Review: the Dummy Marker

 Typically used for:
 - Positioning large and small objects in a scene
 - Remembering camera positions for multiple scenes
 - Remembering where a “good” camera position is

Example

Giving the knight a sword
(ArmTheKnight.a2w)

Dropping a dummy marker: Step 1

In the scene editor, click on the More controls button (right hand side)

Dropping a dummy marker: Step 2

Click on the Drop Dummy at Camera button.
Rename Dummy Marker

In the Object Tree, rename the Dummy object to a more meaningful name, such as originalPosition (not required, but very useful!)

Using a dummy marker

To return the camera to its original position, during scene setup

Pull-down the menu for the move camera to dummy button and select the originalPosition dummy marker.

Your turn

Give your knight a sword

Review: Camera Motion During Animation

To move the camera during an animation, any of the following can be used:

- camera.move, camera.turn, and camera.roll (We do not recommend these actions – it is often difficult to avoid motion sickness!)
- camera.move to with camera.orient to
- camera.set point of view to
- set the camera's vehicle property
Example

We’ll use the AmusementPark world as an example

Three parts:
- Moving (and orienting) to an object
- Following an object
- Returning to the camera's original position

Moving to an object

Have the camera move with another object

Returning to original position

If you want the camera to move back to its original position during an animation, you must have marked the original position with a Dummy during scene setup (see previous slides).

To return the camera to its original position, during an animation

- One way
  - Camera.moveTo(originalPosition)
  - Camera.orientTo(originalPosition)
- Another way
  - Camera.setPointOfViewTo(originalPosition)
Your turn

Choose one of the other amusement park rides, and use camera motion to give the viewer of the animation a sense of being on the ride.

Method Modifiers: As Seen By

Open World ToyBallAndCone.a2w
Can we get the ball to circle the cone?

Circle the Cone

Move - linear motion, not curved
Turn - around the ball's center
Turn as seen by the cone

Click on more, choose “As Seen By” from the drop down menu and specify the cone.
The ball will now turn around the cone's center.

Other Modifiers

Open the world WingWalkingMonkey.a2w
First, Set Vehicle Property

In the Properties tab of the camera, we have set its vehicle property to *biplane*. We did the same for the camera positions. Whenever the biplane goes, the camera and camera positions will track with it.

Set Vehicle Property in code

We could have set this property in code by dragging the tile into the editor.

Where this property should be modified as part of the program.

Duration

An Alice statement takes 1 second to execute, alter this time period with the `duration` modifier.

Be careful to synchronize the durations of different commands:
- Sound clip as background for a skating routine lasts 30 seconds.
- Time the movements so that they will also last 30 seconds.

Duration and Do in order

Sound clip as background for a skating routine lasts 30 seconds.
Time the movements so that they will also last 30 seconds.
Duration and Do together

A **Do together** block will take as long as the longest duration to execute.

- **1 second to execute**
  - turn backward 
  - duration = 0.5 seconds

- **.5 second to execute**
  - turn backward
  - duration = 0.5 seconds

Style

An Alice animation will have an acceleration to top speed, move at top speed, and then decelerate to stop.
- Repeated action, say in a loop, will make the animation appear to be jerky.
- Set the style modifier to **abruptly** in smooth out the animation.