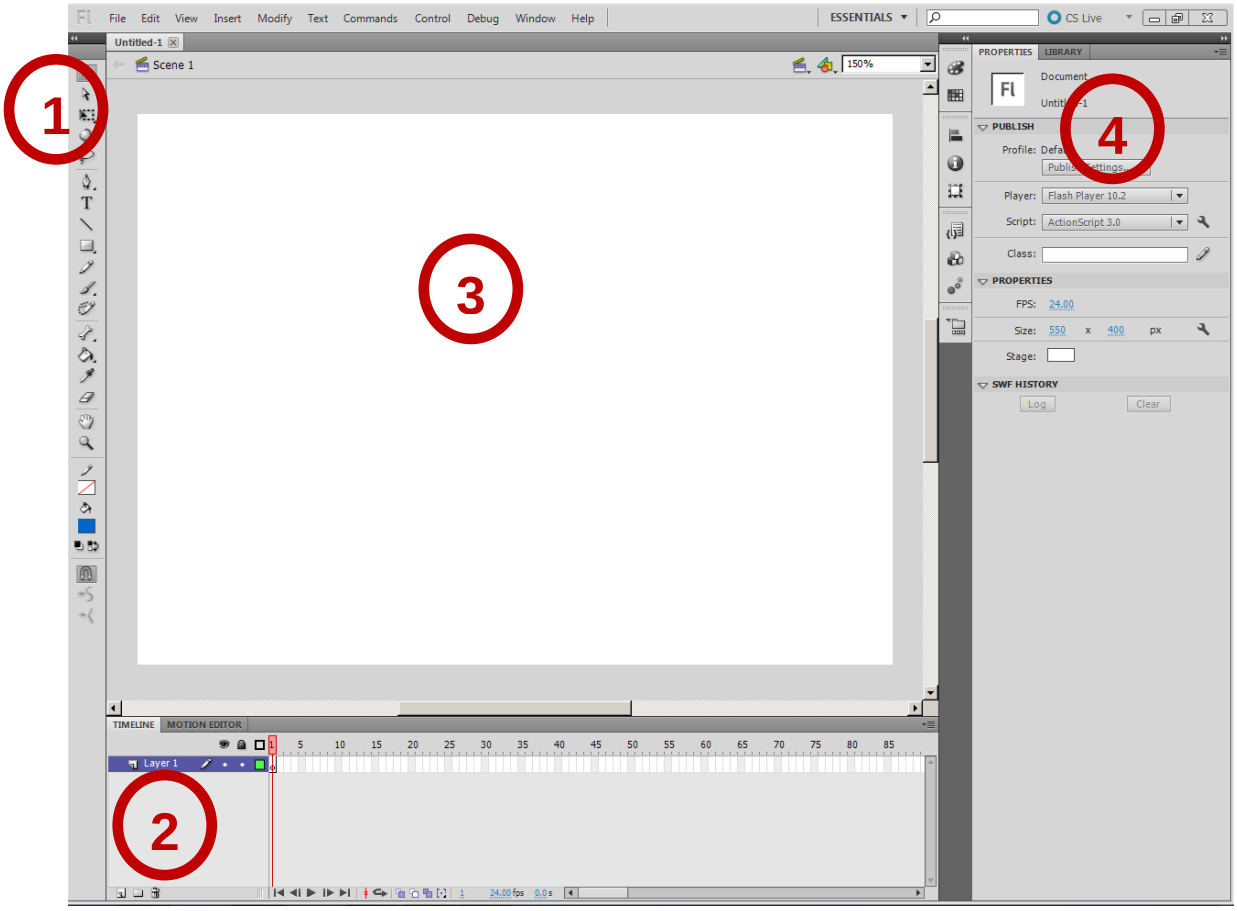
Flash CS5.5 Tutorial No. 1

Adobe Flash CS5.5 Layout

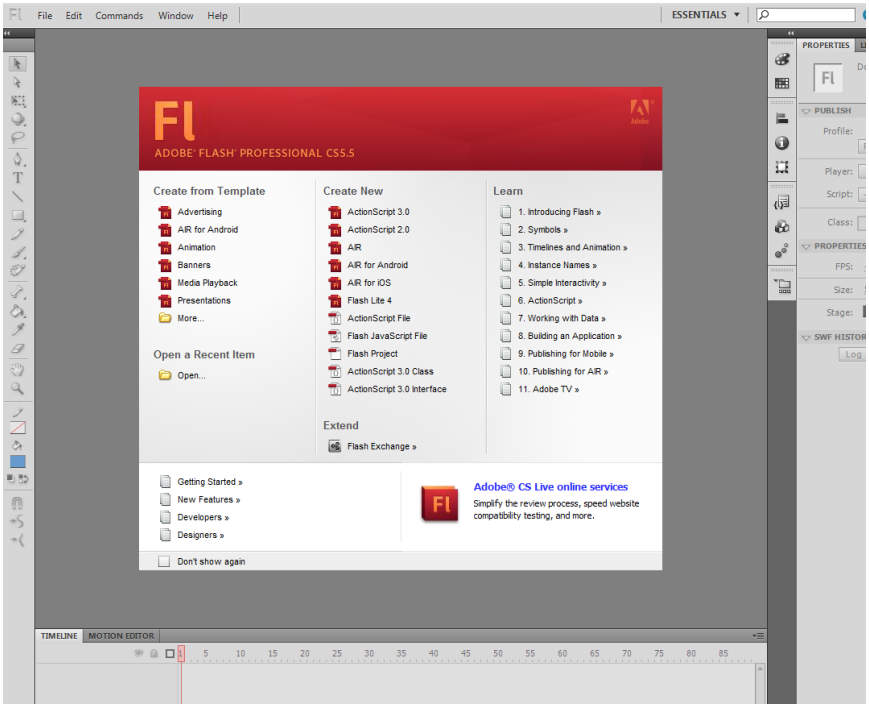


Main Areas in Flash:

