

Routing and Deadlock Networks Logic Puzzle

Adult Guidance

Preparation

Every child or pair of children will need:

- a set of coloured envelopes
- a puzzle board

Instructions

Children can complete this activity individually or in pairs.

To set up the logic puzzle, children should cut out two corresponding envelopes for each house colour on their puzzle board. One house will only need one corresponding envelope.

Children should arrange the envelopes randomly on top of the houses. No envelope should be placed on top of a house of the same colour at this point. Each house should have two envelopes, except for one house which will only have one. This will create an empty space that can receive the moving envelope.

To complete the logic puzzle, the envelopes need to be moved between the houses, utilising the empty space, until each house receives both envelopes of the corresponding colour. Children are only allowed to move one house at a time.

Children must follow the following rules:

- Envelopes can only be moved between houses that are joined by the green lines.
- A house can only hold a maximum of two envelopes.

Disclaimer: To ensure the safety of the children in your setting, it is your responsibility to assess whether adult supervision or other appropriate safety measures are required when using scissors.

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Purpose of Activity

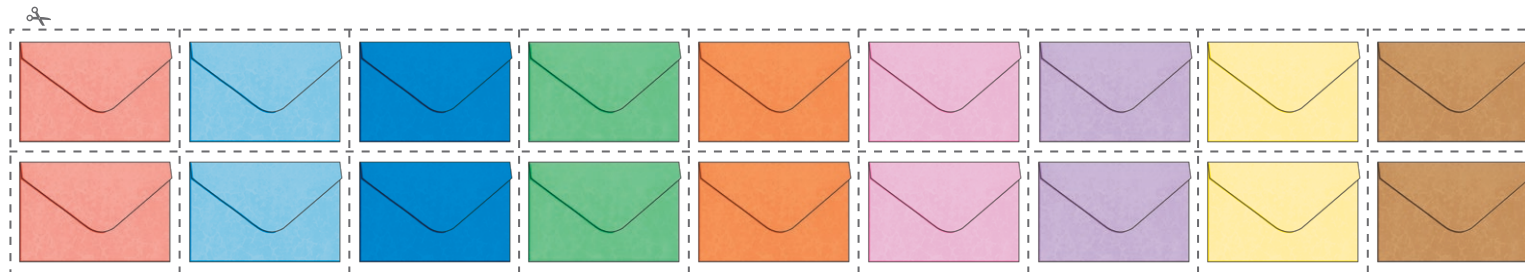
Networks are a set of computing devices that are connected to share and send data electronically. Computer networks are based on passing messages between computers and devices.

Computers and devices only have the capacity to send and receive a certain amount of messages. When a network passes and receives multiple messages, some can stop moving. Messages sometimes have to wait until the next computer or device has space to receive the message. When this happens it is called a deadlock.

Deadlocks are problems which occur regularly in many different computer networks. It is the job of a network engineer to source these deadlocks and think of solutions to solve these problems to make a network more efficient.

This activity gives your children an insight into how networks work in a practical way. It will help them to understand how packets of information are passed between computers and what happens when a deadlock occurs.

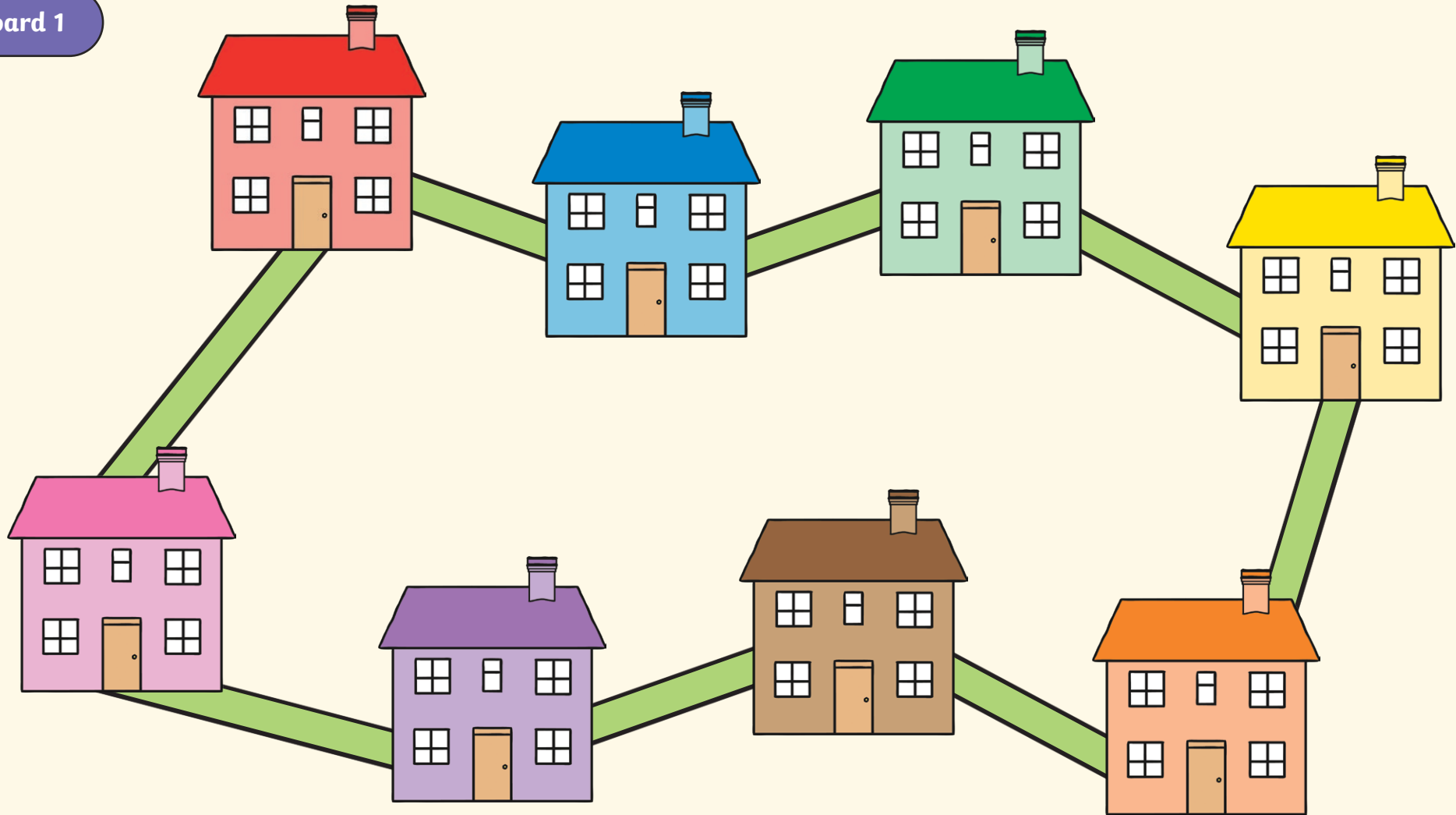
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Board 1



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Board 2



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Board 3

