicam was used throughout the film, from following Rocky during his training on the streets, in his small apartment and in the ring during fights, with each



example offering new perspectives and image quality that would come to help define the look and feel of modern filmmaking. The Steadicam is now the industry standard and has also been used by the TV and sports industries for years and it's only since the rise of drones, mechanical wires and programmable robots, as well as virtual cameras used in CGI, that has seen the use of the Steadicam become less ubiquitous.



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## SECTION 5: CGI

1990s – CGI - <https://youtu.be/SDtf6oJPJhA>

Computer Generated Imagery. These three words have transformed the film industry and with it, audience expectations of how a modern, ambitious film should look. This in turn, has changed the very nature of the stories being told by film and the potential of films is now limitless, filmmakers are only limited in their ambition and budget.



The history of CGI is a long and interesting one, but to get to the core ideas, we need to go back to turn of the century in France well before imagery could be create and manipulated by computers and look once again, at the work of George Melies. He was fascinated by the potential of film and his own ambitious ideas led him to play visual tricks on the audience and to manipulate the very nature of film, by cutting up some reels and adding in and removing some shots to create the sense that characters would disappear, he'd shoot a scene and reuse the film to use *superimposition* and create more than one shot on screen at the same time, and use paintings and models combined with inventive camera angles and movements-all things he'd learned from his time as a stage performer and magician in French theatres. His films such as A VOYAGE TO THE MOON resulted in fantastical images created by effects never-before-seen on screen. Melies, and indeed many others, may have paved the way for *in-camera effects*, but this was never enough for some filmmakers and the desire to tell more complex and visually ambitious stories drove the need for better ways of creating new scenes, characters and perspectives in storytelling.



Some of the earliest examples of CGI occurred in the 70s, with films like WESTWORLD (1973) and STAR WARS (1977) using computers to create basic additions to an existing shot, but it wasn't until the 1980s that computers became powerful enough to begin to create characters and large-



scale special effects that actors would need to interact with. Films like TRON (1982), THE LAST STARFIGHTER (1984) and YOUNG SHERLOCK HOLMES (1985) pushed the idea of what a computer could create further and by the time JURASSIC PARK was released in 1993, computers were beginning to be able to successfully and accurately animate non-human characters. The remainder of the decade was a constant series of improvements and developments, from the first fully CGI film in TOY STORY (1995) to ground-breaking techniques like 'bullet time' in THE MATRIX (1999) and even replacing a deceased actor with CGI-enhanced images. The use of green screen technologies continued to develop through the years and in the 00s, the quality of CGI was so lifelike that films began to travel less to shoot on location and instead use Green Screens that could be used to 'paint' in a location for the characters later on. This of course has bought problems to the filmmaking process, but CGI continues to evolve and adapt in a way that perhaps no other film technology has.



## SECTION 6: CHECKING AND APPLYING YOUR KNOWLEDGE

### **TASK:**

Read your summaries of the information above. You're now going to reduce this information down even further. For each of the 10 developments in film technology, you are to choose just ONE word or name for each one, to remind you of what that development or invention was. You will also add the date to each one so that you can learn the key dates in order and a word associated with that time period.

DATE

ONE WORD OR NAME TO SUMMARISE THIS DATE AND THE DEVELOPMENT

### **TASK:**

Time to test how well you paid attention to the specifics of the information provided! Below are 15 questions that cover a range of the technological developments.

1. What was the name of the camera that the Lumiere brothers developed?
2. Name at least two feature films released after 1900.
3. What was 20<sup>th</sup> Century Fox called before 1935?
4. Which film studio produced THE JAZZ SINGER?
5. What was the brand name of the three-coloured strip technology that gave films colour?
6. Explain what some of the consequences of the Paramount decree were.
7. Give at least one reason why Widescreen and 3D films were developed in the 1950s.
8. Portable, lightweight cameras lead to which film style being created?
9. The Steadicam was created by who?
10. Why do you think CGI wasn't used as much before the 1990s?
11. What was the first film to use a Steadicam?
12. Name two films the Lumiere Brothers made.
13. What does CGI stand for?
14. What years saw a development in feature films being made?
15. What historical event saw the creation of 16mm film and smaller cameras as a result?



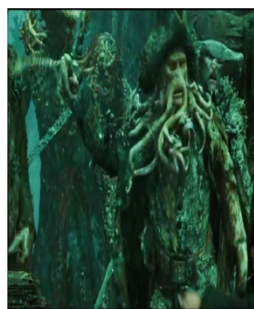
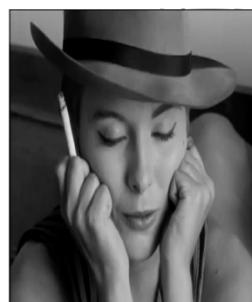
**TASK:**

Create 10 of your own questions to test someone else.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

**TASK:**

Below are 10 images that each represent a key moment of film technology development. For each one, copy and paste, cut and stick or simply draw onto the page below in the correct order with exactly the correct wording from the table of information that is the required learning for this section.



## FILM HISTORY MINI-ASSESSMENT

### TASK 1:

Watch the following video: <https://youtu.be/AhIbI URhco>

Firstly: double-check and ensure that any of the previous work is correct and has sufficient amount of detail to do the next few tasks...