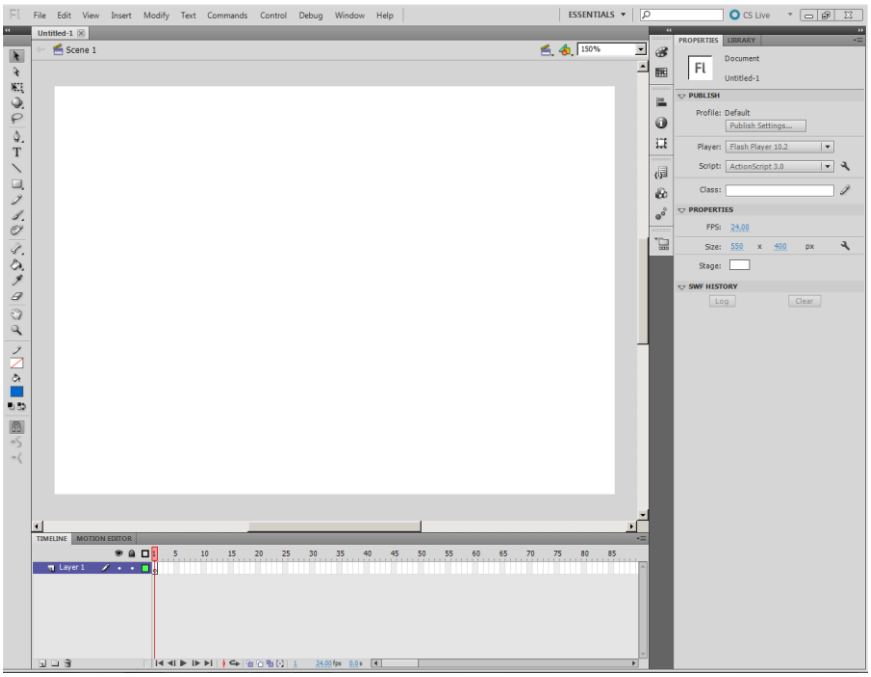
1. **Tools**
    - The Tools panel contains selection tools, drawing and type tools, painting and editing tools, navigation tools, and tool options.
2. **Timeline**
    - The Timeline is used to control the progression of the movie. It is divided into two areas: Layers to the left and frames to the right.
3. **Stage**
    - As with a theater stage, the Stage in Flash is the area viewers see when a movie is playing. It contains the text, images, and video that appears on the screen.
4. **Panels**
    - Properties Panel
        - The Property inspector gives you quick access to the attributes you're most likely to need. What appears in the Property inspector depends on what you've selected.
    - Other panels such as library, history, colours, alignment etc.

Creating a New Document

- Open Adobe Flash
- Click on Flash File (**ActionScript 3.0**) under the title "Create New"



- A new flash document is created.



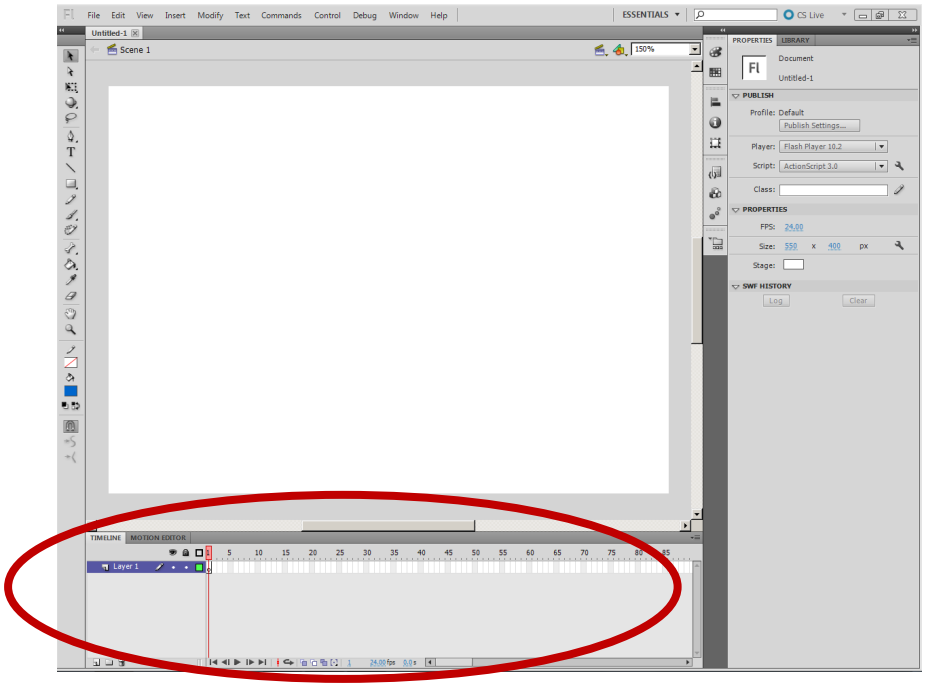
- File >> Save
- Give it a name e.g. **animation1.fla** (note that flash source files have **.fla** file extension) and save it in a folder of your choice on your computer.

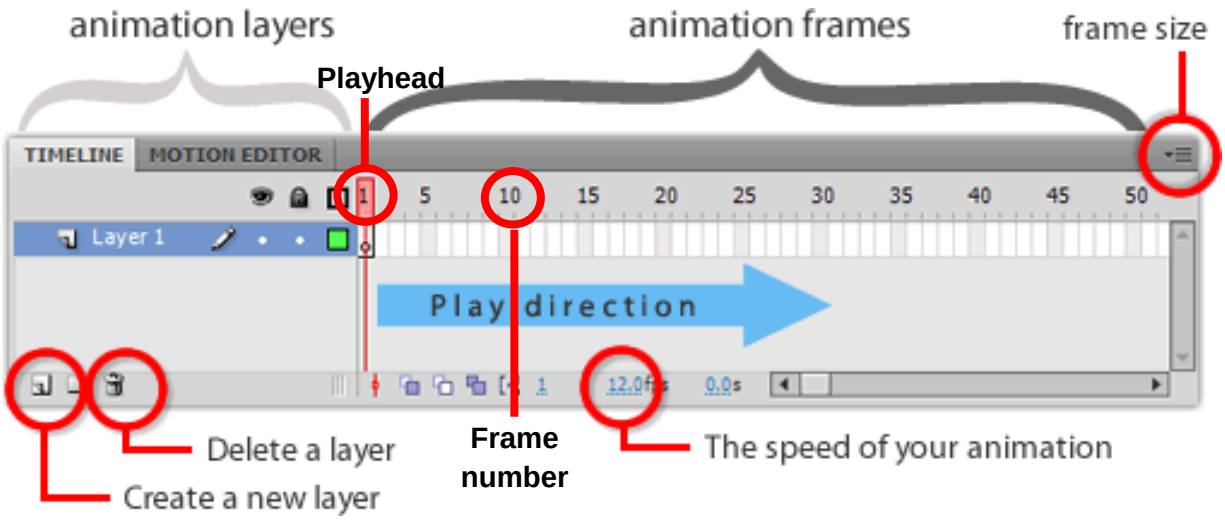
Knowing the Basics

The Timeline

The timeline in Adobe Flash organizes and controls a movie's content over time in **layers** and **frames**. Like movie film, Flash movies divide lengths of time into frames. Layers are like multiple filmstrips stacked on top of one another, each containing a different image that appears on the stage. The major components of the timeline are:

