Which of the following outcomes from the Digital Technologies strand of the new K-6 Science and Technology Syllabus does the planned lesson address? Please circle all those apply.

Stage 1

- uses materials, tools and equipment to develop solutions for a need or opportunity (ST1-2DP-T)
- describes, follows and represents algorithms to solve problems (ST1-3DP-T)
- identifies the components of digital systems and explores how data is represented (ST1-11DI-T)

Stage 2

- selects and uses materials, tools and equipment to develop solutions for a need or opportunity (ST2-2DP-T)
- defines problems, describes and follows algorithms to develop solutions (ST2-3DP-T)
- describes how digital systems represent and transmit data (ST2-11DI-T)

Stage 3

- plans and uses materials, tools and equipment to develop solutions for a need or opportunity (ST3-2DP-T)
- defines problems, and designs, modifies and follows algorithms to develop solutions (ST3-3DP-T)
- explains how digital systems represent data, connect together to form networks and transmit data (ST3-11DI-T)

NSW Syllabus Outcome(s): *Does the lesson involve concepts or outcomes from the Science and Technology syllabus that are not listed above or that are from another Key Learning Area (for example, English or the Creative Arts)? If so, what concepts and outcomes are these?*

ST2 - 3DP - T

Follows algorithms

PDHPE - fundamental movement skills

English - communication
speaking + listening

Introduction: *How will you get the students motivated, curious and ready to learn?*

10 minutes - Lightbot game

higher ability independent

lower ability with teacher IWB

Metalanguage: *What are the key concepts or procedures that you want students to understand as a result of this lesson?*

commands
sequences
computational thinking
specific
positions

coding
directions
up down
foward back
left right

Please turn page over

Teaching Activities: *What strategies will you use to teach the content and skills? How long will you spend on each of those strategies and with the content? How would you address different levels or prior knowledge?*

discuss Lightbot   - how did you work it out?
    5 mins   - discuss   code

whole class outside   - each student gets their own
25 hula hoops   "task card" with a code to
chess boards.   follow through hoops
    15 mins

                                        discuss

in pairs   - students create their own code to
             get through the hoops. They need
    20 mins   to avoid obstacles (bean bags).
                 can start at different points.

        - extension, try code with partner
                  use less than 6 steps

Lesson Closure: *How will you bring the lesson to a conclusion?*

10 mins   revisit metalanguage
               emphasis sequencing
               relate it to Lightbot
               have you created your own code?

Assessment: *How will you know whether the students achieved what you wanted them to achieve?*

observation of how they got through the hoops

work sampie of their code.

questioning throughout

Resources: *What materials do you need for this lesson? Have you used ideas from elsewhere?*

Lightbot - devices x 15-30

Hula hoops   clip boards

Chess set   grid paper 5×5 & strips

Task cards   pencils

bean bags

other props