

YEAR 9 Scheme of Work – BBAB

NB Baselines should be completed at the beginning of each half-term

Year 9 Autumn 1 – Photography Techniques and the Exposure Triangle

Lesson 1 of 6		
LO	Success Criteria	I can
<p>We are used to drawing shadow on highlight – pencil on paper; with a long exposure, in dark conditions, we can use a light source to draw on the camera sensor</p> <p><u>Key Vocabulary</u> <i>Camera</i> – dark chamber</p> <p><i>Photo</i> – phos – light</p> <p><i>Graph</i> – graphos – to paint or draw</p> <p><i>Exposure</i> – when light is exposed to the light sensitive surface i.e. digital sensor or film</p> <p><i>Light painting</i> – the technique whereby we can move a light source in front of the sensor to create lines and/or patterns</p> <p><i>Bulb setting</i> – the setting on the camera whereby the shutter stays open as long as the shutter release button is depressed</p>	<p>Work as a group, each taking turns on the various stations; create light painted outcomes by moving a light source in front of the digital sensor (focussed through a lens)</p>	<p>Operate the camera shutter on the ‘bulb’ setting</p>
Process	Context	Expected outcome
<p>DSLR and movable light source</p>	<p>Gjon Mili – ‘Pablo Picasso draws a Centaur in the air with light, 1949’</p>	<p>Light painted drawings/text</p> <p>EXTN Same as above, but including portraits</p>
Extension		
<p>Fire flash (studio head strobe) to ensure an exposure of a person/object, combined with the light painting</p>		

Lesson 2 of 6		
LO	Success Criteria	I can
<p>A studio head will fire a flash using the 'strobe' bulb. The duration of the flash is very short – about 1/1000sec. In otherwise entirely dark conditions, the only exposure made will be within 1/1000sec. Any movement taking place will be captured within this time, thus appearing to 'freeze' movement</p> <p><u>Key Vocabulary</u> <i>Studio head</i> – the studio light we use to light the subject</p> <p><i>Strobe</i> – the bulb in the studio head which provides the flash</p> <p><i>Exposure</i> – when the light sensitive device (the digital sensor) or film is exposed to light</p> <p><i>Remote trigger; transmitter/receiver</i> – the system of equipment used to communicate between the camera and the studio heads, meaning that the strobe flash and the camera shutter synchronise</p>	<p>Work as a group to set up a camera, framing, and focussing on the subject matter.</p> <p>Enter fully dark conditions</p> <p>Set up and test the studio head. Check the exposure is acceptable.</p> <p>Communicate effectively with team members to synchronise motion and strobe flash.</p>	<p>Operate the camera on the bulb setting</p> <p>Operate the studio head with the remote trigger</p> <p>Communicate effectively with peers, while working in a team</p>
Process	Context	Expected outcome
<p>Strobe is fired at the same time as motion is occurring in real life. Camera shutter is open throughout; fully dark conditions</p>	<p>Harold Eugene Edgerton – AKA 'Doc' Edgerton or 'Papa Flash'</p> <p>Philippe Halsman (Salvador Dali)</p> <p>Eadweard Muybridge</p>	<p>Water balloon photograph; mid burst</p>
Extension		
<p>Consider combining this process with light painting</p>		

Lesson 3 of 6

LO	Success Criteria	I can
<p>The aperture in the lens can be adjusted making it wide or narrow. The wider the aperture, the shallower the depth of field</p> <p><u>Key Vocabulary</u> <i>Aperture</i> – the hole in the lens which allows light to pass through</p> <p><i>Depth of field</i> – the distance in front of the camera where the photograph is considered in focus</p>	<p>Use a wide aperture to take photographs with a shallow depth of field</p>	<p>Identify shallow depth of field</p> <p>Verbally communicate what is meant by a shallow depth of field</p> <p>Take photographs with a shallow depth of field</p>
Process	Context	Expected outcome
<p>Use 'f' 1.8 to shoot photographs with a shallow depth of field</p>	<p>Steve McCurry – 'Afgan Girl'</p>	<p>Photographs with a shallow depth of field</p>
Extension		
<p>Learn that the 'f' number is the measurement unit for aperture size – the higher the 'f' number, the smaller the aperture. Take photographs with a great depth of field.</p>		

