Outline of Frogger lessons

Materials:
- One computer per student, either in computer lab or 1 laptop per student in regular class.
- Agentsheets program loaded on all machines.
- Internet connectivity for each computer and/or tutorial as separate document on each computer

Level 1
Day 1:
- Share unit objective, end product requirements and grading rubric
- Optional: Have students play with Bridge-Builder as a lead in activity
- Initially teacher to model each step rather than have students use the tutorial unassisted
- Create frog agent,
- Create a worksheet
- Frog able to move in all four directions

Day 2:
- Create street and car agents,
- Add streets and cars to worksheet
- Car agents programmed to move on road, left to right
- Note on test run - cars stack up.
- Create tunnel agent - Generation and absorption of cars
- Remind students not to spend too much time on artwork- can always modify the agents later

Day 3:
- Collision of frog and truck
- Create bloody frog agent, add sound
- Extension – regeneration of frog after death (optional instead of hitting reset button)

Level 2
Day 4:
- Create river agent, log agent,
- Make the log move on water, left to right
- Log generator (bridges) generates and absorbs logs
- Make frog unable to swim, type in “I cannot swim” or make splash sound
- Transport computational thinking pattern – use video or model for students with log and frog.

Day 5:
- Create turtle agent,
- Make the log move on water, right to left
- Turtle generator (palm trees) generates and absorbs turtles
- Transport computational thinking pattern.
- Check for understanding- see if student can create the turtle agent and set up transport independently
- Final assessment – each student uploads game to scalable game design arcade, can play each other’s games.
Extension activities:

- Lives for frog.
- Frog regeneration tied to lives, for example, can only play 3 times before “game over” like arcade game
- Scoring – for example, more points for landing on a more difficult to reach grotto (typically in the upper right corner) or for the least amount of traveling (steps taken)