TAGE
"Dolphin Ride"
(same as 01a, with the following changes)

. . .

public class MyGame extends VariableFrameRateGame
```
{ . . .
    private GameObject dol, cub;
    private ObjShape dolS, cubS;
    private TextureImage doltx, brick;
    . . .
```

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```
    @Override
    public void loadShapes()
    { dolS = new ImportedModel("dolphinHighPoly.obj");
        cubS = new Cube();
    }

    @Override
    public void loadTextures()
    { doltx = new TextureImage("Dolphin_HighPolyUV.png");
        brick = new TextureImage("brick1.jpg");
    }

    @Override
    public void buildObjects()
    { . . .

        // build cube at the right of the window
        cub = new GameObject(GameObject.root(), cubS, brick);
        initialTranslation = (new Matrix4f()).translation(3,0,0);
        initialScale = (new Matrix4f()).scaling(0.5f);
        cub.setLocalTranslation(initialTranslation);
        cub.setLocalScale(initialScale);
    }
```

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```
@Override
public void keyPressed(KeyEvent e)
    { Vector3f loc, fwd, up, right, newLocation;
      Camera cam;

      switch (e.getKeyCode())
      { case KeyEvent.VK_1:
            paused = !paused;
            break;

        case KeyEvent.VK_2: // move dolphin forward
            fwd = dol.getWorldForwardVector();
            loc = dol.getWorldLocation();
            newLocation = loc.add(fwd.mul(.02f));
            dol.setLocalLocation(newLocation);
            break;

        case KeyEvent.VK_3: // move dolphin backward
            fwd = dol.getWorldForwardVector();
            loc = dol.getWorldLocation();
            newLocation = loc.add(fwd.mul(-.02f));
            dol.setLocalLocation(newLocation);
            break;

        case KeyEvent.VK_4: // view from dolphin
            // to "ride" the dolphin, move this code to update()
            cam = (engine.getRenderSystem()
                            .getViewport("MAIN").getCamera());
            loc = dol.getWorldLocation();
            fwd = dol.getWorldForwardVector();
            up = dol.getWorldUpVector();
            right = dol.getWorldRightVector();
            cam.setU(right);
            cam.setV(up);
            cam.setN(fwd);
            cam.setLocation(loc.add(up.mul(1.3f)).add(fwd.mul(-2.5f)));
            break;
      }
      super.keyPressed(e);
    }
```