

## T3 Curriculum Team:

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**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.

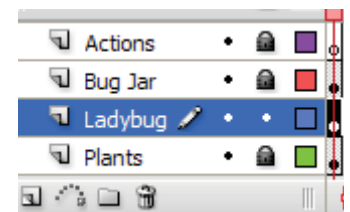
**Motion Tween Animation Rules:**

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.



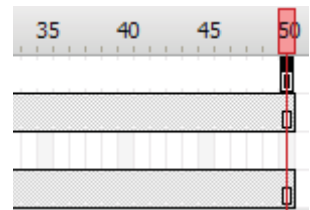
| Name          | Type    |
|---------------|---------|
| Bug Jar       | Graphic |
| Ladybug       | Graphic |
| Plants        | Graphic |
| Trace Objects | Graphic |

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.

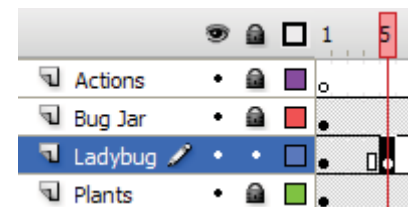
## Animate the Ladybug: Motion Tween.

### 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**.

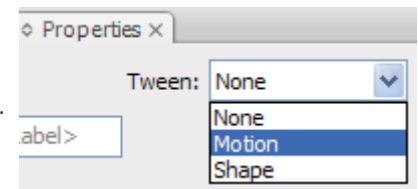
### 4. Place keyframe

- 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.



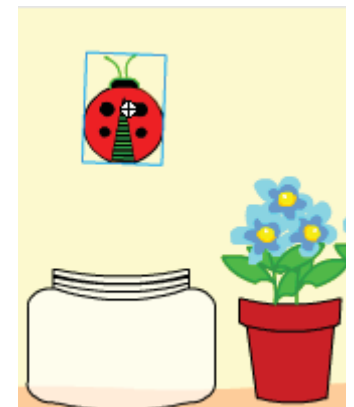
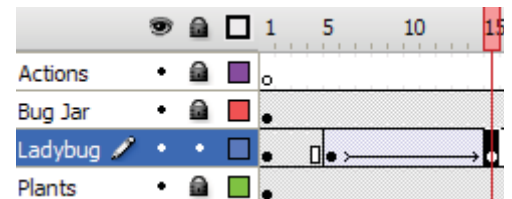
5. Change frame 5 from an ordinary keyframe to a beginning motion tween keyframe.

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



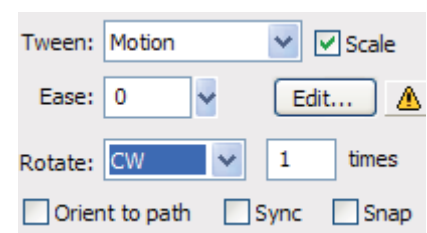
6. Place ending motion tween keyframe, move ladybug.

- 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**.



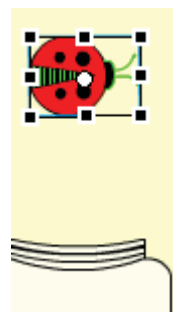
7. Rotate Ladybug.

- 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.]

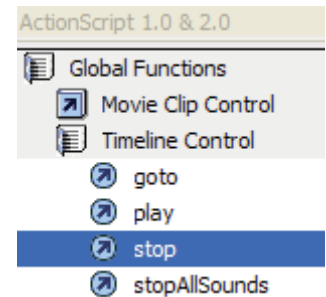
**of the stage** on the right hand side of the stage.

- 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.