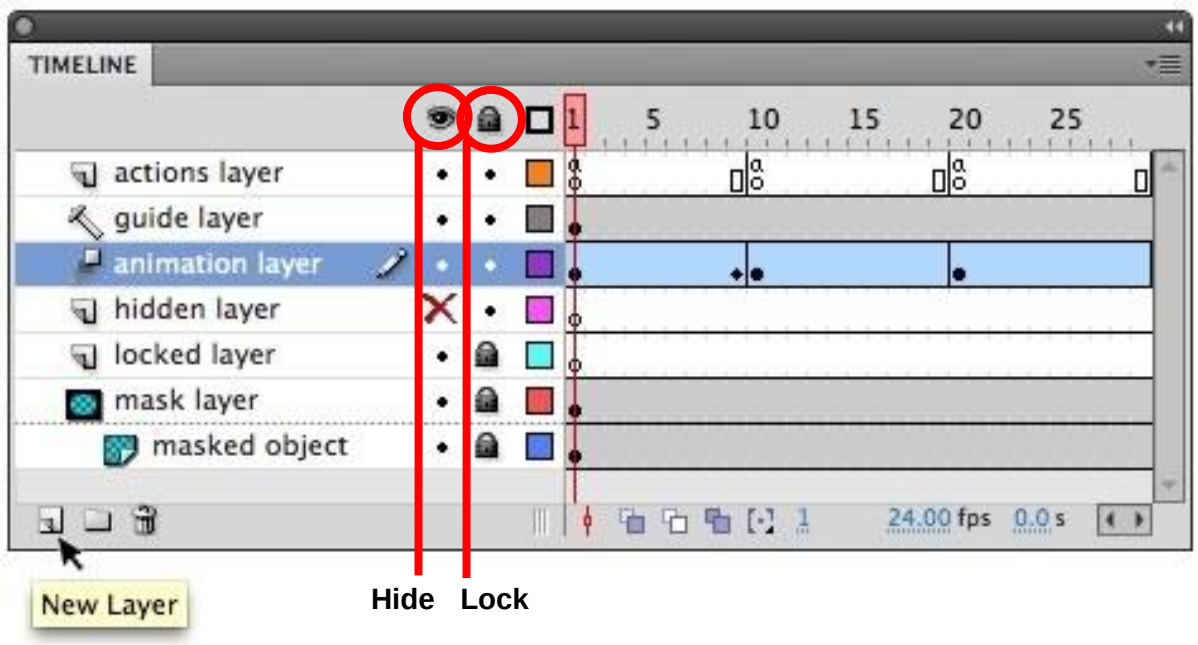
- **Layers** in a movie are listed in a column on the left side of the timeline.
- **Frames** contained in each layer appear in a row to the right of the layer name. The timeline header at the top of the Timeline indicates frame numbers.
- **Playhead** indicates the current frame displayed on the stage. As a movie plays, the playhead moves from left to right through the timeline. By default, the playhead loops when it reaches the end.





Layers

Layers help you organize the artwork in your Flash movie. You can draw and edit objects on one layer without affecting objects on another layer. In areas of the stage with nothing on a layer, you can see through it to the layers below. Even the most basic animations may well consist of multiple layers.



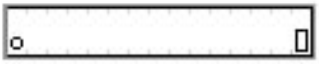
When you create a new Flash movie, the timeline will already contain one layer. To manage the artwork, animations, and other elements in your movie, its best to add additional layers. You can also hide, lock, or rearrange (drag & drop) layers. The number of layers you can create is limited only by your computer's memory, and layers do not increase the file size of your movie. Only the objects you place into layers add to the movie’s file size.

Frames

All the visual graphics used in your animation must be held within frames. All animations, by definition, must contain multiple frames. Animations begin playing in frame 1 and move on to the right. The speed at which your animation plays is controlled by the frame rate (**FPS** - frame per second). When you open a new movie, the frame rate is defaulted at 24 frames per second of animation. The frame rate is adjustable in the properties.

A keyframe is a frame in Adobe Flash where a new symbol appears in the timeline. A black dot in the timeline indicates a keyframe. Light grey frames after a keyframe contain the same content with no changes. These frames have a vertical black line and a hollow rectangle at the last frame of the span.

These are variations of frames which you will make and see during development:



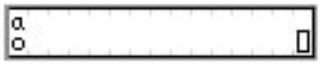
A blank keyframe with no content followed by a series of static frames

A keyframe containing content followed by a series of static frames

A motion tween

A motion tween with property keyframes

A shape tween

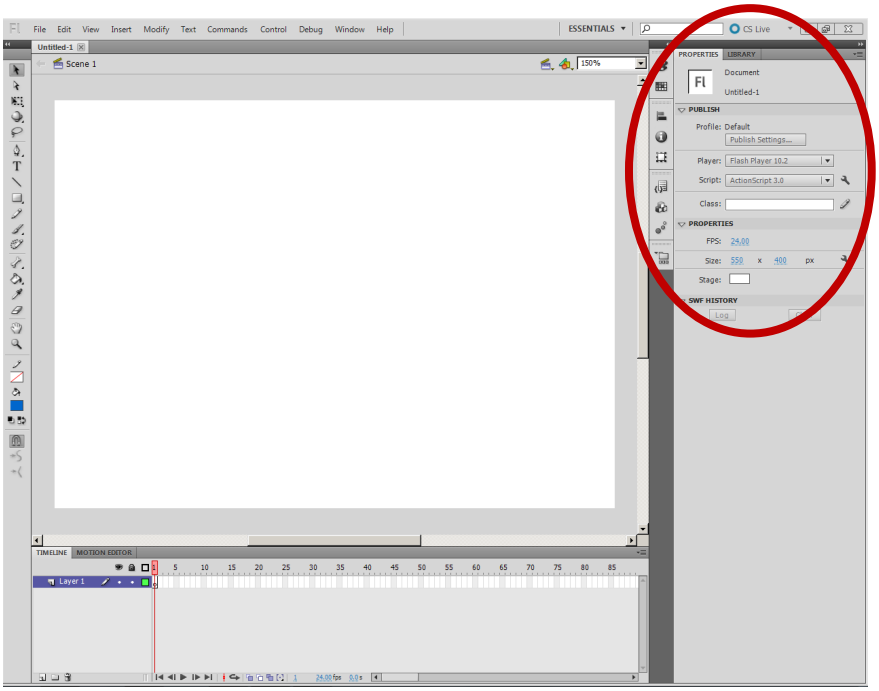


A keyframe with a frame script containing ActionScript code

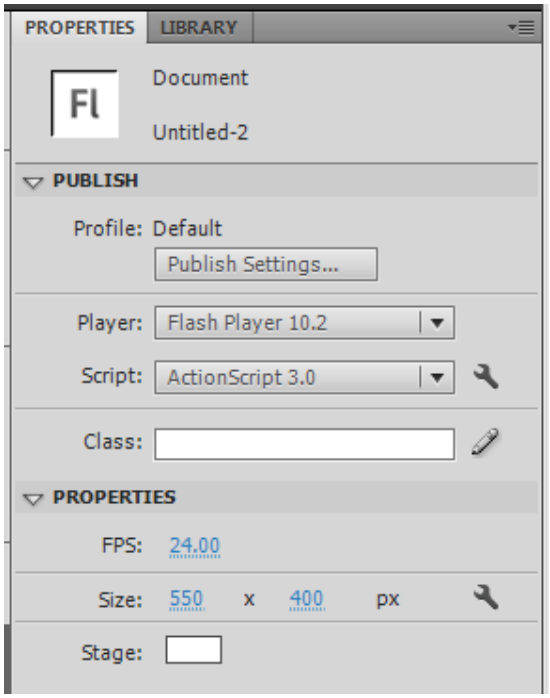
A series of keyframes containing content in a frame-by-frame animation

