


Primary

A circular arrangement of various STEM-related icons surrounding a central blue circle. The icons include a rocket, a potted plant, a lightbulb, a pencil holder with pens, a calculator, a tablet with gears, a DNA helix, a ruler, a pencil, a triangle, and gears. A dotted line connects the icons in a circular path.

50+ STEM  
activities for  
any primary  
classroom

This collection is for teachers, teaching assistants, STEM Club leaders and families. It consists of easy to run, short and practical STEM activities which are ideal for any setting; classroom, outside and home.

Activities can be adapted to suit the setting or time available and require few resources and materials. Each has a suggested list of substitute materials, making them easy to clean up. With minor adjustments they will meet school health and safety requirements.

Activities do not require extensive STEM subject knowledge, enabling anyone to use them irrespective of experience level.

Choose age range:

4-5

View 2  
activities

5-11

View 9  
activities

7-9

View 9  
activities

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activities

9-11

View 5  
activities

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View 17  
activities

# STEM activities for ages 4-5

2 Activities



Published by British Science Association  
Resource Booklet Early Years Resource Pack - Science Week 2019

Published by British Science Association  
Resource Booklet Early Years Resource Pack - Science Week 2019

## Make a time capsule

Design and make a time capsule to be opened in 12 months' time, to see how different things are compared to today.

### Suggested Materials

Large jars; paper; pens; anything they want to include

[www.stem.org.uk/rxfrgu](http://www.stem.org.uk/rxfrgu)

## Brain hats

Design and make a brain hat and explore how stories can help us to remember.

### Suggested Materials

Left brain template; right brain template; colouring pencils or crayons; safety scissors; glue/sticky tape; 10 everyday objects of your choice: e.g. stationary, toys or ornaments; large sheets of paper; timer

[www.stem.org.uk/rxfrgu](http://www.stem.org.uk/rxfrgu)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 5-11

9 Activities



Published by British Science Association  
Resource Booklet Primary Activity Pack - Science Week 2019

Published by British Science Association  
Resource Booklet Primary Activity Pack - Science Week 2019

## Headline figures

Create a visual and engaging infographic to communicate information about the Eurotunnel.

### Suggested Materials

Paper; pens; post it notes; rulers; internet/laptop/tablet as required.

[www.stem.org.uk/rxfr9r](http://www.stem.org.uk/rxfr9r)

## Tracks and tunnels game

Design, make and play a board game. Discover and share some of the challenges faced and achievements made during the building and running of the Channel Tunnel.

### Suggested Materials

Paper large and small; pens; post it notes; rulers; small objects to use as playing pieces; internet/laptop/tablet as required.

[www.stem.org.uk/rxfr9r](http://www.stem.org.uk/rxfr9r)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 5-11

9 Activities



Published by British Science Association  
Resource Booklet Primary Activity Pack - Science Week 2019

Published by British Science Association  
Resource Booklet Primary Activity Pack - Science Week 2019

## Resilient rovers

Create a design for a space rover that would be able to zoom around the Moon! This activity will put knowledge to the test and improve team working skills.

### Suggested Materials

Paper; pens; post it notes; rulers; internet/laptop/tablet as required.

[www.stem.org.uk/rxfr9r](http://www.stem.org.uk/rxfr9r)

## Make it fly

A paper aeroplane, glider or helicopter falls to the ground much more slowly and gracefully than a crumpled-up piece of paper. This is because of the forces generated by air pressing on and moving over the surface of the paper. Test the theory by designing, making and testing the flight of a paper aeroplane and helicopter.

### Suggested Materials

Stopwatch; paper; drinking straw; sticky tape; scissors; paper clip.

[www.stem.org.uk/rxfr9r](http://www.stem.org.uk/rxfr9r)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 5-11

9 Activities



Published by British Science Association  
Resource Booklet Primary Activity Pack - Science Week 2019

Published by British Science Association  
Resource Booklet Primary Activity Pack - Science Week 2019

## Sneeze zone

How far can a sneeze travel and how can we prevent others from getting ill? Learn about the spread of microbes and their potential to infect people and simulate the distance and impact of a sneeze by using water in a spray bottle.

