

# Materials in Practice

## Animation

Check out the video series here



### Materials

- Adobe Photoshop
- Computer
- Mouse
- Reference image

Teachers, you can find more information about how to access Adobe Photoshop at [Technology 4 Learning](#).

### Techniques

**Rotoscoping** is a style of animation that involves tracing over live-action footage for accurate proportions. There are 2 types of graphics, **raster graphics** that use pixels and are better for painting and textures, whereas **vector graphics** use mathematical equations and are ideal for scalable, refined work.

When beginning to work in digital drawing and animation use a limited brush set and colour palette as well as reference images, which are crucial for maintaining proportions. Place reference material as the bottom layer for easy tracing. **Opacity** adjustments help with visibility while drawing. Onion skins enable a ghost effect, showing previous frames for smoother animation.

Standard animation is set at 24 frames per second. To reduce workload, animators can work 'in twos' meaning they work on 12 **frames per second**. Videos can be split or trimmed, and **transitions** can be applied between frames.

When adding detail and making adjustments, you can use **guidelines** to help achieve facial symmetry. Simplifying details can help enhance clarity and improve your animation style. Once it's time to add colour, create a new layer for base colours and choose a skin tone using the colour wheel.

### Shortcuts

Tool	Shortcut
Brush tool	<b>B</b>
Eraser tool	<b>E</b>
Undo	<b>Z</b>
Duplicate	<b>Ctrl + J</b>
Transform	<b>Ctrl + T</b>
Eraser	<b>Y</b>
Zooming	<b>Ctrl + + or -</b>
Reset zoomed screen to full view	<b>Ctrl + 0</b>
Brush size adjustment	<b>Use the bracket keys to resize: [ ]</b>

### Safety

- Take regular breaks to avoid fatigue.
- Locking layers prevents accidental edits.
- Save your work regularly.



# Materials in Practice

## Animation

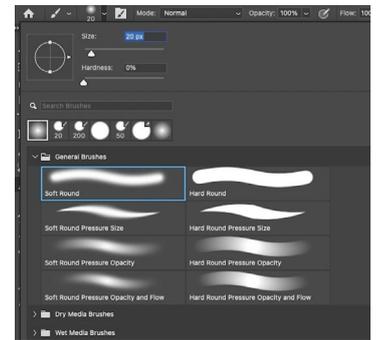
### Processes

#### Setting up a new project in Photoshop

Open Photoshop and create a new file by selecting **File > New**.

- Choose the **Film & Video** preset and select 4K video as the starting format.
- Name the file to keep track of work.
- Adjust dimensions if needed.
- Press **Create**.

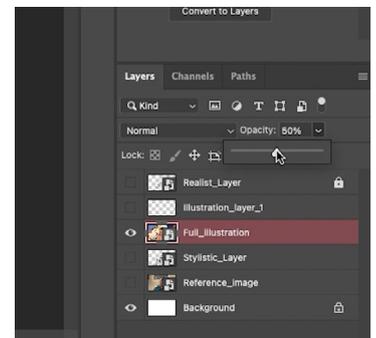
To optimise the **resolution** use 1080p instead of 4K for smoother performance, especially on slower computers



Brushes

#### Layers

The Layers panel can be found on the right-hand side. Naming layers helps to organise work efficiently. Select the plus icon at the bottom of the Layers panel to create a new layer. Locking layers prevents accidental edits and you can hide layers by selecting the eye icon to **toggle** visibility.



Layers, opacity and eye icon

#### Frame-by-frame animation

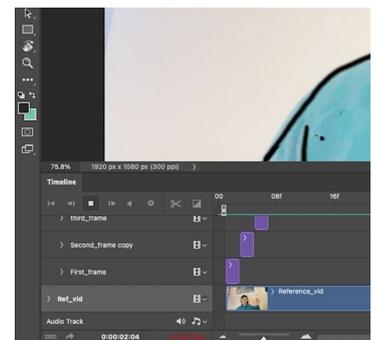
- Start with a **base frame** and sketch simple outlines.
- **Duplicate** layers (**Ctrl+J**) to speed up the process.
- Use **transform tools (Ctrl+T)** to adjust and refine movement.

#### Animating movement

- Adjust sketches slightly for smooth **transitions** between frames.
- Focus on exaggerating movements.
- Blurry or 'smear' frames can help simulate motion.

#### Exporting your project

When exporting animation, it helps to hide any reference footage before rendering, then export at 1080p and 24 **frames per second** to match animation settings.



Timeline

#### Top tips

- Start with basic shapes and movement before adding details.
- Plan your animation by working on key poses first before filling in in-between frames.
- Play back animation regularly to spot issues early.
- Remember, animation is time-consuming, but the results improve with practice!



Animating movements using a reference image as a guide

# Vocabulary list

## Animation

Term	Definition
<b>Base frame</b>	The starting or key frame in an animation sequence that serves as the foundation for creating motion or action.
<b>Brush tool</b>	A tool used for painting, drawing and creating texture in both static and animated artwork. It allows for various effects by adjusting size, opacity, flow and hardness
<b>Duplicate layers</b>	Creating an exact copy of a layer, which can be useful when you want to preserve an original while experimenting or making changes in animation.
<b>Frames per second</b>	Frames per second (FPS) refers to the number of individual frames displayed per second in an animation. A higher FPS results in smoother motion, while a lower FPS creates a more choppy or stylized effect.
<b>Guidelines</b>	Reference lines that help align and position elements accurately within a composition.
<b>Onion skins</b>	A feature that allows animators to see multiple frames at once, helping them create smooth transitions between frames.
<b>Opacity</b>	Refers to the transparency level of a layer or an element, determining how much of the underlying layers are visible. It is measured in percentages, with 100% opacity being fully visible and 0% opacity being completely transparent.
<b>Raster graphics</b>	Images made up of a grid of pixels, where each pixel holds colour and detail information.
<b>Resolution</b>	The amount of detail an image holds, typically measured in pixels per inch (PPI). The higher the resolution, the more detail is visible, making it suitable for high-quality printing or digital use.
<b>Rotoscoping</b>	A technique where an artist traces over video footage, frame by frame, to create realistic motion in an animation.
<b>Toggle</b>	Refers to switching between 2 settings, typically by pressing a specific key or button. It allows you to quickly enable or disable a tool, feature or view mode.
<b>Transform tools</b>	This tool allows you to modify the size, position, rotation and perspective of a layer or selection.
<b>Transitions</b>	The smooth change from one frame, scene or visual element to another. Transitions help create fluid movement, guide the viewer's eye, and enhance storytelling.
<b>Vector graphics</b>	Images created using mathematical paths instead of pixels, allowing them to be scaled infinitely without losing quality.