

The logo consists of the word "Engage" in white, bold, sans-serif font, enclosed within a dark teal rounded rectangle. To the right of this rectangle, the words "Teacher Conference" are written in a smaller, dark teal, sans-serif font.

Engage

Teacher Conference

Easy practical science for the classroom

Hear about the free resources available in the CREST library that can help you deliver simple, practical science experiments. Offer your pupils the opportunity to learn through student-led, hands-on challenges that are easy to deliver for those without science expertise, using minimal equipment.

Catherine Davies

Education Resources Manager, British Science Association

Welcome, please be aware:

- Talks are recorded
- You can ask questions in the chat throughout
- There will be time for questions at the end





Engage

Teacher Network

Easy practical science for the classroom

Catherine Davies

Education Resources Manager, British Science Association





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What we'll cover in today's session

- Housekeeping
- Barriers to carrying out practical science in the Primary classroom
- Introduction to CREST Awards
- How to use CREST to support simple, practical science in your setting
- Further support
- Any questions?



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Teacher Network

Housekeeping

- Thank you for joining us this afternoon – this online session is scheduled from 16.00-16.45.
- We would like to record the session - please switch your cameras on if you're happy to.
- There will be a chance to ask questions at the end. Before that, please feel free to add any comments or reflections to the chat.

Barriers and challenges

- Carrying out practical science activities in Primary classrooms can be a challenge!
- What are some of the barriers you face?

Time

Confidence

Resources

Pupil needs

Lack of extra adult support

Packed curriculum

Advantages and benefits

- Despite the challenges, we know that practical science project work is hugely valuable for children!

Fun

Engaging

Hands-on

Accessible

Student-led

Inspiring





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CREST Awards are run by the British Science Association

- At the British Science Association, we want to see more people, especially those from currently underrepresented groups, feel that science is relevant to their lives.
- When it comes to education, we'd like the science curriculum to be more relevant to young people and to offer more opportunities for them to take the lead on science projects and practical investigations.





CREST Awards

- CREST is a scheme that inspires young people to think and behave like scientists and engineers
- CREST projects are hands-on, practical and engaging, covering a broad range of STEM topics and themes, as well as making cross-curricular links
- CREST activities are open-ended and student-led, using an enquiry-based learning approach with real-world contexts

<https://www.crestawards.org/>





CREST Awards

- We have a huge online library of free project resources!
- You can mix and match challenges to fit the topics in your curriculum, the interests of your group, or themes which relate to your local area.
- Young people aged 3-19 can complete CREST projects at different levels, going on to earn a certificate to recognise their achievement.

<https://www.crestawards.org/>

How can you use CREST to support simple, practical science in your classroom?



Ages 3-5 / EYFS - Earth and beyond

Our 'Earth and beyond' pack is a collection of physics-focused activities, designed in partnership with the Ogden Trust, especially for younger children. The challenges are designed to develop key skills including curiosity, creativity, communication and problem-solving



Skills matrix			
Learning Area	Aspect	Area of knowledge development linked to this learning activity	Skills where there is an opportunity to develop your knowledge
Communication and Language	Listening, Attention and Understanding	These comments about what they have heard and ask questions to clarify their understanding	Rocket Reach Lunar landers Galactic Gardeners Moon Haters
	Speaking	Offer explanations for why things might happen. Sharing use of newly introduced vocabulary from non-fiction materials in oral groups. Use and use-to-end discussions offering their own ideas using newly-introduced vocabulary	Rocket Reach Lunar landers Galactic Gardeners Moon Haters
	Speaking	Participate in oral groups. Use and use-to-end discussions offering their own ideas using newly-introduced vocabulary	Rocket Reach Lunar landers Galactic Gardeners Moon Haters
Expressive Arts and Design	Being Imaginative and Expressive	Participate in oral groups with peers	Galactic Gardeners Constellation Counters
	Creating with Materials	Safe use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function	Rocket Reach Lunar landers Crater Creators Constellation Counters Moon Haters
Literacy	Word Reading	Read words consistent with their phonic knowledge for sound blending	Constellation Counters
	Writing	Write recognisable letters, most of which are correctly formed	Galactic Gardeners
Maths	Numerical Patterns	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity	Crater Creators
	Numerical Patterns	Explore and represent patterns within numbers	Crater Creators Constellation Counters



