

Frogger Sample Lesson Plan  
Day 3 – 50 minutes  
In computer lab  
Scalable Game Design summer workshop  
June 2009



Note: **Red** links take you to portions of the tutorial. **Blue** links provide background information to aid in teaching.

### 1. Learning Objectives:

In this unit, students will create a simple but complete version of Frogger game while learning Agentsheets software program. Students will apply design process to identify objects “agents” and interactions “operations”. Throughout this unit, students will be introduced to basic [computational thinking](#), including basic object interaction, stacks, creating object instances, rule based programming, and message sending.

In this lesson, students will program the truck / frog collision complete with sound. This is the last section of the first tutorial.

### 2. Standards:

ISTE (International Society for Technology in Education) NETS (National Educational Technology Standards)

- # 1a apply existing knowledge to generate new products
- #4b plan and manage activities to develop a solution or complete a project.
- #4d use multiple processes and diverse perspectives to explore alternative solutions.
- #6c troubleshoot systems and applications.

ISTE NETS are referred to by CDE Performance Standards for Teachers #7- Technology  
Please check with your district’s technology department to see if there are additional standards at the district or school level.

### 3. Anticipatory Set / Modeling: 5 minutes

Student work showcase: Select one of the student’s worksheets from the last lesson and project it on an overhead screen. Demonstrate what can be done so far on her/his worksheet (road complete, trucks generated and disappear, but nothing happens when hit by a truck). Compare this to a completed version of Frogger so students can see where they are headed. Inform students that today they will be programming the collision of the frog and truck.

### 4. Teaching: 5 minutes

**Input** – Overview of project and Agentsheets

Review components of Agentsheets:

- Gallery- where agents are
- Worksheet – where game is created
- Behavior – how to tell each agent what to do

And four computational thinking patterns in Frogger: Today we will be using Collision.

- [Absorb](#): Trucks, turtles, and logs will need to be absorbed (erased) with truck absorber, log absorber, and turtle absorber agents.

- [Collision](#): Trucks collide with frogs. We will use a simple form of collision to deal with trucks colliding with frogs.
- [Generate](#): Trucks, turtles, and logs will need to be generated with truck maker, log maker and turtle maker agents.
- [Transport](#): Logs and turtles transport the frog. This slightly more advanced pattern will be used in part II of the Frogger tutorial.

Today we are enhancing some of the previously created agents “nouns” (frog and truck) and their movements “verbs”.

## 5. Guided Practice / Monitoring: 25 minutes

Demonstrate how to open Agentsheets program and have students open saved versions of Frogger from last lesson. Check understanding of each student.

Demonstrate how to modify an existing agent and have students make a bloody frog agent by modifying the frog agent. [Programming Truck collision with Frog](#)  
Then modify frog behavior to accommodate frog/truck collision.  
Check understanding of each student.

Students should save the worksheet periodically and check with the reset button to verify that it worked. [IMPORTANT: Saving the Worksheet](#)

## 6. Assessment of progress: 10 minutes

This assessment can be an individual check by the teacher of each students work or can be done as a peer evaluation - students working in pairs. Alternately each student could evaluate his or her own program.

Hit Run and see if everything works correctly. Check:

- Does the frog move all directions?
- Do the trucks get created and erased?
- Does the Frog-Truck collision work correctly?

If answer to one of these is no, go back to the related section and see what might have done wrong. Otherwise, if everything works correctly GOOD JOB!

## 7. Closure: 5 minutes

Restate the scope of the project. Tomorrow we will adding a river, logs and bridges. We will be using the transport computational thinking pattern as well.

## 8. Extension/ Remediation – students can edit their agents at any time. As an extension continue setting up guidelines for scoring for later programming.