

T3 Curriculum Team:

Writers:

Janet Davis
Abigail Rudner
Steve Tatum

Editors:

Chris Faust
Laura Hillager

QA:

Susi Kohan
Kathy Young
Danielle Magee

Lesson overview:

A Ladybug is trapped in a jar. Your mission is to help the Ladybug escape from the jar by animating its way out. You will do this by applying motion tweens to the Ladybug symbol.

Tools used:

- Selection tool
- Timeline, stage, and library
- Property Inspector

Skills covered:

- Add static frames to the timeline
- Work with the timeline
- Insert keyframes
- Create motion tweens
- Insert a stop action

What you will do:

Set up a motion tween animation that moves the Ladybug out of the jar, rotates it, and moves it off stage. The movie stops when the animation ends.

Relevance to teaching:

Digital Storytelling provides unique opportunity for creative expression. Master animation techniques to provide storytelling format.

**Motion Tween Animation Rules:**

1. The tweened object must be a symbol.
2. A beginning keyframe and an ending keyframe must be placed in the timeline.
3. The timeline must contain no more than one tweened object per layer.

Prepare the work area:

1. Open file.

- **File>Open>Free_Ladybug_start fla.** This movie has been partially constructed for you. Graphic symbols **Ladybug**, **Bug Jar**, and **Plants** are on stage and named layers in the **timeline**.
- Open Library **Window>Library**. A Trace Objects symbol is also provided for those who would like to trace their own illustrations.



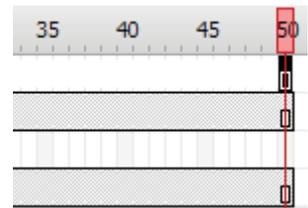
Name	Type
Bug Jar	Graphic
Ladybug	Graphic
Plants	Graphic
Trace Objects	Graphic

Gray frames are static frames. This means that they contain content that is not animating.

White frames are blank frames. They contain no content.

2. Make the movie 50 frames long.

- The **Timeline**: the **Actions** layer, **Bug Jar** layer, and **Plants** layer all contain objects that will not move at any time during the movie, so these layers will remain **locked**.
- Activate the **Actions** layer. Click **frame 50** in the Actions layer. Go to **Insert>Timeline>Frame**; the keyboard shortcut is **F5**.
- Repeat above steps for Bug Jar layer and Plant layer.



About Frames

Frames

Units in the timeline containing imagery that determines the length of time the imagery displays.

Keyframes

Keyframes are the place where all instructions for the animation are placed. A keyframe displays the part of the animation where a change of motion is to take place, where a set of commands will be executed.

Blank keyframes

Keyframes with no content in them, often used as place holders in the timeline.

Tween frames

Tween frames as all the frames that hold the “in between” states of the animation.

No frames (frame grid)

No frames indicates that only the timeline grid displays.

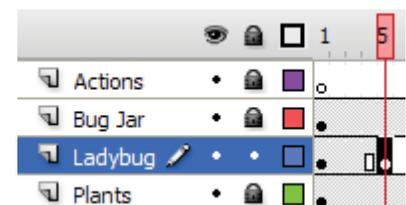
Animate the Ladybug: Motion Tween.

3. Decide when you want the animation to start.

- Activate the **Ladybug** layer.
- Choose a frame that marks the starting time of the animation.
We chose **frame 5**.

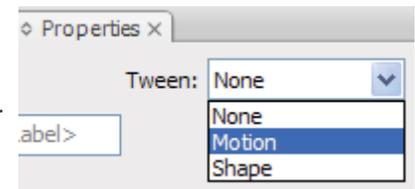
4. Place keyframe

- Click **frame 5** in the Ladybug layer to select.
- Go to **Insert>Timeline>Keyframe**, or keyboard shortcut **F6**. A keyframe (a frame with a black dot inside) appears. The content displayed in the previous keyframe is copied and a new instance of it is placed in the new keyframe.