### Suggested Materials

Tape measure; spray bottle with water; 10 sheets of flip chart paper or similar; sticky tape; gloves; sugar paper; scissors; coloured pens; tissues.

[www.stem.org.uk/rxfr9r](http://www.stem.org.uk/rxfr9r)

## Matilda's floating feat

Learn about static electricity.

### Suggested Materials

Tissue paper; pen; scissors; balloon; feathers; optional polystyrene balls; school cardigan/jumper.

[www.stem.org.uk/rxfr9r](http://www.stem.org.uk/rxfr9r)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



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# STEM activities for ages 5-11

9 Activities



Published by  
Resource Booklet

British Science Association  
Primary Activity Pack - Science Week 2019

Published by  
Resource Booklet

European Space Agency (ESA)  
ESERO-UK: Mission to the Moon

## Nature walk diary

Explore, observe and document the natural world using all of the senses, and use the findings to write poems. Go for a walk in a park, wood or open field and document observations, by noting the sights, smells and sounds encountered on the journey.

### Suggested Materials

Nature walk evidence sheet; clipboard or notebook; pens, bags for leaves and other findings.

[www.stem.org.uk/rxfr9r](http://www.stem.org.uk/rxfr9r)

## Highlands and lowlands

Take on the role of astronomers and use light sources to represent the Sun and plasticine to build mountains on a lunar surface. Explore how light from the Sun is blocked by mountains on the lunar surface producing shadows.

### Suggested Materials

Torch or lamp; rulers; paper; plasticine or blu-tack.

[www.stem.org.uk/rxfrpc](http://www.stem.org.uk/rxfrpc)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



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# STEM activities for ages 5-11

9 Activities



Published by  
Resource Booklet

European Space Agency (ESA)  
ESERO-UK: Mission to the Moon

## Finding a landing site

Play a Moon landing sites battleship game.

### Suggested Materials

Printed lunar maps from the resource.

[www.stem.org.uk/rxfrpc](http://www.stem.org.uk/rxfrpc)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



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# STEM activities for ages 7-9

9 Activities



Published by | STEM Learning  
Resource Booklet | STEM Clubs: Animal Adaptions

Published by | STEM Learning  
Resource Booklet | STEM Clubs: Animal Adaptions

## Body language

Explore how animals use scent chemicals and movement to communicate and create their own non-verbal communication system.

### Suggested Materials

Honey or sweets; 4-5 essential oils or scents; paper or card.

[www.stem.org.uk/rxg7nj](http://www.stem.org.uk/rxg7nj)

## Talking without words

Using computing skills; design and create a simple code for a communication system.

### Suggested Materials

Computer or tablet; access to Scratch or similar.

[www.stem.org.uk/rxg7nj](http://www.stem.org.uk/rxg7nj)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 7-9

9 Activities



Published by | STEM Learning  
Resource Booklet | STEM Clubs: Animal Adaptions

Published by | STEM Learning  
Resource Booklet | STEM Clubs: Animal Adaptions

## Moving together

Discover how large groups of animals move together without bumping into each other. Create a system to coordinate the members in the group without any of them touching or getting too close.

### Suggested Materials

People (3 or more family members or larger group but socially distanced); optional remote controlled device e.g. car, insect.

[www.stem.org.uk/rxg7nj](http://www.stem.org.uk/rxg7nj)

## Long-distance journeys

Learn about migration and compare bird size and weight to distance travelled. Make a small glider with varying wings to test the variables of distance versus wing shape and length.

### Suggested Materials

Cardboard / paper; scissors; rubber bands; glider template (contained in the activity booklet).

[www.stem.org.uk/rxg7nj](http://www.stem.org.uk/rxg7nj)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



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# STEM activities for ages 7-9

9 Activities



Published by | STEM Learning  
Resource Booklet | STEM Clubs: Animal Adaptions

Published by | STEM Learning  
Resource Booklet | STEM Clubs: Fact Finders

## Broken food chain

Learn about food chains. Linked, using wool and labels they will plot the food chain based on a real scenario in Guam. This can be supported by the pre-prepared Scratch programme.

