Lost in Space

Puzzle Solutions
What do these puzzles teach?

These puzzles are designed to introduce programming concepts and computational thinking skills in a fun way.

**Programming Concepts**
- Repetition
- Conditional Statements
- Nested constructs
- Using Parameters
- Debugging

**Computational Thinking**
- Problem Decomposition
- Pattern Recognition
- Abstraction
- Algorithmic Thinking
- Automation

Tynker is a complete solution that teaches kids how to code through puzzles and online courses.
Sequencing - Identify a series of steps for a task.
Pattern Recognition - Identify similarities and differences.
Repetition - Run the same step multiple times using a loop construct.
**Repetition** - Loop constructs that repeat till a condition is met.

**Negative Logic** - Negate the value of a condition.
Multiple Conditional Statements - Choose and apply the right type of *Jump* based on the obstacle, using conditional statements.
Repetition with Conditionals - Detect the pattern of obstacles and use conditional logic within a loop construct.
**Nested Conditionals** - Design more complex conditional logic to handle any arbitrary pattern of obstacles.
Lost in Space
Lock Down

Puzzle Solutions
Direction - Turn the dial clockwise or counter-clockwise as required.
Sequencing with Repetition - Count the number of steps required to reach each symbol to build your algorithm.
**Pattern Recognition** - Learn to detect obstacle patterns and overcome them. *Blue* skips a position, *Red* blocks the dial.
Using Parameters - Invoke operations on the correct dial by using a parameter to specify the dial - *green* or *purple*?
Recognizing More Patterns - Identify sequences and use parameters to turn the dial the right number of times to reach each symbol.
Crack the Code - Put it all together by using the right sequence of turn commands to unlock both the dials.
**Sequencing** - Identify the number of steps required to follow the path and reach the goal and build your algorithm.
**Pattern Recognition** - Recognize the pattern that repeats and use a loop construct to reach the goal.
Path Detection using Conditionals - Use conditional logic to detect paths and change direction to follow the path and stay on course.
Algorithmic Thinking - Choose the right constructs needed to stay on the path, avoid obstacles and reach the goal.
**Pattern Recognition** - Identifying similarities and differences

**Repetition** - Running the same steps multiple times using a loop construct.
Algorithmic Thinking - Build an algorithm that puts the space ship on right path, avoids obstacles and reaches the goal.
Ready for More?

Tynker coding puzzles are created using Tynker's visual programming language. Kids can create their own puzzles and apps using Tynker too!

Tynker's self-paced online courses provide guided tutorials and powerful creativity tools to inspire kids of all ages to bring their creative ideas to life. Over 26 million kids have started learning programming at home, school, after-school programs, and summer camps using Tynker.

Learn more at tynker.com/courses