

Design thinking and Makerspace using Coding with Ruby story book

A good quality programme for children allows for change and innovation. This means there is a mixture of planned and spontaneous experiences within the learning environment all of the time. One such example is using story books that align with children's interests. The below sample activity can be used with Coding with Ruby story book.

As educators, we do need to be careful about excluding some children due to their evolving interests and abilities. This means our robotics play should be adaptive and necessitate children's emerging needs and interests.

Ruby is an adventurous girl and loves exploring! Let us use her interest to construct a Maker space.

On Ruby's walk she ventures across, around, over, through and under various items and areas on her way around her neighbourhood park.

She notices birds chirping and leaves swaying. It is still Autumn and wonders which season comes next for leaves to become greener!

Activity

- Invite children to construct an obstacle course where they pretend the ground is LAVA. There will need to be a starting point and a finishing point and they cannot let their feet touch the ground...because it is LAVA. The course will need to include these movements: across, around, over, through and under.
- Next, children draw a map of their obstacle course documenting the route, and the various landmarks (trees, leaves, birds, lake, gum nuts, twigs, etc... found in the park).
- Could the children draw and cut out arrows to show the direction? Alternatively, children could take this outdoors! Or, draw up their map and build their lava obstacle course using their toys.

Ask children to take a short video to narrate their story when coding their robot while take it for a walk into Ruby's obstacle course (Designed Maker space).



Teacher Scaffolding and Questioning

- How many steps should the robot take to move over the bridge?
- How can the robot not fall into the LAVA? What code should the robot follow?
- What will happen if the robot falls into the LAVA?
- Alternatively, what should Ruby's designed Makerspace look like to make the robot feel safe and happy?

Learning Outcomes:

Learning Outcome 2: Children are connected with and contribute to their world

- Children become socially responsible and show respect for the environment.

Learning Outcome 4: Children are confident and involved learners

- 4.1 Children develop dispositions for learning such as curiosity, cooperation, confidence, creativity, commitment, enthusiasm, persistence, imagination, and reflexivity.