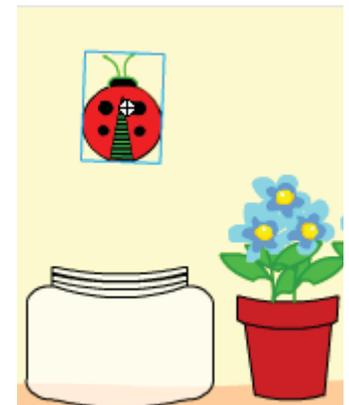
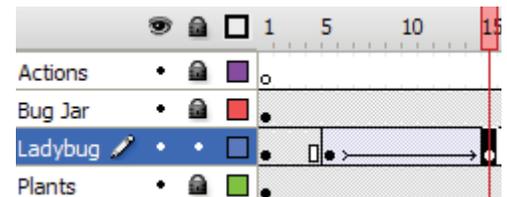
5. Change frame 5 from an ordinary keyframe to a beginning motion tween keyframe.

- With **frame 5** still selected, go to the **Properties Inspector** and in the **Tween** panel select **Motion**. **Frame 5** turns from **gray** to **blue**.



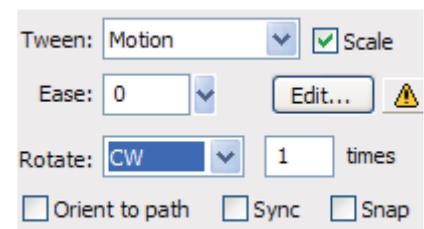
6. Place ending motion tween keyframe, move ladybug.

- Click **frame 15** and insert a keyframe **Insert>Timeline>Keyframe**. An **arrow** appears between the frames 5 and 15.
- This arrow indicates that these frames have now become **tween frames**, frames that represent the in-between states of the animation.
- With **frame 15** still selected in the timeline, click and drag the **Ladybug** symbol on the stage, move it out of the jar above the plants.
- Designate **keyframe 15** as a **motion tween** keyframe. With **frame 15** still selected, go to the **Properties Inspector**. In the tween panel select **Motion**.



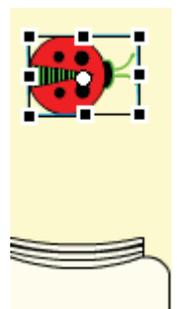
7. Rotate Ladybug.

- In the **Rotate** panel select **CW** and for times select **1**. This will rotate the ladybug symbol 1 complete **360 degree** turn in a **clockwise** direction.



8. Continue motion tweening Ladybug to finish flight path.

- Select **frame 25** and insert a **keyframe**. Motion Tween keyframe 25.
- Use the **Free Transform** tool to rotate ladybug **90 degrees** to the right so that it is positioned to appear to fly off to the right.
- Insert a final keyframe in **frame 50**. With frame 50 selected in the timeline, move the ladybug symbol on the stage to a position **off**



[Make sure actions panel says frame. If it does not say frame, select the keyframe in the timeline once again.]

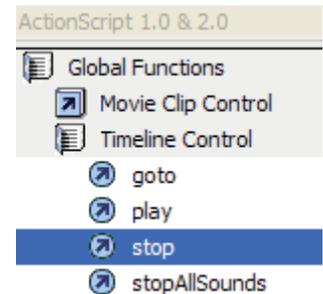
of the stage on the right hand side of the stage.

- Save your movie.

Stop Movie to Keep it From Replaying

9. Insert a Stop Action.

- In the **Actions** layer of the timeline, select **frame 50** and insert a keyframe.
- Open **Actions** panel **Window>Actions>Global Functions>Timeline Control**.
- Double-click **stop**; the code **stop()**; will appear in your actions editor, and an @ will appear in **frame 50**.
- Close the **Actions** panel, Save your movie, and test it by going to **Control>Test Movie**.



Extended Activity

- Create your own bug. Draw the head, thorax, abdomen, wings, etc.
- Convert it to a symbol. Motion tween it to make it escape or fly into the jar.