

Copyright® 2020 by QuestFriendz

First published in 2020 by QuestFriendz

All rights reserved. No part of this publication may be reproduced, stored in or introduced into a retrieval system or transmitted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise) without the prior written permission of the copyright owner. Printed in China.

JFMAMJJASOND ISBN 978-90-829940-0-1

Designed in the Netherlands

Written by: Lisa Moss, STEM educational quests by: Dr. Thomas Bernard
Illustrators: Ayelen Lamas and Bram Hartman
Designer: Will Dawes

Colourist: Coco Junge

A special thank you to all contributors who helped us along the way.

































## Quest 8: Cross the Lake

Now that Mr. Waddles is up and awake
Lillicorn tells him, "I need your help to cross the lake."
Her friend Lulu ladybug wants to fly.
But she needs a hot air balloon to travel the sky.



Mr. Waddles wants to help but he's afraid to travel there.
The icebergs, polar bears, and whales give him a scare.
Can you help the two of them get across the lake?
It's a risk that you can help them take.



Help Lillicorn place Each command card in the right space.

With the berry token you can feed hungry polar bears, The heart token will help the whale laugh away its cares. Watch for broken ice, don't get snapped at by a Snapette!

STEM skills: structured problem solving, trial and error











Lillicorn waves goodbye to her special friend,
And she senses that this quest will soon end.
She rubs her waking eyes and feels heavy inside
As she hears her squeaking pet mouse, snuggled at her side.



She's back home again after travelling far and wide.

Lillicorn has had a great adventure and she's filled with pride.

Challenges, problems, and quests mean wonderful, new things to learn.

The gears in her curious, scientific mind are already starting to turn!

## Glossary







Abstraction: The process of removing unnecessary details from a situation in order to focus on the most essential and meaningful details. A circle, a triangle, a square, and a rectangle can be abstracted as shapes. A banana, a mango, a strawberry, and an orange can be abstracted as four fruits.

Mental Rotation: The ability to visualise an object in multiple dimensions. For example, to be able to visualise the six faces of a dice and the numbers on each of those faces.

Optimisation: To improve an existing solution based on given parametersfor example, time constraints, such as less then 60 seconds, or resource constraints, such as in the fewest steps possible.

Pattern Recognition: The process of associating similar colours or shapes together in a logical way.

Problem Identification: The first step of structured problem solving, which entails understanding the instructions or explanation, determining the end goal, and finding the parameters of the problem to solve.

Puzzle Solving: A step in the problem-solving process, which entails visualising the end goal and solution, then assembling the pieces together.

Sequencing: Arranging a series of steps so they follow one another in order. Each step must be followed in sequence after the previous step is complete.

Solution Finding: After a problem has been identified, a step in the structured problem-solving process that entails brainstorming to determine the pros and cons of different potential methods to solve the problem.

**Sorting:** To arrange items in specific structures or order based on criteria. For example, the directions might specify, "Put all the round green shapes in the trunk and put all the rest on the table."

Spatial Perception: Visualising objects with respect to positions or landmarks. For example, the cat is sitting next to the chair.

Structured Problem Solving: Identifying the problem to solve, then trying different approaches and evaluating them to obtain the best solution.

Trial and Error: A part of the structured problem-solving process, which entails trying an approach to solve a problem and either succeeding or failing with the approach. It is part of improving and finding the solution.