Setting up the Properties

- Use the Properties Panel, found along the right-hand side of the window, to set up your movie



- From here you can set the movies various properties, such as stage size, the frame rate and stage colour as desired. You should notice that the stage will change as you edit the properties



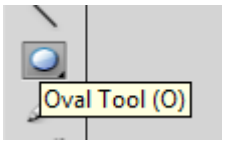
Exercise 1: Frame by Frame Animation

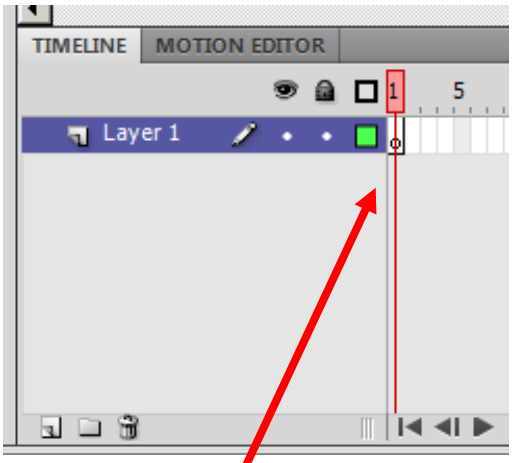
The frame-by-frame method of animation is derived from the traditional animation process whereby the content is redrawn on each frame with slight differences from the last frame. When these frames are played in sequence, there is an illusion of movement. In Flash, you utilize keyframes in the timeline to accomplish this. A keyframe defines a change to the artwork placed on the stage.

1) Open new flash movie, if needed (File >> New)

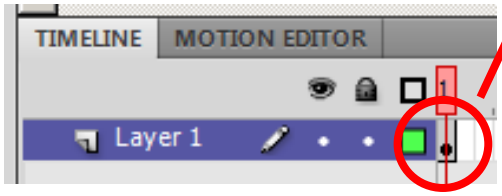
2) Every new movie opens up with one layer already in the timeline. Each layer will have one empty frame already on it

3) On the stage, draw a circle using a **Shape Tool** on the toolbar

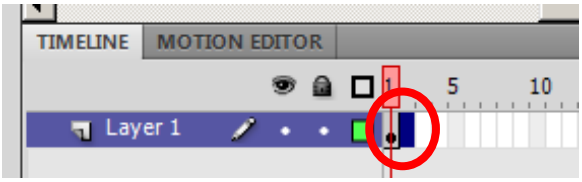


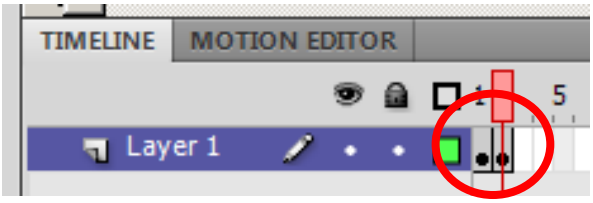


4) You should now notice that the first frame of **Layer 1** has turned grey, this indicates that there is something in that frame

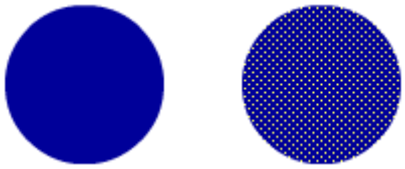


5) On Layer 1, click on frame 2 and insert a new keyframe (Insert >> Timeline >> Keyframe or hit F6). You should now have two keyframes on Layer 1, see below





6) Click on the new keyframe in frame 2 and you should notice that the shape on the stage will become highlighted – the shape will look grainy, see below



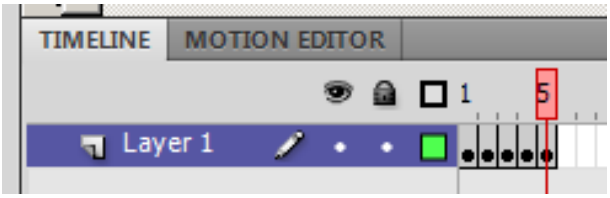
Not highlighted Highlighted

7) Move the shape in frame 2 to another location on the stage – You can do this by drag and drop, or using the arrow keys on the keyboard

8) Now click on frame 3 and insert another new keyframe (Insert >> Timeline >> Keyframe or hit F6)

9) Again, click on this third keyframe and move the shape in it to a third location on the stage. We are picking out each keyframe individually and moving the shape in each one at a time

10) Repeat this until you have 5 keyframes on Layer 1



11) Save your movie (File >> Save)

12) Test your movie (Control >> Test Movie or hit Control & Enter together)

EXTRA:

- Why not try changing the frame rate now, from the properties panel, and see what happens?

NOTE:

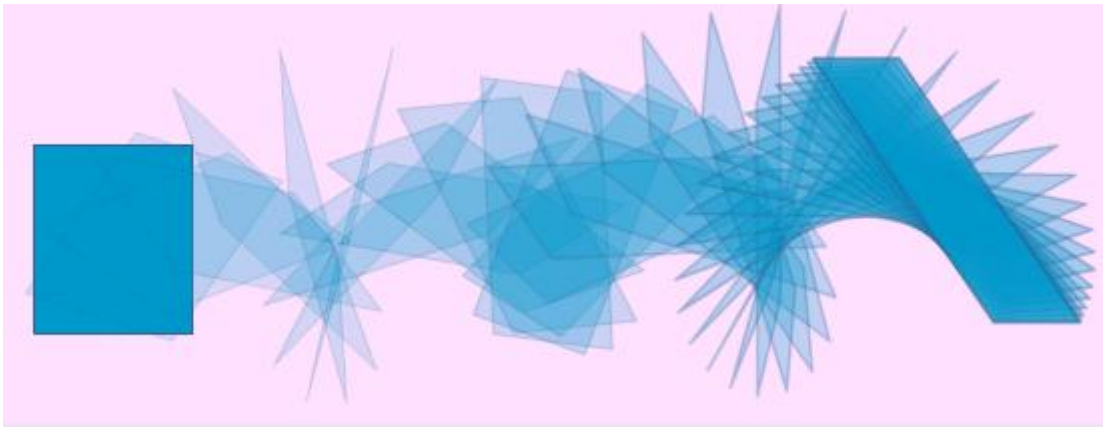
- When we save our movie (File >> Save), we are creating a **.FLA** file
- When we test our movie (Control & Enter together), we are also creating a **.SWF** file

It is important to know the difference between a .FLA and a .SWF:

- An .FLA file is the editable, Flash Authoring file
- An .SWF file is the finished, published Shockwave Flash file. It is this file which we import or upload to a webpage

Exercise 2: Tweening

"Tween" is short for "in-between", and refers to auto-rendering of graphics, by Flash, of the frames between two pre-defined keyframes, as shown below. Flash's has three forms of tweening - Motion, Classic and Shape.