### Suggested Materials

Drawing pins; pin board or similar; wool; scissors; card; computer/tablet with Scratch.

[www.stem.org.uk/rxg7nj](http://www.stem.org.uk/rxg7nj)

## Microwave myth busting

Test the internet myth that microwaved water is bad for plants and explore the effect that different types of water have on plant growth.

### Suggested Materials

2 ready grown plants; measuring jug; water heated in a microwave then cooled; sticky labels; digital camera for recording; observation sheet.

[www.stem.org.uk/rxeymr](http://www.stem.org.uk/rxeymr)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 7-9

9 Activities



Published by | STEM Learning  
Resource Booklet | STEM Clubs: Fact Finders

## Friction fables

Find out how strong friction can really be using the pages of a book.

### Suggested Materials

Sticky note pads; spiral bound notepads; bull dog clips; books similar to exercise books.

[www.stem.org.uk/rxeymr](http://www.stem.org.uk/rxeymr)

Published by | STEM Learning  
Resource Booklet | STEM Clubs: Extreme Elements

## It's raining giant hailstones!

Pupils will create different sized hailstones, learn about their formation and their impact, looking at super sized hailstones and the damage they can cause.

### Suggested Materials

Plasticene; ruler; tissue paper; measuring scales; Optional: umbrella, sticky back plastic.

[www.stem.org.uk/rxfn3j](http://www.stem.org.uk/rxfn3j)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 7-9

9 Activities



Published by  
Resource Booklet

STEM Learning  
STEM Clubs: Extreme Elements

## It's electrifying

Pupils will think about what causes lightning storms, and explore how static electricity is created.

### Suggested Materials

Beanbags or similar; cardboard box; balloon; woolly jumper/hats, hair; metal spoon; rubber glove; computer/tablet with Scratch.

[www.stem.org.uk/rxfn3j](http://www.stem.org.uk/rxfn3j)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 7-11

8 Activities



Published by European Space Agency (ESA)  
Resource Booklet ESERO-UK Resources

Published by European Space Agency (ESA)  
Resource Booklet ESERO-UK Resources

## From the ground to the sky

Learn about remote observation and discover how the Earth looks from space. Compare photographs of different landscapes (mountains, lakes, rivers, cities, islands, and deserts) taken from the ground with photos of the same places taken by astronauts onboard the International Space Station.

### Suggested Materials

Projector or printed photographs from resource.

[www.stem.org.uk/rxg8a3](http://www.stem.org.uk/rxg8a3)

## Moon constitution

Using research and debate explore some of the issues that a future settlement on the Moon may face. Create a "Moon Constitution" report from the findings and plan the settlement.

### Suggested Materials

Printed debate cards; scissors.

[www.stem.org.uk/rxg3nd](http://www.stem.org.uk/rxg3nd)

Ages 4-5

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50+ STEM activities for any primary classroom

# STEM activities for ages 7-11

8 Activities



Published by European Space Agency (ESA)  
Resource Booklet ESERO-UK: Earth under the lid

Published by ESERO-UK  
Resource Booklet ESERO-UK: James Webb Space Telescope

## Activity 2: how do human activities affect greenhouse effect?

Watch a Paxi video and put 6 images in the correct order.

### Suggested Materials

Printed images; scissors; glue; projector.

[www.stem.org.uk/rxg3nh](http://www.stem.org.uk/rxg3nh)

## Mirror origami challenge

Follow a step by step guide to create an origami hexagon. The James Webb Space Telescope's primary mirror is composed of 18 tessellating hexagons. Work individually to create hexagons, as a group attach them together to create a representation of the telescopes mirror.

### Suggested Materials

Sheets of A4 paper.

