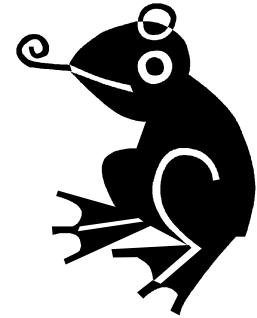


Frogger Sample Lesson Plan  
Day 2 – 50 minutes  
Scalable Game Design summer workshop  
June 2009



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 create street, truck, and tunnel agents. Students will create the movement behavior for the trucks and will program the absorption and creation of the trucks.

### 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 (frog can jump in all 4 directions). Compare this to a completed version of Frogger so students can see where they are headed. Inform students that today they will be making the road portion of the game.

### 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 Absorb and Generate.

- [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.

Remind students about the nouns (the agents) and the verbs (the operations) of Frogger. We will creating the next most prominent nouns today – the streets and trucks, and corresponding movements.

## 5. Guided Practice / Monitoring: 35 minutes

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

Remind students how to create a new agent and have students make a street agent.

[Creating the Street](#) Have students place street agents on worksheet using pencil tool to make three lanes of street.

Check understanding of each student.

Ask students to create a new truck agent. Remind students that agents can be edited at any time, so they should not spend a lot of time on the art work right now. After creating the truck, students can edit the behavior of the agent to move from left to right. Demonstrate this first, then have students work independently to complete.

[Creating and Programming the Truck](#) Ask students to run program to test movement.

[Play Test: Testing the Truck Movement](#) Cars just stack up on the edge.

Check understanding of each student.

Demonstrate how to make the tunnel agent and program to generate cars on left side of the worksheet. Allow students time to create and program tunnel agent.

[Creating and Programming the Tunnel](#)

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

Demonstrate how to edit the truck behavior to make the trucks disappear on the right side of the worksheet. [Revisiting the Truck: Making Trucks Disappear at the End of the Road](#) Then have students run the program to see what happens

[Play Test: Truck and Tunnel Behaviors](#)

Check understanding of each student.

## 6. Closure: 5 minutes

Restate the scope of the project. Tomorrow we will be programming the frog and truck collision!

## 7. Extension/ Remediation – students can edit their agents at any time. Encourage students to spend a short time on the initial creation and edit later as desired. optional activity