Shape Tween
(Shape tweening – changing from one object to another)

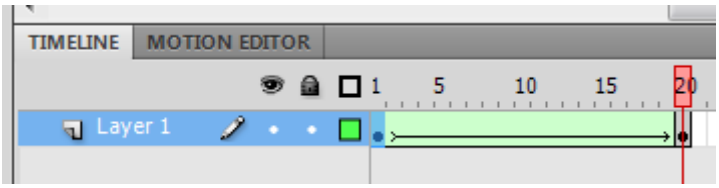
1) Open a new movie (File >> New)

2) In frame 1, draw a shape on the stage

3) On frame 20 of the timeline, insert a new blank keyframe (Insert >> Timeline >> Blank Keyframe)

4) Select frame 20 and draw a different shape on the stage

5) Go back to frame 1 and insert a **Shape Tween** (Insert >> Shape Tween)
You should now see a green box with an arrow in your timeline



6) Save your movie (File >> Save)

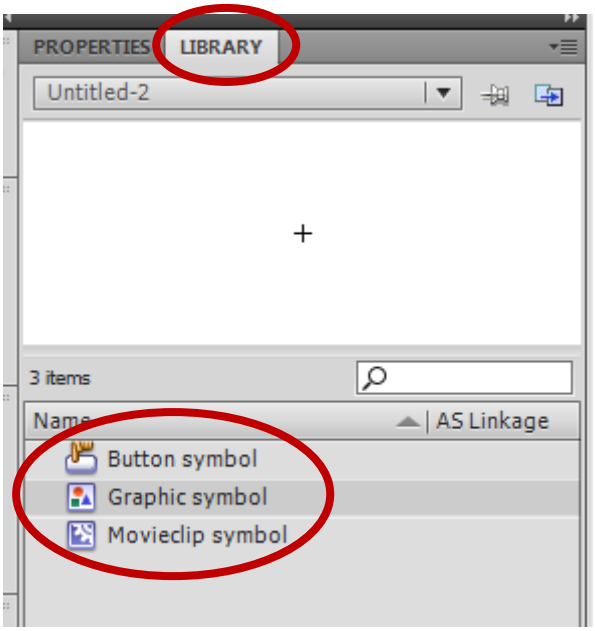
7) Test your movie (Control >> Test Movie or hit Control & Enter together)

Symbols

Before creating a classic or motion tween, we need to learn about symbols. A **Symbol** is a reusable object used/created in Flash. There are three types of symbols:

- **Graphics**, or reusable static images,
- **Buttons**, used for interactivity and navigation,
- and **Movieclips**, reusable pieces of flash animation.

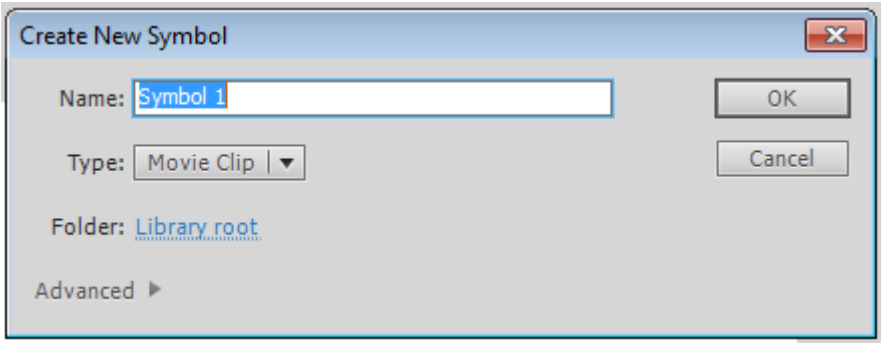
Using symbols is an efficient way to add artwork or additional elements, such as **Actionscript** code, to your movie. When you create a symbol, it is stored in the **Library** where it can be reused as an **instance** in the timeline. An instance is a copy of a symbol used in a movie, which can have its own independent properties (like colour, size, function, etc.) different from the original symbol. You can turn graphics or animations you've made into symbols or create a new one from scratch.



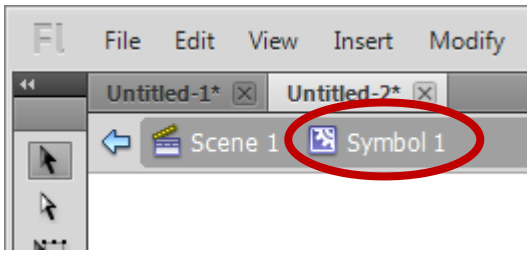
Each symbol has a different icon, which you can see in the library or properties panel, to represent it - see above. Symbols have their own timelines and can contain additional artwork. You can enter a symbol's **Editing Mode** to make changes and when you leave the editing mode the artwork is protected.

Creating a new symbol from scratch

- Select Insert >> New Symbol



- Enter a **Name** and symbol **Type** and click **OK**
- You will automatically enter **Symbol Editing Mode** after clicking OK, where you can draw the symbol on the stage. You can tell when you are in a symbols editing mode because the name of the symbol will appear along the top of the window beside **Scene 1** – Scene 1 is the movie you are currently working in. To close out of editing mode, click on Scene 1, which will bring you back to the movies main timeline.



Converting an existing shape into a symbol

- Select the desired artwork on the stage
- Right-click or select Modify >> Convert to Symbol
- Enter a name and type for the symbol, click OK

Classic Tween
(Classic Tweening – changing the position/rotation of the object – previously called Motion Tween)

1) Open a new movie (File >> New)

2) In frame 1, draw a shape on the stage

3) Select the whole shape and right click on the shape

4) Select “Convert to Symbol” from the menu

5) In the window, which appears type in a name for the shape symbol and select a symbol type, for example ‘Graphic’, and click OK

6) On frame 20, Insert a new keyframe (Insert >> Timeline >> Keyframe or Hit F6)

7) Select in shape in frame 20

8) With the shape still selected in frame 20, move it to the opposite side of the stage

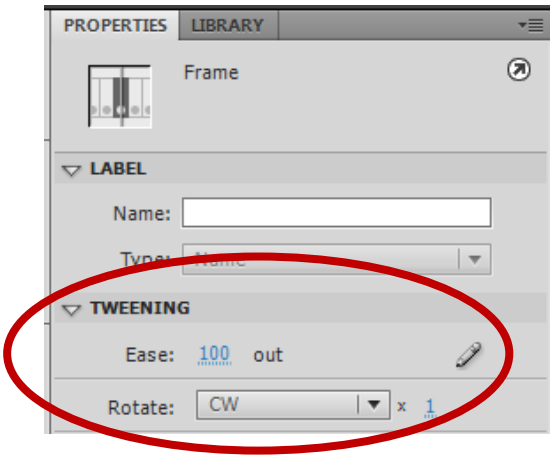
9) Go back to frame 1 and insert a classic tween (Insert >> Classic Tween or Right-click >> Create Classic Tween)
You should now see a blue box with an arrow in your timeline