Ages 3-5 / EYFS - low resource project



Activity 2
Rocket reach

Watch the demonstration video

Kit list

Each child will need access to:

- Flexible straws
- Variety of materials - paper, card
- Colouring pencils
- Felt tip pens
- Scissors
- Glue
- Sellotape

You will need access to:

- Inflatable globe (size of an average beach ball)
- Tennis ball - covered in aluminium foil/painted to resemble the Moon
- String

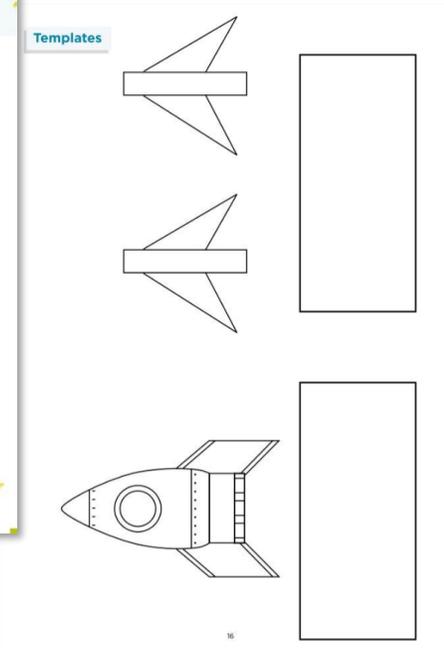
Before the activity you need to:

- Inflate the globe
- Make a tennis ball look like the Moon - wrap aluminium foil around it
- Print out rocket templates on page 16
- Arrange scrap materials - different thicknesses of paper and card
- Organise crayons, Sellotape, pencils, glue and scissors onto each table

What to do

- Organise the children on the carpet in front of the whiteboard. Turn the lights off and turn the volume up to create excitement and anticipation.
- Show PowerPoint presentation slide 7. Start playing the video at 1 minute and 12 seconds. Stop playing after a minute or so.
- Ask the children the following questions:
 - Where is the rocket going?
 - Will it be different to Earth?

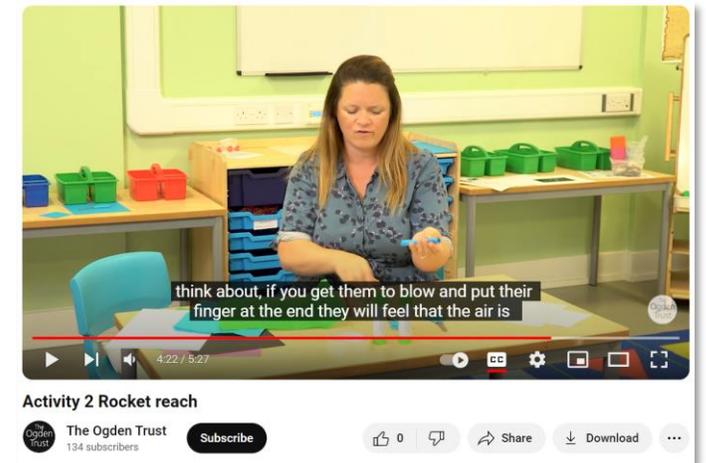
Templates



This activity is designed to get children thinking about the scale of the Earth and the Moon and the distance between them. Children then have a chance to design and create their own simple rocket.

Equipment list

- Bendy straws
- Paper / card
- Scissors
- Glue / sellotape
- Pens



think about, if you get them to blow and put their finger at the end they will feel that the air is

Activity 2 Rocket reach

The Ogden Trust
134 subscribers

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Live demo - Rocket reach



1. Cut a strip of paper
2. Roll it around your pencil
3. Secure with sellotape
4. Flatten one end of the tube and secure with tape
5. Slide the tube onto your straw
6. Blow and see how far it goes!

