The Wizard of Ozo

Year level band: 3-4

Description: Using *OzoBots* students move an Ozobod about a map with coordinates.

Resources:

- A3 paper to create map with coordinates.
- Clear plastic sleeves
- The OzoBot kit, inc. pens, paper,
- A simple series of tasks to perform at grid locations.
- A story of *The Wizard of Oz* a short example is here-
  https://www.youtube.com/watch?v=y0teJ85qIqY

Prior Student Learning:

Mathematics: Some prior knowledge of simple grid maps.

Digital Technologies
Students plan a sequence of steps (algorithms) to create solutions, including visual programs.
Students plan and safely produce designed solutions for each of the prescribed technologies contexts.
They use identified criteria for success, including sustainability considerations, to judge the suitability
of their ideas, solutions and processes.
Critical and Creative Thinking
Seek solutions and put ideas into action: assess and test options to identify the most effective solution
and to put ideas into action.

Year	Content Descriptors
3-4	**Digital Technologies** Producing and implementing: Implement simple digital solutions as visual programs with algorithms involving branching (decisions) and user input (ACTDIP011)
	English Examining literature: Discuss how language is used to describe the settings in texts, and explore how the settings shape the events and influence the mood of the narrative (ACELT1599)
	Mathematics Location and transformation: Create and interpret simple grid maps to show position and pathways (ACMMG065)

Element	Summary of tasks
Learning hook	Watch read or otherwise engage with the story "*The Wizard of Oz*". Using the Ozobot pens and paper have students investigate through impromptu experiments with the colour language of the Ozobot.

Achievement Standards	Digital Technology
	Producing and implementing: Implement simple digital solutions as visual programs with algorithms involving branching (decisions) and user input (ACTDIP011)
Learning Map (Sequence)	● Students become familiar with Ozobots and the Ozobot colour language. ● Students create a simple grid map of "Oz". ● Students develop tasks for their Ozobot to perform at different locations on their map. ● Students develop an algorithm using the colour language to perform the tasks ● Debug algorithms ● Students share and reflect on their Ozobot's performance.
Learning input	Students learn how to calibrate Ozobots. Students learn Ozobot colour language. Explain concept of debugging to create the most effective solution. This can include making lines thick enough to correct colour sequence.
Learning construction	Students can work individually or collaboratively with one or more Ozobots. Students are encouraged to experiment with the abilities of the Ozobots. Students create a grid map of *Oz* Students place the map into a plastic sleeve and create paths through Oz. The students perform tasks at each coordinate as per the teacher task. Students develop and share their own sequence of tasks. Students can make costumes for their Ozobots. Students critique their performance based on efficiency and entertainment value.
Learning demo	Students demonstrate to small groups during the development stage offering positive criticism regarding possible improvements. Students share each other's tasks and maps. Students may perform to the whole class. Possibly, students create a video event to share with others at a later date.
Learning reflection	Students critique their results about what was good, bad and can be improved upon.

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Assessment:

Teacher may do any of the following:

- Observe students using the Ozobots, noticing their language, interactions.
- Collect artefacts created by students during their learning journey, including their designs, video records, photos, maps, etc.

Criteria	Quantity of knowledge			Quality of understanding	
	Pre-structural	Uni-structural	Multi-structural	Relational	Extended abstract
Algorithms & Programming	No programming shown	Random paths with no tasks performed.	Clear paths with minimal tasks performed	Clear paths with tasks performed and a creative aspect included.	All tasks completed creatively and the creation of new sequences and tasks going beyond the scope of the class teaching.
The Setting	No setting apparent.	One setting from the text.	Multiple setting from the text	All significant settings of the text.	All significant settings of the text with additional creative features ie modes of expressing the author's intentions for settings and site on the map.
Mapping	No identifiable map.	A map is crated with recognisable features	A map is crated with recognisable features and grid references	A map is crated with recognisable features and grid references relating to *The Wizard of Oz.*	A map is crated with recognisable features and grid references relating to The Wizard of Oz incorporating other creative aspects such as logical paths through map terrain. Eg travel on roads not over

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					mountains.

Teacher/Student Instructions:

Be sure Ozobots and tablets are charged. This task can be done without tablets using only pen and paper utilising the Ozobot colour language

This can also be linked to the Art curriculum if you focus on the creation aspect of the map and links between the text and how to express that.

CSER Professional Learning:

This lesson plan corresponds to professional learning in the following CSER Digital Technologies MOOCs:

F-6 Digital Technologies: Foundations

- Unit 4: Data - Patterns & Play-Pattern recognition
- Unit 7: Algorithms and Programming

F-6 Digital Technologies: Extended

- Unit 2: Algorithms & Programming
- Unit 3: English Connections

Further Resources:

Ozobot web page: http://ozobot.com/

Digital Technologies Hub: www.digitaltechnologieshub.edu.au

CSER: https://csermoocs.adelaide.edu.au