10) Save your movie (File >> Save)

11) Test your movie (Control >> Test Movie or hit Control & Enter together)

EXTRA:

- Why not try changing some of the tween properties from the properties panel, for example setting the **Ease to 100** and the **Rotation to CW** (Clockwise)



Motion Tween
(Motion Tweening – moving an object along a path - NEW tween method since CS4)

1) Open a new movie (File >> New)

2) In frame 1, draw a shape

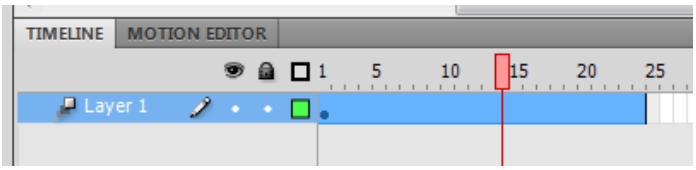
3) Select the whole shape and right click on the shape

4) Select “Convert to Symbol” from the menu

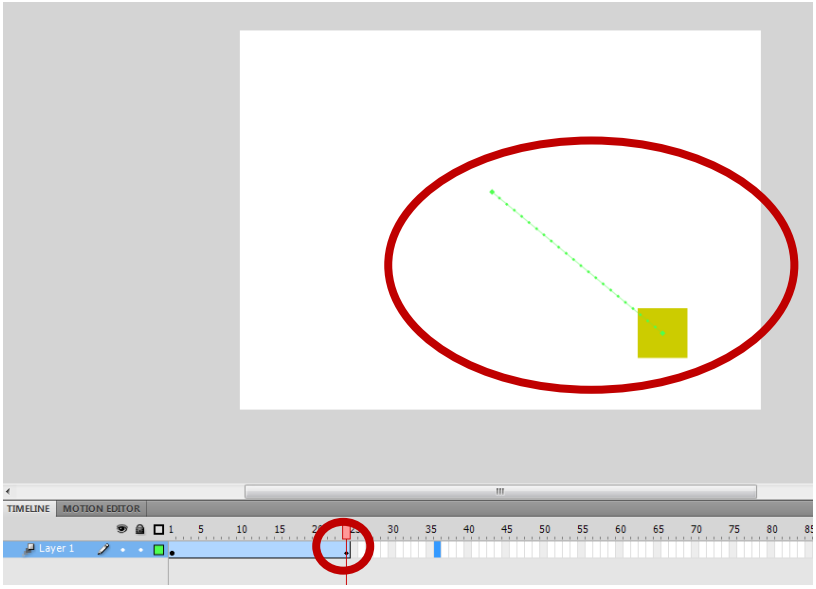
5) In the window, which appears type in a name for the shape symbol and select a symbol type and click OK

6) Once again, right click on the shape on the stage and select ‘**Create a Motion Tween**’

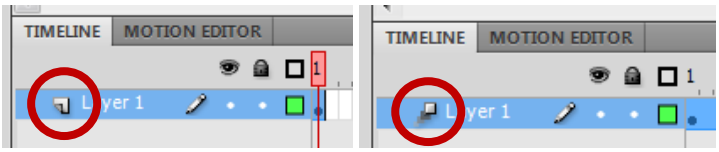
7) You should notice now that Flash has automatically added a tween span of **24 frames** to the timeline. It has added 24 frames because the **default frame rate is 24 frames per second**, so this tween span is now equal to 1 second long.



8) Go to frame 24 on the timeline and drag the shape to the other side of the stage. You should notice now that Flash has added a tiny **diamond icon** to frame 24; this indicates a keyframe, or change, in the tween. You will also notice a **Motion Guide**, or path, has been added to the stage. If we test this now, the motion tween should act exactly like our previous classic tween did.

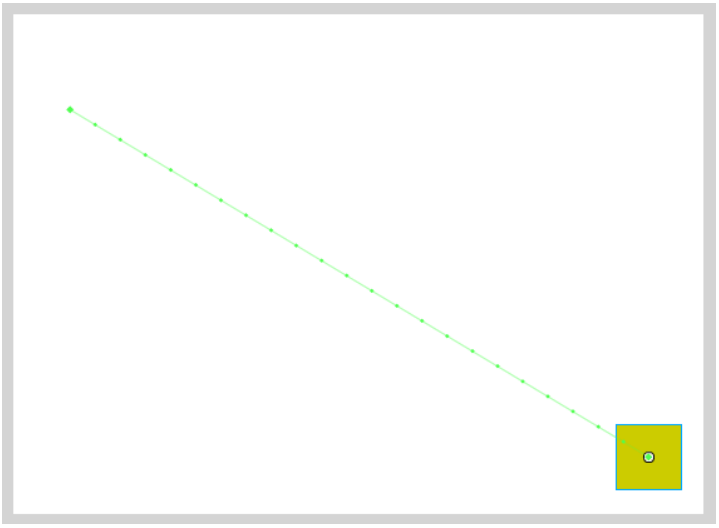


9) The addition of the motion guide to the tween is a new feature of the motion tween since CS4. Previously if we wanted our tween to follow a set path we would have to add a separate guide layer above our tween. Now it is all done for us by Flash when we choose to create a motion tween. Something else you should also notice is now the icon for Layer 1 has been changed to indicate that this layer is now a Motion Guide Layer