[www.stem.org.uk/rxfp9g](http://www.stem.org.uk/rxfp9g)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

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# STEM activities for ages 7-11

8 Activities



Published by  
Resource Booklet

Science Museum  
Are we alone: the search for planets beyond our Solar System

Published by  
Resource Booklet

Science Museum  
Are we alone: the search for planets beyond our Solar System

## Lesson 9 - travel bureau

Learn all about exoplanets, use research and imagination to design a new exoplanet. Consider the key features and the adaptations that living things would have to make to survive the planet's environment.

### Suggested Materials

Paper; coloured pens and pencils; internet/laptop/tablet.

[www.stem.org.uk/rxera2](http://www.stem.org.uk/rxera2)

## Rocket mice

Five... four... three... two... one... blast-off! Launch a favourite rodent into space to boldly go where no mouse has gone before.  
\*no animals will be harmed during this activity!

### Suggested Materials

Plastic bottle; card; scissors; tape, pens; paper.

[www.stem.org.uk/rxetug](http://www.stem.org.uk/rxetug)

Ages 4-5

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Ages 7-11

Ages 9-11

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# STEM activities for ages 7-11

8 Activities



Published by  
Resource Booklet

UK Space Agency (UKSA)  
ESERO-UK: ExoMars Collection

Published by  
Resource Booklet

European Space Agency (ESA)  
ESERO-UK Resources

## 360 degree periscope

Carefully placed mirrors change the path light takes, making it possible to look over walls, around corners and even behind someone – all without being seen. Design and make a periscope and explore how light can be redirected.

### Suggested Materials

Periscope templates; paper; pens; ruler; small craft mirrors; scissors.

[www.stem.org.uk/rxetuc](http://www.stem.org.uk/rxetuc)

## Deciding destinations

Working in small groups investigate the best place to land a Mars rover. Consider six potential landing sites on the planet and weigh up the pros and cons of each to decide the perfect landing spot.

### Suggested Materials

Printed landing sheet sites.

[www.stem.org.uk/rxfuwf](http://www.stem.org.uk/rxfuwf)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 9-11

5 Activities



Published by | STEM Learning  
Resource Booklet | STEM Clubs: Future World

Published by | STEM Learning  
Resource Booklet | STEM Clubs: Extreme Elements

## Does my outfit look rubbish?

Discover what materials clothes are made from and how they could be recycled. Explore different materials for clothes and their properties.

### Suggested Materials

Selection of clothes made from different materials; selection of waste materials: bubble wrap, black bin bags, carrier bags, etc.; sticky tape; paper clips; laptop/tablet for research.

[www.stem.org.uk/rxg7nm](http://www.stem.org.uk/rxg7nm)

## Sounds delicious

Carry out an investigation to see whether certain frequencies of sound (measured in hertz) can affect our taste buds.

### Suggested Materials

Sound generator/app; paper cups; water; pens; digital scales; sugar; salt; plastic spoon; cotton bud; paper towels; measuring cylinder; pipette; flavoured crisps.

[www.stem.org.uk/rxfn3j](http://www.stem.org.uk/rxfn3j)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 9-11

5 Activities



Published by | STEM Learning  
Resource Booklet | STEM Clubs: Future World

Published by | STEM Learning  
Resource Booklet | STEM Clubs: Movies and Magic

## Grasshopper burger anyone?

Carry out a survey to explore our opinions on different futuristic foods and investigate some of the things we might be eating in the future.

### Suggested Materials

Laptop/tablet; word processor / spreadsheet to create a survey or uses pens and paper and template provided; examples of insect products.

[www.stem.org.uk/rxg7nm](http://www.stem.org.uk/rxg7nm)

## May the force...

Explore static electricity and how it can make objects move, carry out an experiment to make an aluminium drink can move.

### Suggested Materials

Inflated balloons; empty drinks can; foil; salt and pepper; tissue paper.

[www.stem.org.uk/rxeyqj](http://www.stem.org.uk/rxeyqj)  
'How to' activity videos: [www.stem.org.uk/rxfpxk](http://www.stem.org.uk/rxfpxk)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 9-11

5 Activities



Published by  
Resource Booklet

STEM Learning  
STEM Clubs: Movies and Magic

## The camera never lies

Explore simple movie effects that make one actor appear far bigger or smaller than another. Discover the techniques used in forced perspective and create images using lolly stick and card puppets.