Activity 2
Rocket reach

Kit list

- Flexible straws
- Variety of materials - ribbon card
- Colouring pencils
- Flat tip pens
- Scissors
- Glue
- Sellotape

You will need access to:

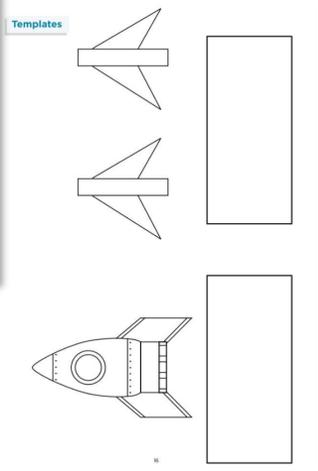
- Inflatable globe (size of an average beach ball)
- Tennis ball - covered in aluminium foil (painted to resemble the Moon)
- String

Before the activity you need to:

- Inflate the globe
- Make a tennis ball look like the Moon - wrap aluminium foil around it
- Print out rocket templates on scrap
- Arrange scrap materials - different thicknesses of paper and card
- Organise crayons, Sellotape, pencils, glue and scissors onto each table

What to do

1. Organise the children on the carpet in front of the whiteboard. Turn the lights off and turn the volume up to create excitement and anticipation.
2. Show PowerPoint presentation slide 2. Start playing the video at 1 minute and 12 seconds. Stop playing after 9 minutes or so.
3. Ask the children the following questions:
 - Where is the rocket going?
 - Will it be different to Earth?



Activity 2
Rocket reach

Uncle Astro and Aunt Stella are on holiday on the Moon. Cosmic and Gem want to go and see them.



Can you make a rocket to get them there?

Rocket reach



Equipment list

- Bendy straws
- Paper / card
- Scissors
- Glue / sellotape
- Pens

Ages 5-7 / KS1 / P2-P3

CREST Star Challenges

This collection of projects for children aged 5-7, or those working at this level, allow learners to explore everyday problems using science. Each challenge is designed to take 45 minutes to an hour and involves hands-on investigation, decision making and group discussion.



Sneaky Shadow

Organiser's Card

About the activity
This activity is designed to get children thinking about shadows.

Cosmic has lost his shadow. He knows that it was with him all day but now it is missing. Gem and Aunt Stella try to help him to find it. Gem finds it under the street lamp and Aunt Stella finds it on the wall. Where has the sneaky shadow been hiding?

Through this activity you will support your group to:

- Think about how shadows are made
- Experiment with making shadows. Indoors and outside
- Record their results and create a shadow play to share.

Kit list

- Torches or other light sources
- Card or thick paper - coloured translucent material can add interest
- Shadow theatre - light source (projector or bright lamp), screen (made of translucent material) e.g. a white sheet
- Sticks to attach to the shadow puppets
- Musical instruments (optional)

What to do

- Follow the instructions on the ACTIVITY CARD. Make sure you give children time to talk about their ideas.
- Read the story. Get the children to talk to a buddy about the questions and the opinions of Cosmic, Gem and Aunt Stella.
- If it is sunny you could go out first to look at shadows.
- Children can explore shadows using torches or other light sources.
- They can make shadow puppets and make up plays.
- Children can cut out a variety of people, animals or cars. They can create a shadow play.
- Some children may need help to do it for their play.
- Let them share their plays with us.
- There are follow up activities for if have finished or who want to do it out at home and earn a bonus sticker.

Sneaky Shadow

Activity Card

Cosmic is very worried. His shadow is missing. It was there when he was out playing. It was still with him when he walked down the path to Aunt Stella's house. But now it is nowhere to be seen.

"Come here quickly," shouts Gem. "I've found a shadow!" Gem is under the streetlight looking down at her feet.

Just then Aunt Stella comes out of the house. She is carrying a big torch. "It helps you find your sneaky shadow," she says, waving the light around the garden, "and there it is!"

There on the wall is Cosmic's shadow. "Wow! Where did that come from?" asks Cosmic. Can you guess?

Gem thinks you will see your shadow if there is bright light. Aunt Stella thinks you can only see your shadow when the sun is shining. Cosmic thinks shadows hide when it goes dark.

Have you ever looked at your shadow? Does your shadow ever disappear?

Your challenge
Find out what makes a shadow and what makes it disappear.

Useless Umbrella

Organiser's Card

About the activity
This activity is designed to get children thinking about materials and their water resistance.