### TASK 2:

Having seen a video which summarises the development of technology in film, you're going to plan your own in two steps. Firstly, use the 10 blank boxes to design and draw your own small, but clear image that represents what happened in each of the 10 developments. Not only do these images need to be clear, but they need to symbolise what happened in that year/decade in a way that will help you to recall more detail about each later on and would be suitable to be on screen whilst you read what the information was for that image.

1895				

### TASK 3:

Now, create your own script for the video, which describes, in your own words, what technological event took place in each year or point of the timeline. Use the images from above as a guide as to what would be on screen when you

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### TASK 4:

Finally, as the end moment for your own film, describe in your own words what event was the most important. Use the details on the previous pages and your own knowledge.

## SECTION 7: EXTENSION - HUGO

Below are some tasks that can be considered as an extension or additional task. By no means vital, these additional tasks require people to be access the film HUGO (2011)

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HUGO (2011) Is a great film in its own right, but it's a useful film to watch in terms of providing some context and insight into life in France after the initial development of film and film technologies. While of course it's not a documentary and does not provide an entirely accurate depiction of film, film development and technology, it's nonetheless interesting to see a version of George Méliès on screen, alongside some of his contemporaries and featuring some of the short films we have briefly looked at in this unit. Below is an overview of the main context of the film alongside some details about the narrative and how it ties into the film history we've studied.

*HUGO is a 2011 American adventure drama film directed and produced by Martin Scorsese, and adapted for the screen by John Logan. Based on Brian Selznick's 2007 book THE INVENTION OF HUGO CABRET, it tells the story of a boy who lives alone in the Gare Montparnasse railway station in Paris in the 1930s, only to become embroiled in a mystery surrounding his late father's automaton and the pioneering filmmaker Georges Méliès.*

*Hugo is Scorsese's first film shot in 3D, about which the filmmaker remarked, "I found 3D to be really interesting, because the actors were more upfront emotionally. Their slightest move, their slightest intention is picked up much more precisely." The film was released in the United States on November 23, 2011.*

*Hugo received 11 Academy Award nominations (including Best Picture), more than any other film that year, winning five: Best Cinematography, Best Art Direction, Best Sound Mixing, Best Sound Editing, and Best Visual Effects. It was also nominated for eight BAFTAs, and won two, and was nominated for three Golden Globe awards, earning Scorsese his third Golden Globe Award for Best Director. Despite receiving acclaim from critics, the film was a box office bomb, grossing just \$185 million against its estimated \$150 million budget.*

*The backstory and primary features of Georges Méliès' life as depicted in the film are largely accurate: He became interested in film after seeing a demonstration of the Lumière brothers' camera; he was a magician and toymaker; he experimented with automata; he owned a theatre (Theatre Robert-Houdin); he was forced into bankruptcy; his film stock was reportedly melted down for its celluloid; he became a toy salesman at the Montparnasse station, and he was eventually awarded the Légion d'honneur medal after a period of terrible neglect. Many of the early silent films shown in the movie are Méliès's actual works, such as LE VOYAGE DANS LA LUNE (1902). However, the film does not mention Méliès' two children, his brother Gaston (who worked with Méliès during his film-making career), or his first wife Eugénie, who was married to Méliès during the time he made films (and who died in 1913). The film shows Méliès married to Jeanne d'Alcy during their filmmaking period, when in reality they did not marry until 1925.*

*The automaton's design was inspired by the Maillardet's automaton made by the Swiss watchmaker Henri Maillardet, which Selznick had seen in the Franklin Institute, Philadelphia, as well as the Jaquet-Droz automaton "the writer". A portion of the scene with Harold Lloyd in SAFETY LAST! (1923), hanging from the clock, is shown when the main characters sneak into a movie theater. Later, Hugo, like Lloyd in SAFETY LAST!, hangs from the hands of a large clock on a clock tower to escape from a pursuer.*

*Several viewings of the film L'ARRIVÉE D'UN TRAIN EN GARE DE LA CIOTAT are portrayed, depicting the shocked reaction of the audience—although this view is in doubt.*

The film HUGO was *not* a success at the box office. This means that not enough people paid to watch the film at the cinema to help cover the cost of making the film. As a result, the film likely lost money for the production company and they would be hesitant to make another film like this or about this subject. There could be many reasons for this, but one main one is perhaps the storyline and the need to know quite a bit about the history of filmmaking and France's role in this.

#### TASK:

Use the space below to write what you thought of the film and include reasons why. Then, provide details on what you think someone who isn't a film studies student would need to know in order to understand the film better and to appreciate who and what some of the people in the film are and are doing.

You can use any of the information on the previous pages, so long as it is relevant and is not simply copied, as well as anything else you have learned or discovered at this stage. You may want to research further by watching other short films mentioned in the film or by reading about extra details from the film to see how accurate it was to the real world.

### OPINIONS

The film HUGO is about...

I thought that the film was...

and this is because...

### HISTORICAL CONTEXT

In order to get the most out of HUGO, you should probably know that...

and some other interesting facts to help you understand the film better are...

## **PLAYLIST**

Below is a link to a playlist which contains videos of many of the films mentioned in this booklet. Given that they are hosted by 3<sup>rd</sup> parties on YouTube, there is a possibility that some may be removed. Where this occurs, please search for the title again as this will likely result in finding the video again.

<https://www.youtube.com/playlist?list=PLeNerb9lxe3mgY-4wUbw6um0al-kjKtNW>

## **NOTES**