Lesson 4 of 6

LO	Success Criteria	I can
<p>A camera obscura is a 'dark chamber', so any space which does not allow light in is a camera obscura. A pin hole camera is a light tight 'chamber', aside from the pin hole. The pin hole is so small, it creates a point where all the light converges, so producing a meaningful image.</p> <p>Black and white photographic paper is sensitive to green and blue light. White light is made from red, green, and blue, so it will expose photographic paper. A safe light is a red light which will not expose photographic paper.</p> <p><u>Key Vocabulary</u> <i>Camera obscura</i> – what we think of when we use the term 'camera'. 'Obscura' is Latin for dark. NB this is as opposed to a 'camera lucida'; 'lucida' is Latin for bright. When a light is projected through a lens in normal light conditions, this is considered a camera lucida</p> <p><i>Pin hole camera</i> – in this instance it is a box which is light tight apart from the pin hole</p> <p><i>Converging</i> – meeting</p> <p><i>Converging point</i> – a point where the light meets</p> <p><i>Developer</i> – chemical used to show the photographic image</p> <p><i>Stop bath</i> – this is a chemical which neutralises the alkaline developer</p> <p>Fixer – this is an acid chemical which stops the paper from being light sensitive, so it can be viewed in white light</p>	<p>In safe light conditions, place photographic paper into your pinhole camera.</p> <p>Use the pin hole camera to expose the paper. Exposure time depends on the length of the camera, and the light conditions, but it is a good rule of thumb to expose the paper for 5 minutes indoors, and 3 minutes when pointed out the window.</p> <p>In safe light conditions, place the paper into the developer, then stop bath, then fixer.</p>	<p>Load a pin hole camera with photographic paper</p> <p>Expose the photographic paper for an appropriate length of time</p> <p>Process photographic paper through photographic chemicals</p>
Process	Context	Expected outcome
Pinhole camera exposures	Jon Grepstad	Pin hole camera photo
Extension		
Vaseline print		

Lesson 5 of 6

LO	Success Criteria	I can
<p>A lens creates a converging point, producing a meaningful image. Lenses are highly manufactured specialist items, but anything that creates a converging point can be used to produce a meaningful image. A small hole (aperture) will also create a converging point. Lenses can be tilted and shifted to create unusual effects with light.</p> <p>Changing the focal length will result in extension distortion; compression distortion; no distortion (same as the human eye)</p> <p><u>Key Vocabulary</u> <i>Lens – a piece of highly manufactured glass, used to create a converging point</i></p> <p><i>Tilt and shift</i> – in this context we are referring to tilt and shift lenses. When the lens is tilted, it is moved into a sloped position; when it is shifted, it is moved up, down, and side to side</p> <p><i>Free lensing</i> – this is when the lens is held in front of the camera, rather than being attached</p>	<p>Use free lensing technique to create tilt shift images</p> <p>Use objects which create a converging point, instead of a manufactured lens</p> <p>Use lenses with different focal lengths</p>	<p>Create tilt shift images by free lensing</p> <p>Use a wide-angle lens to create extension distortion</p> <p>Use a 50mm lens to achieve no distortion (same as the human eye)</p> <p>Use a telephoto lens to create compression distortion</p>
Process	Context	Expected outcome
DSLR; create unconventional images by using unusual lenses	Vincent Laforet – considered one of the pioneers of tilt shift photography	Tilt shift images Unconventional photographic outcomes Wide-angle; 50mm; telephoto images
Extension		
Photoshop the images to increase tonal contrast and saturation		

Lesson 6 of 6

LO	Success Criteria	I can
<p>Just as a fast exposure time will freeze movement, a slow exposure time can blur movement. We can adjust the shutter of the camera, to ensure a slow exposure time; this is known as a slow shutter speed</p> <p><u>Key Vocabulary</u></p> <p><i>Slow shutter speed</i> – a shutter speed where the denominator of the fraction of the second is less than the numerical value of the focal length of the lens e.g. on a 50mm lens, a shutter speed of 1/30 is considered slow, and 1/60 is considered fast (because 30 is a smaller number than 50, and 60 is a bigger number than 50)</p> <p><i>Motion blur</i> – blur created by a moving object (or moving camera) and a slow shutter speed</p> <p><i>Zoom lens</i> – a lens on which the focal length can be adjusted</p>	<p>Use a slow shutter speed to create panning images (the moving subject is still, relative to the camera)</p> <p>Camera shake images (subject still, camera moving)</p> <p>Zoom with slow shutter (use a zoom lens to change the focal length as the sensor is being exposed)</p> <p>Choose 1/8second shutter speed; use the 'fill in' flash of the camera while shooting</p>	<p>Use the shutter speed to create 'panning' images</p> <p>Use the shutter speed to create images showing 'camera shake'</p> <p>Use a slow shutter speed, and zoom while the exposure is being made</p> <p>Combine the previous processes with flash (the flash will create a still image, while the slow shutter will create motion blur)</p>
Process	Context	Expected outcome
DSLR; slow shutter speed; motion blur captured	Ernst Haas – 'Bullfight, Pamplona, Spain 1956'	Digital photographs showing motion blur
Extension		
Combine some of the techniques e.g. fire a flash while zooming		