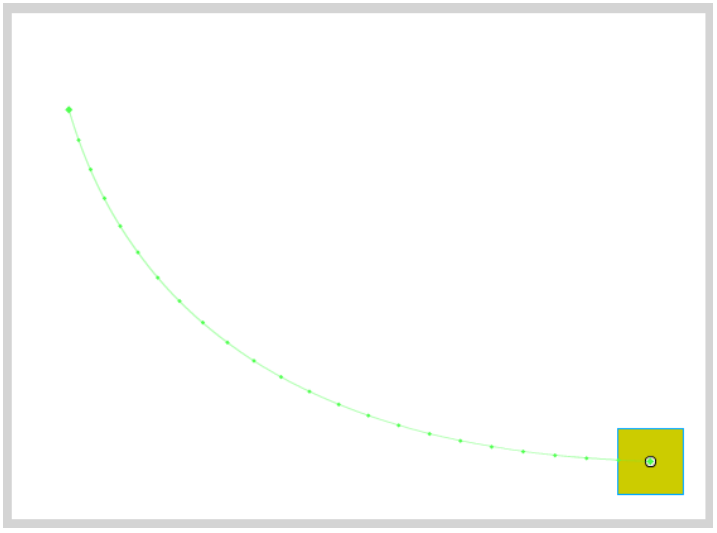


Icon Before Icon After

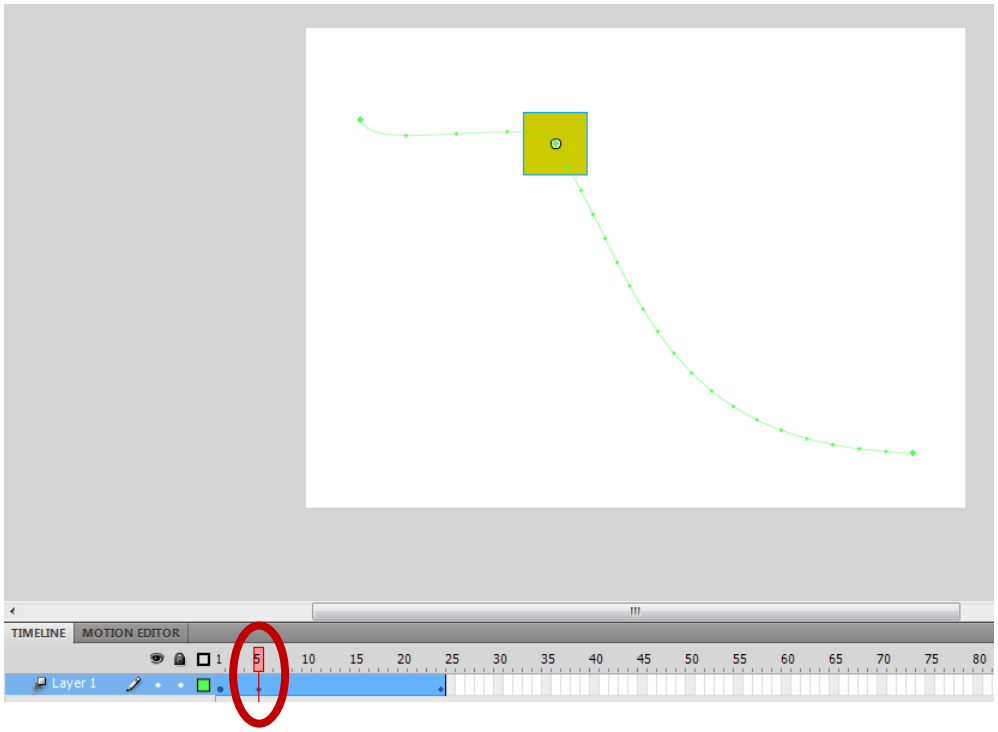
10) We can use the guide to move the shape in a particular way. There are points across the length of the guide and these represent the frames which span the tween. In this example we have 24 points as we have 24 frames in our tween span.



11) We can directly move the guide on the stage to change the path of the shape, by clicking and dragging one point.

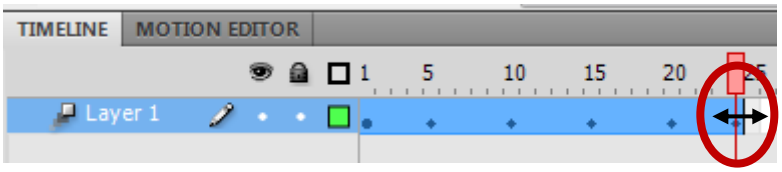


12) We can also define the path even more by selecting a frame on the timeline and directly moving the shape on the stage. For example, click on frame 5 on the timeline and move the shape on the stage to another position. You should notice that Flash has added a little diamond icon to frame 5 where we have just changed the tween.



13) Try altering the path at frames 10, 15 and 20. Don't forget you can directly alter the guide on the stage as well.

14) Another nice feature of the new tween method is that if we wanted to increase or decrease the length of our tween we can do so by just dragging out the end of the span. Notice how all of our keyframes re-adjust accordingly.



15) Save your movie (File >> Save)

16) Test your movie (Control >> Test Movie or hit Control & Enter together)

EXTRA:

- Why not have a go at creating a 'Bouncing Ball' animation? Maybe even play around with some of the properties, like rotation and ease.

Exercise 3: Masking

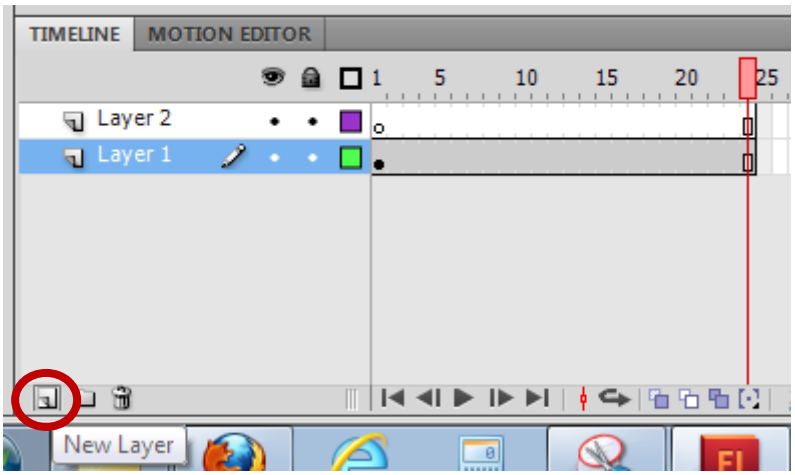
A mask allows you to conceal and reveal selected parts of a layer. A real world analogy would be a window frame. There is a larger outside world but all of it you can see through a window is controlled by the size and dimensions of the window.

1) Open a new movie (File >> New)

2) In frame 1of layer 1, import an image
   You can get an image from the Internet or there are some on Moodle either

3) Go to frame 24 and Insert a new **frame** (**Not a keyframe**) (Insert >> Timeline >> Frame or hit F5). By adding a new frame rather than a keyframe, we are setting the image up to be static on the stage for 1 second (24 frames) without any changes.

4) Add a new layer to the timeline (Insert >> Timeline >> New Layer)
   The new layer, Layer 2, should appear above the layer already there, Layer 1, as shown below. You can also click on the **New Layer** button at the bottom of the timeline window.