### Suggested Materials

Laptop/tablet; small puppets: lolly sticks, card, plasticine, marker pen; glue or sticky tape; ruler.

> [www.stem.org.uk/rxeyqj](http://www.stem.org.uk/rxeyqj)

'How to' activity videos: [www.stem.org.uk/rxfpxk](http://www.stem.org.uk/rxfpxk)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 9-14

17 Activities



Published by  
Resource Booklet

European Space Agency (ESA)  
ESERO-UK Resources

Published by

Design Club

## ESA spacecraft - cut out and make models

Templates for cut-out and stick paper models of various ESA spacecraft.

### Suggested Materials

Paper, sticky tape; scissors; glue; pre-printed templates.

[www.stem.org.uk/rxetru](http://www.stem.org.uk/rxetru)

## Design club: design a helpful mobile app

Run a Design Club project, using worksheets, delivery guide and three themed project handouts. At the end of the project, pupils will have designed and prototyped a helpful mobile app aimed at solving one of three environmental problems.

### Suggested Materials

Paper; pens; post it notes; rulers; internet/laptop/tablet as required.

[www.stem.org.uk/rxgh72](http://www.stem.org.uk/rxgh72)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

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50+ STEM activities for any primary classroom

# STEM activities for ages 9-14

17 Activities



Published by Nuffield Foundation  
Resource Booklet Applying Mathematical Processes - Practical Explorations

Published by Nuffield Foundation  
Resource Booklet Applying Mathematical Processes - Practical Explorations

## Money bags

Design a wallet, purse, or credit card holder for a target consumer, and explain the rationale underlying their design.

### Suggested Materials

Paper; pens; ruler; card; scissors; sticky tape and glue; dimensions of bank cards/paper money etc.

[www.stem.org.uk/rxuhp](http://www.stem.org.uk/rxuhp)

## Reaction times

Design an experiment to measure reaction times and use it to test people's reaction times.

### Suggested Materials

Paper; pens; post it notes; rulers; timing devices.

[www.stem.org.uk/rxuho](http://www.stem.org.uk/rxuho)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



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# STEM activities for ages 9-14

17 Activities



Published by Nuffield Foundation  
Resource Booklet Applying Mathematical Processes - Practical Explorations

Published by Nuffield Foundation  
Resource Booklet Applying Mathematical Processes - Practical Explorations

## School holidays

Consider what factors might affect the choice of dates for school holidays and use these to determine the holiday dates for an alternative school year.

### Suggested Materials

Paper; pens; post it notes; rulers; calendar; list of term dates; internet access.

[www.stem.org.uk/rxu43](http://www.stem.org.uk/rxu43)

## Fashion entrepreneur

Using a fashion workshop as the business idea, plan a schedule for six employees time, to complete all of the daily tasks. Consider whether the schedule is a viable solution to producing the garments on time.

### Suggested Materials

Paper; pens; post it notes.

[www.stem.org.uk/rxu3z](http://www.stem.org.uk/rxu3z)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



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# STEM activities for ages 9-14

17 Activities



Published by Nuffield Foundation  
Resource Booklet Applying Mathematical Processes - Practical Explorations

Published by Nuffield Foundation  
Resource Booklet Applying Mathematical Processes - Practical Explorations

## Design a table

Design a table for a group of 5 people for daily use. The table must be extendable to accommodate 8 to 10 people for some occasions.

### Suggested Materials

Paper; pens; post it notes; rulers; card; internet access.

[www.stem.org.uk/rxu3x](http://www.stem.org.uk/rxu3x)

## Beach guesthouse

This practical exploration is a simulation of a booking system for a small guesthouse. Manage the bookings and, as far as possible, arrange to give people the accommodation they request.

### Suggested Materials

Paper; pens; post it notes.

