

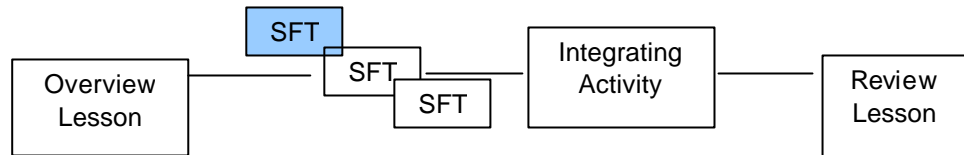
Learning objective: I can.....

Lesson 2 of 6

PoS 2c

See that simulations are guided by hidden rules

QCA Unit: 3D



Resources

Board for brainstorming, a coffee cup, empty milk carton, empty sugar bowl and an empty kettle.

Software you could use:

Internet Browser or Flash Player (free)

Support files:

Colins coffee.swf,

<http://ngfl.northumberland.gov.uk/ict/qca/ks2/unit3D/colins%20coffee/colins%20coffee.html>

Setting the scene (15 mins)

Share the learning objective with the class. Tell the class you have a particular way you like your coffee but you are going to keep it secret. Ask them to guess some options for your coffee e.g. the water (temperature), milk, (amount) sugar, (amount) and coffee (amount). You can use the items to mime the choices as they make them and record the guesses on the board.

Now tell them the result as to whether it would be too hot, too milky, not sweet enough or whatever. How do you know it's not right? Because you know how you like it! You have some rules about how you make your coffee. They may not be obvious to the children but they are in your head. If you told your rule to someone else could they pretend to be you and give the same feedback? What if it was a computer? Choose a child and tell them they are going to be your computer and give them the settings for your coffee. Let the class suggest another version of a cup of coffee and help your "computer" give the feedback if necessary. Emphasise that knowing what the rule is has helped the situation become a simulation.

Main Input (15 Mins)

Turn on the monitor and show the class Colin's Coffee simulation. Have a child come up and operate the sim and make a choice for the settings of the coffee. Look at the feedback you get given. How does the sim know how to give that feedback? Because it has a rule about what Colin's favourite coffee is. See if you can find out what the coffee rule is...

Activity – short focused task (5 - 10 mins)

Each child should experiment with the simulation and see if they can work out what the hidden rule is for Colin's favourite coffee at least once.

Review and recall (10 mins)

Bring the class together and review the learning objective. Draw their attention to the variety of responses. Could they explain the rule that results in it saying "That's too sweet for me!". What about if it isn't sweet enough? How many rules do they think there are in this simulation? Quite a few. Simulations need rules to work, even if you can't see them.

Key questions to ask and to display:

What would happen in a game without rules?
What would happen in a simulation without rules?

Vocabulary:

Simulation, rules,

Teaching Points:

It's not about successfully guessing the coffee! Keep bringing the children back to the principle that the computer can only do this if it knows the rules. Once the rules are in place you can use the simulation.

Assessment Opportunities:

What comes next:

Not all simulations use pictures some are just text and are option led.



Many thanks to the Northumberland Grid for creating the super coffee machine simulation.

<http://ngfl.northumberland.gov.uk/ict/default.htm>