5) Notice that the new layer has 24 frames like the first layer. Flash automatically does this to match the duration of the current animation. You can remove unwanted frames by highlighting them and selecting **Edit >> Timeline >> Remove Frames** or Right-clicking on the frame and choosing Removes Frames

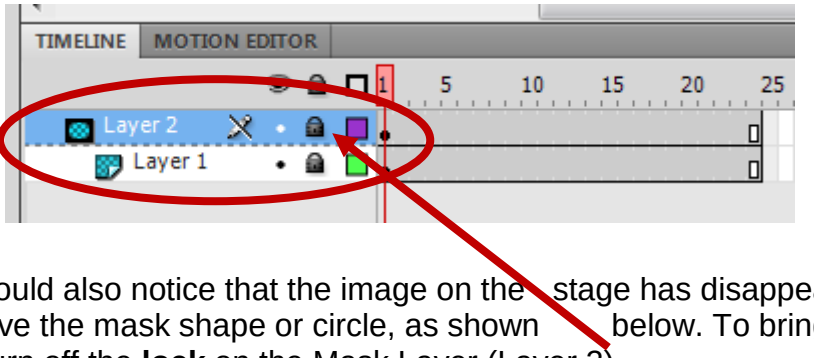
6) On frame 1 of Layer 2, draw a small circle on the stage

7) Select the whole circle and right click

8) Select “Convert to Symbol” from the menu

9) In the window, which appears type in a name for the circle symbol and select a symbol type and click OK

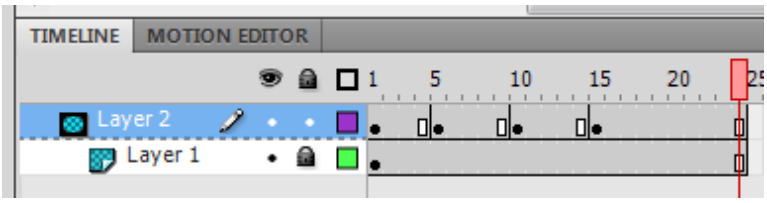
10) Right click on Layer 2 and select “**Mask**” from the menu. Notice how the layer icons change on the timeline, see below, and now the bottom layer is indented underneath the top layer, this tells us that the two layers are linked



11) You should also notice that the image on the stage has disappeared and you only have the mask shape or circle, as shown below. To bring the image back, turn off the **lock** on the Mask Layer (Layer 2)

Before Mask applied | After Mask applied

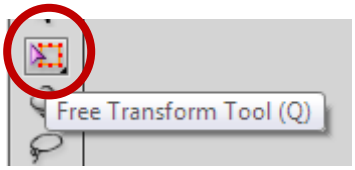
12) On Layer 2, Insert new keyframes on frames 5, 10 and 15 (Insert >> Timeline >> Keyframe or Hit F6)

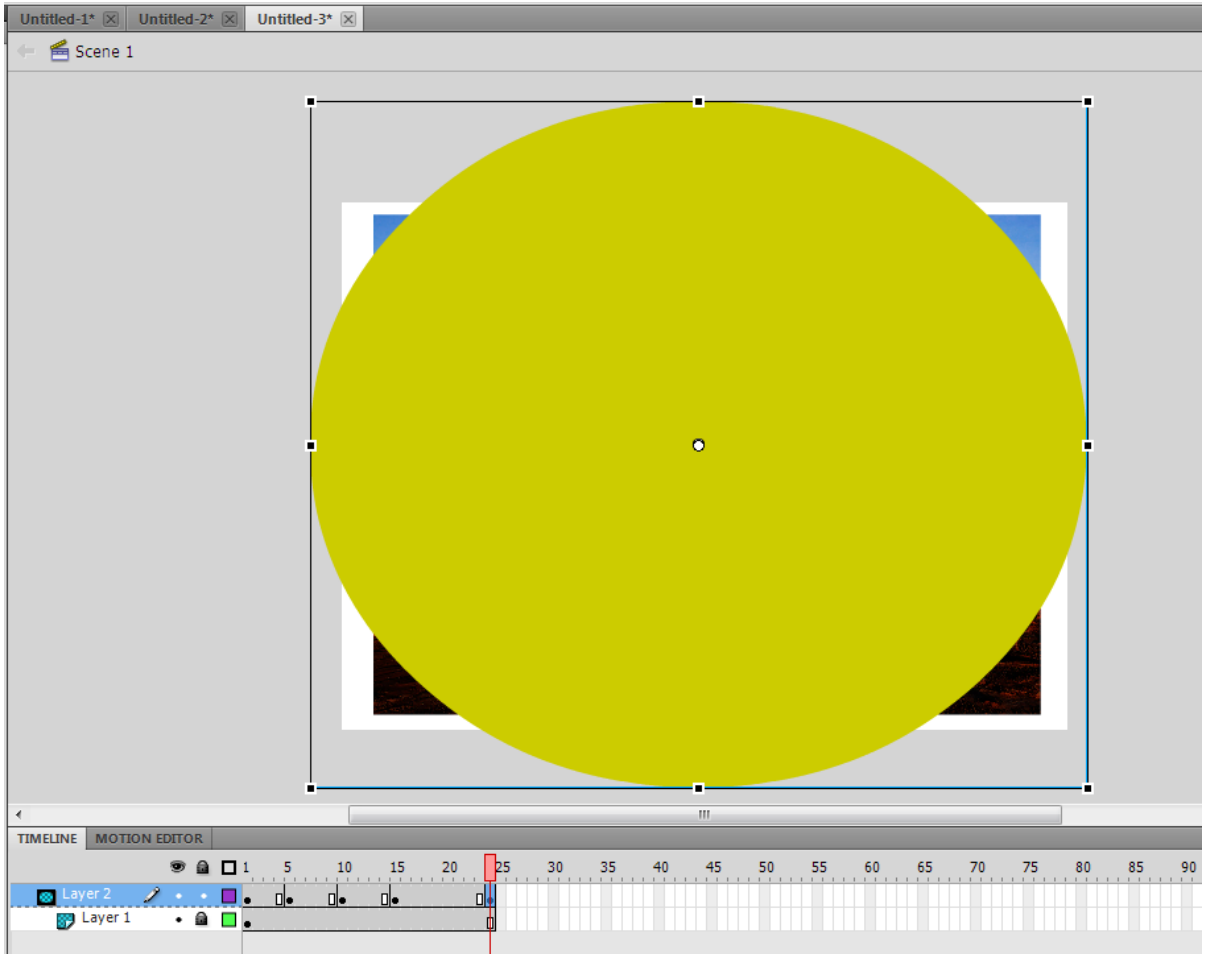


13) In frame 5 of Layer 2, move the circle to another position over the image on the stage. Repeat this for frames 10 and 15 so that at each keyframe the circle is in a different position, see below

Frame 5 | Frame 10 | Frame 15

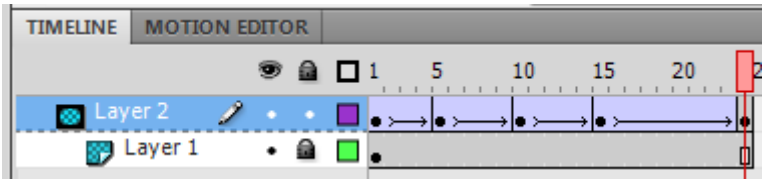
14) In frame 24 of Layer 2, insert a new keyframe and increase the size of the circle, using the **Free Transform Tool**, so that it is bigger than the image and position it so that it covers most / all of the image





15) Go back to frame 1 of Layer 2, Right-click and select **classic tween** from the menu

16) Select frame 5, 10 and 15 of Layer 2 and create classic tweens for each of these frames also. Layer 2 should look like it has four separate classic tweens, as shown below



17) Save and test your movie