[www.stem.org.uk/rxu3v](http://www.stem.org.uk/rxu3v)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



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# STEM activities for ages 9-14

17 Activities



Published by  
Resource Booklet

Nuffield Foundation  
Applying Mathematical Processes - Practical Explorations

Published by  
Resource Booklet

Nuffield Foundation  
Applying Mathematical Processes - Practical Explorations

## Three dice

This investigation starts with a game. In order to maximize the chance of winning, decide which numbers are most likely to occur when three dice are thrown and the scores are added together.

### Suggested Materials

Paper; pens; post it notes; card; dice.

[www.stem.org.uk/rxu3u](http://www.stem.org.uk/rxu3u)

## Symmetry

In this investigation make different symmetrical shapes, using one or more of three given shapes.

### Suggested Materials

Squared paper; Templates of the shapes; Mirror; Tracing paper; Scissors; glue; Computer software.

[www.stem.org.uk/rxu3t](http://www.stem.org.uk/rxu3t)

Ages 4-5

Ages 5-11

Ages 7-9

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17 Activities



Published by Nuffield Foundation  
Resource Booklet Applying Mathematical Processes - Practical Explorations

Published by Nuffield Foundation  
Resource Booklet Applying Mathematical Processes - Practical Explorations

## Sending texts

Determine the number of text messages sent if four people send texts to each other, and then extending this for different numbers of people.

### Suggested Materials

Paper; pens; post it notes; rulers; calculators.

[www.stem.org.uk/rxu3r](http://www.stem.org.uk/rxu3r)

## Paper sizes

Study paper sizes in the A and B international series, exploring relationships within each series and between the series.

### Suggested Materials

Paper in various A and B sizes; pens; post it notes; rulers; scissors, sticky tape.

[www.stem.org.uk/rxu3q](http://www.stem.org.uk/rxu3q)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



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# STEM activities for ages 9-14

17 Activities



Published by  
Resource Booklet

Nuffield Foundation  
Applying Mathematical Processes - Practical Explorations

Published by  
Resource Booklet

Nuffield Foundation  
Applying Mathematical Processes - Practical Explorations

## Hide the spies

Determine where spies should sit in a park that has a square grid of benches, interspersed by bushes, so that they cannot see each other, and investigate how many different arrangements are possible.

### Suggested Materials

Paper; pens; post it notes; rulers; counters/cubes etc.

[www.stem.org.uk/rxu3p](http://www.stem.org.uk/rxu3p)

## Golden mazes

In this investigation pupils explore the effect of the route, through a series of rectangular mazes, on the number of gold coins that can be collected.

### Suggested Materials

Paper; pens; post it notes; rulers; counters/cubes; calculator.

[www.stem.org.uk/rxu3o](http://www.stem.org.uk/rxu3o)

Ages 4-5

Ages 5-11

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17 Activities



Published by Nuffield Foundation  
Resource Booklet Applying Mathematical Processes - Practical Explorations

Published by Nuffield Foundation  
Resource Booklet Applying Mathematical Processes - Practical Explorations

## Fire hydrants

In this investigation pupils experiment with the placing and number of fire hydrants required in a city with square blocks that form a rectangular grid.

### Suggested Materials

Paper; pens; post it notes; rulers; counters/cubes; straws.

[www.stem.org.uk/rxu3n](http://www.stem.org.uk/rxu3n)

## Corner to corner

In this investigation pupils investigate how different numbers of squares can be joined corner to corner, and the effect their arrangement has on the area of the rectangle that encloses the squares.

### Suggested Materials

Squared paper; Mirror; Tracing paper; Scissors; or interactive drawing software.

[www.stem.org.uk/rxu3m](http://www.stem.org.uk/rxu3m)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom

# STEM activities for ages 9-14

17 Activities



Published by

Royal Academy of Engineering

## In control

Set small groups of students the challenge of working together to design a gadget that can be attached to and powered by a bicycle.

### Suggested Materials

Paper; pens; post it notes; rulers; internet/laptop/tablet as required.

[www.stem.org.uk/rxesc9](http://www.stem.org.uk/rxesc9)

Ages 4-5

Ages 5-11

Ages 7-9

Ages 7-11

Ages 9-11

Ages 9-14



50+ STEM activities for any primary classroom



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