Aunt Stella is going to a party at Buckingham Palace. She is going to take a beautiful, big, rainbow umbrella with her in case it rains. Gem has rushed into the garden with the umbrella to try it out. It's raining. Oh no! The umbrella is leaking. Gem is getting very wet. How can they try the umbrella for Aunt Stella?

Through this activity you will support your group to:

- Design an experiment to test how waterproof different materials are
- Carry out their experiment and observe what happens.
- Decide on the best material for an umbrella and share their ideas.

Kit list

- Selection of fabrics and other materials e.g. elastic, sponge, foil, card and wood. Try to make sure some of the fabrics are waterproof. (Pieces from a broken umbrella or raincoat would be good).
- Dropsters or pipettes
- Water coloured with food dye
- Beakers or jars
- Paper towels
- Picture-making materials, poster sheets
- Umbrella sheets

What to do

- Read the story on the Activity Card. Get the children to talk to a buddy about the ideas in the questions and the opinions of Cosmic, Gem and Aunt Stella.
- Provide the children with a selection of different pieces of fabric and other materials to test. Some examples are in the kit list.
- Talk through how they might find out if the fabrics are waterproof. Encourage them to explore their own ideas and think about fair testing e.g. use the same amount of water, use the same size pieces of fabric, leave the water on the fabric for the same amount of time.
- decide when and whether to touch the materials on the winner's podium and to why these were waterproof. The children design an umbrella and evaluate which will work and why. They can make a pic showing Cosmic and Gem under an umbrella made out of the most appropriate materials. They could also add the materials on the winners' podium!
- There are follow up activities for children who have finished or who want to do more at home and earn a bonus sticker.

Useless Umbrella

Activity Card

Aunt Stella is in a tizzy. She has been invited to a party at Buckingham Palace. "Wow!" say Cosmic and Gem. "You must be very important!"

"Have you got a new dress?" Cosmic asks, "and a new hat?" Aunt Stella goes to her wardrobe and pulls out a rainbow coloured dress and a bright purple hat.

"You're going to look fantastic," says Gem. "Do you have an umbrella too, in case it rains?" Aunt Stella nods and goes to the cupboard and pulls out a huge, rainbow coloured umbrella to match her dress. "Here it is," she says.

"It is enormous! Can we try it Aunt Stella?" shouts Gem, as she rushes outside to open the umbrella.

But it's raining outside and no sooner has Gem opened the umbrella than drip, drip, drip, rain is lurching on her head through the umbrella. The umbrella is full of holes! The umbrella is useless. "What am I going to do?" says Aunt Stella. "I don't have another one."

"Don't worry Aunt Stella, I am sure we can fix it for you," says Gem. "We just need to find something waterproof."

Ages 5-7 - low resource project

This activity is designed to get children thinking about friction. Children can test different shoes and observe which ones are the most and the least slippery. They can explore changing the angle of the ramp, as well as the surface of the ramp, introducing the concept of fair testing.

- Equipment list**
- A collection of shoes to sort and test (children could use their own!)
 - A wide ramp (shelf, tray, large whiteboard)
 - Different materials to cover the ramp (optional)



Slippery Slidey Shoes
Organiser's Card

About the activity
This activity is designed to get children thinking about friction. Oop! Gem and Cosmic have slipped on the floor. Help them figure out how to stop it happening again.

Through this activity you will support your group to:

- Think about why the shoes slipped on the floor
- Test different shoes and observe which ones are the most and the least slippery
- Record their results and share them with the group

Kit list

- A collection of shoes to sort and test - children could bring in some of their own shoes
- Wide ramp e.g. a shelf, a wipe board, a tray
- Different materials to cover the ramp (optional)
- Podium sheets - www.britishecienceassociation.org/creststar

What to do

1. Follow the structure on the ACTIVITY CARD. Make sure that you give children time to talk about their ideas.
2. Read the story. Then get the children to talk to a buddy about the questions and the opinions of Cosmic, Gem and the Caretaker.
3. Each group will need shoes to sort and to test.
4. Talk through how they might test the shoes but encourage them to use their own ideas too.
5. When they have finished put the shoes on the winners' podium and talk about why these were the best shoes. They could also take photographs wearing slippery and non-slippery shoes or draw a picture of Cosmic and Gem wearing the non-slip shoes.
6. There are follow up activities for children who have finished or want to do more finding out at home and earn a bonus sticker.

