Frogger Lesson plan outline

Below are the terms and definitions that will be used throughout the Frogger game construction. Using these terms on a regular basis will enhance the process.

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.

Day 1
- Pre-test. 15 minutes
- Brief overview of what the unit will be about, share with the class what the final project will look like. 10 minutes
- Overview of the layout of the software and the main buttons.
- Create the grass depiction.
- Create the frog depiction.
- Create worksheet.
- Lay down the grass in a 12x14 grid on the worksheet.
- Place 1 frog on bottom of the worksheet.
- Go over how to save their work. Using a removable storage device to back up their work is a good idea.

Day 2
- Program the frog to move in all directions.
- Create the street depiction.
- Create the truck depiction.
- Place 4 lanes of road on the lower half of the worksheet.
- Randomly place 4 trucks on each lane.
- Program the truck to move to the right.

Day 3
- Create the right tunnel (it will absorb the truck). Place it on the right side of each lane.
- Create the left tunnel (it will generate the truck). Place it on the left side of each lane.
- Program the truck to erase (absorb) when it reaches the right tunnel.
- Program the truck to generate from the left tunnel (explain how timing works and have the students experiment with different variables).
Day 4
- Create the dead frog depiction.
- Program the collision of the frog and truck (see to the right, and stacked above).
- Make sure the simulation stops and resets after the frog dies.
- Create the river depiction.

Day 5
- Create the turtle agent (make sure that the depiction is looking to the right).
- Program the turtle to move to the right.
- Create the right island (it will absorb the turtle). Place the island on the right side of each water lane; make sure to alternate with the bridge.
- Create the left island (it will generate the turtle). Place the island on the left side of each water lane; make sure to alternate with the bridge.
- Program turtle to generate from the left island.
- Program the turtle to absorb when it reaches the right island.
- Program the turtle to transport the frog to the right.

Day 6
- Create the log agent.
- Program the log to move to the left.
- Create the right bridge depiction (it will generate the log). Place the bridge on the right side of each water lane; make sure to alternate with the island.
- Create the left bridge depiction (it will absorb the log). Place the bridge on the left side of each water lane; make sure to alternate with the island.
- Program log to generate from the right bridge.
- Program the log to absorb when it reaches the left bridge.
- Program the log to transport the frog to the left.

Day 7
- Create the grotto.
- Place the grotto to the top of the game, above the water.
- Test the game to make sure it is playable and operates correctly.
- Show the students how to import images from the Internet for added diversity in their game. JPEGs can also be designed and imported into the game.

Day 8
- The students will use the hour to finalize their graphics and troubleshoot their game.

Day 9
- Post assessment
- Show the students how the arcade works and let them explore the games located there.
- Have the students pick two games and fill out the ranking assessment worksheet for each of the games.
Day 10
- Final assessment and grading rubric to be completed.
- Upload the game to the arcade.