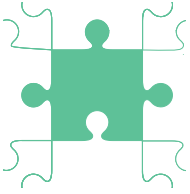


## Shape and space: Spatial awareness and location – Suggestions for teaching

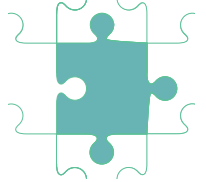
### FOSTERING PRODUCTIVE DISPOSITION



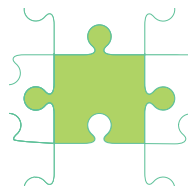
- Highlight the need to develop spatial awareness skills to navigate our everyday surroundings and the world around us in terms of sizes, shapes, positions and the relationship between objects.
- Encourage children to collaborate in practical activities and problem-solving that deepens their understanding of spatial awareness and location, e.g., *finding a hidden object in the classroom, practicing kicking the ball from different angles in football to maximise scoring potential.*
- Promote the importance and usefulness of spatial awareness and location in relation to travel and navigating unknown spaces, e.g., *using online/physical maps to plan efficient routes to landmarks and other places of interest, play mazes games where children have help each other to find their way to locations using appropriate language, symbols and signs.*

### ENCOURAGING PLAYFULNESS WITH MATHEMATICS

- Encourage the children to develop the language associated with spatial awareness and location through games and activities which incorporate maps, routes, co-ordinates, etc., e.g., *chess, draughts, Twister, Monopoly, Cluedo, Battleship.*
- Provide opportunities for children to explore and a selection of maps, plans and grids, e.g., *world maps, county and town maps, maps of fictional places, house plans, online maps which support viewing locations from different views and angles.*
- Challenge the children to complete obstacle courses and scavenger hunts and encourage them to create their own with a range of levels of difficulty for different groups or individuals.



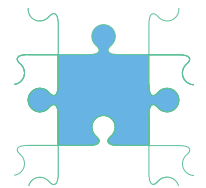
### USING COGNITIVELY CHALLENGING TASKS



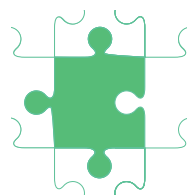
- Provide open-ended tasks for children with a range of levels of difficulty, e.g., *create an obstacle course that includes multiple directions, missing information and movement such as over, under and around obstacles.*
- Adjust criteria to reduce or increase the cognitive demand of tasks, e.g., *add an additional barrier (the bridge over the river is damaged, find another route), adapt the scavenger hunt to be suitable for children in Junior Infants/Sixth Class, etc.*
- Challenge children to create an accurately scaled drawing of a real or imagined building, area, etc. and then use this to create a (physical or virtual) 3-D model, or vice versa.

### EMPHASISING MATHEMATICAL MODELING

- Ensure that the children have opportunities to explore spatial awareness and location with a selection of resources including real-life objects, maps, pictures, objects and digital maps and devices.
- Encourage children to represent and navigate routes in a variety of ways, e.g., *oral descriptions, drawings, using digital manipulatives, through physical structures and movement.*
- Facilitate the children to collaborate on mathematical models, and to apply these to a variety of contexts, e.g., *use a model such as a map and key to first represent the classroom environment, then move on to a school or local area map.*



### PROMOTING MATHS TALK



- Model the use of language of spatial awareness and location mathematical language in everyday experiences and make link with other areas of the curriculum, e.g., *local geography in SEE and movement in Wellbeing.*
- Facilitate children to discuss their ideas and reasoning and build on each other's descriptions of space and location using appropriate and accurate language.
- Ask and encourage children to ask questions that support meaningful mathematical discussion in relation to spatial awareness and location, e.g., *how might you need to manoeuvre your body to fit through a narrow/low space? Are there other routes that could lead to the same location? Which is most efficient? What do you need to consider when deciding on the scale for a map of the classroom/local area/country?*