

## Clip in a Clip in ActionScript3

In this lesson we will place movie clips of a wheel inside a movie clip of a car. As the car moves across the stage the wheels will rotate. When the car reaches the right edge of the stage it will back up.

1. Start a new ActionScript3 movie and save it as car fla.
2. Draw a picture of a wheel on the stage. Select the wheel and make it a movie clip with the registration in the center because we are going to rotate it. Name the MovieClip Wheel and name the instance wheel1.
3. Create a movie clip called car. Drag the wheel from the library and make it the right size for the car and put it into position on the body of the car. Name the instance of the Wheel wheel1.
4. Add a second wheel and name the instance wheel2.
5. Name the instance of the Car **car**. There is just one just one object on the stage: **car**.

We now have an instance of a car that we can refer to in our ActionScript. We can change car.x or car.y. We can also change car.wheel1 and car.wheel2. The code is very similar to the bouncing ball that you did in a previous lesson. When the car is backing up we want to rotate the wheels counter clockwise.

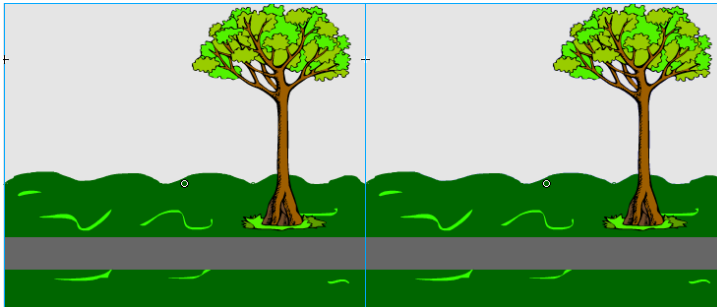
```
var dx:int=4; //speed along x axis
var dr:int=2; //rotation speed is clockwise
this.addEventListener(Event.ENTER_FRAME,moveCar);
function moveCar(e:Event): void {
    car.x=car.x+dx;
    if(car.x<=0 || car.x>stage.stageWidth-car.width)
    { dx=dx*-1; //change direction of car
      dr=dr*-1; //change direction of rotation
    } //hit the edge
    car.wheel1.rotation=car.wheel1.rotation+dr; //rotate wheels
    car.wheel2.rotation=car.wheel2.rotation+dr;
} //move car
```

Notice that because we want to execute two statements when the car hits an edge, we need to enclose the statements inside curly braces: {}

We are going to create a new movie clip with a car, but instead of the car moving, we will make the background move and the car will stay in the same place, with the wheels rotating.

1. Start a new ActionScript3 movie and save it as car2 fla. (Leave car1 open.)
2. In order for the background to scroll smoothly, we must make sure that when we put two copies of the background next to each other the edges match. We also want the background to be somewhat nondescript: plain rolling hills, or rows of identical houses, etc.

3. One way to make sure the edges match is to start with a rectangle and then add hills and trees in the middle. Make sure that the movie clip for the background is wider than the stage.
4. Place two movie clips on the stage side by side. Name the instances back1 and back2.



5. We will get the background working before we add the car.

```

var dx:int=-5; //background will roll from right to left
var dr:int=2; //rotation speed -when we add the car
back1.x=0; //touching the left edge and filling the stage
back2.x=-back2.width; //off stage, touching left edge
this.addEventListener(Event.ENTER_FRAME,roll);
function roll(e:Event): void {
    back1.x=back1.x+dx; //move the two backgrounds in tandem
    back2.x=back2.x+dx;
    //if dx is positive, put piece on the left when it leaves on the right
    if(back1.x>stage.stageWidth) back1.x=-back1.width;
    if(back2.x>stage.stageWidth) back2.x=-back2.width;
    //if dx is negative, put piece on right when it leaves on the left
    if(back1.x<-back1.width) back1.x=stage.stageWidth;
    if(back2.x<-back2.width) back2.x=stage.stageWidth;
    //add statements to rotate wheels when you add the car
} //roll

```

6. Copy the car from the previous movie and paste it on its own layer.
7. Add the statements to rotate the car from moveCar in the first movie to the roll function in this movie.

**Experiment 1:** Add buttons to make the car go faster, slower and to stop.

**Experiment 2:** Make a rocket facing the top of the stage. Make a starfield that scrolls to give the appearance that the rocket is moving.