Things to think about
The children may want to explore sliding the shoes on the ramp first before they test each shoe systematically. It is good if children decide to use their ramp in different ways from the one suggested on the ACTIVITY CARD. They might try lifting the ramp to see when the shoes slide. They might try two shoes at a time. They might try changing the surface of the ramp to see why Cosmic and Gem slipped on the hall floor but not on the carpet in the corridor.

Take it further
Friction between surfaces stops things slipping. If shoes and surfaces are very smooth, there is unlikely to be much friction. If either surface is roughened a little, the shoes will generally grip better. High-heeled shoes are slippery as they do not have very much surface in touch with the ground. Some wellingtons can also slide easily because they are designed to be used in muddy conditions, not on smooth surfaces. Changing the floor surface will make an obvious difference to sliding. Polish reduces friction. Carpet is much rougher, which increases friction.

Keywords

- Friction
- Slip
- Surfaces

Watch out!
Be cautious about children trying out the activity for real on a slippery floor.

BRITISH SCIENCE ASSOCIATION



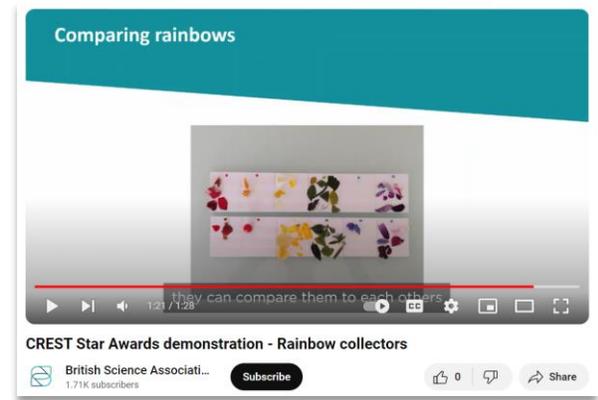
Ages 3-7 - confidence building, accessible

This activity is designed to get children thinking about colours in nature. It's simple, accessible and easy to run, making it ideal for adults who are building their confidence with practical project work. It can also work really well in early years and aligns nicely with the Early Learning Goal 'Understanding the World - The Natural World'



Equipment list

- Outdoor environment
- Colour-collecting palettes:
 - a strip of paper divided into 6 sections, each marked with a different coloured spot
 - or each group could have a plate-sized circle with just one of the colours
- Pieces of double-sided sticky tape



Ages 7-11 / KS2 / P4-P7

CREST SuperStar Challenges

This collection of projects for children aged 7-11, or those working at this level, allow learners to explore everyday problems using science. Each challenge is designed to take 45 minutes to an hour and involves hands-on investigation, decision making and group discussion.



Ages 7-11 - low resource project

What to do

1. Read the ACTIVITY CARD to familiarise yourself with the activity.
2. Check the kit list, including preparing a spinner and templates if you think that they might be needed.
3. Set the scene by discussing the news story and show the children a spinner falling.
4. Give children time to explore flat and screwed up paper and to think about what might be making a difference to the way that they fall.
5. Encourage the children to make their own large and small spinners. It is important to let them explore their ideas on their own. Have templates available if children need them. Some may need help to work out how to cut and fold the spinners.
6. Now let children try the spinners to see what happens.
7. Remind them about safety, particularly about not climbing to drop the spinners.
8. Give children some time to talk about their observations and ideas. You could show children other spinners with different blade lengths and ask them to predict how they will fall.
9. Children can share their 'best' spinner or they can create a display by sticking their spinners onto paper with advice for Mr Sycamore. Avoid too much writing by composing text message replies.
10. There are extra challenges on the ACTIVITY CARD. These can be used if there is any spare time or if the children want to try out more ideas at home and earn a bonus sticker.

Things to think about

Encourage children to drop their spinners from the same height. This should be as high as possible so that the spinners can 'test' before they hit the ground.

Very large spinners require a long drop to see any effect. You may need to drop them. If they are too flimsy they will not spin.

Very tiny spinners can spin extremely quickly.

It is difficult timing the spinners if they fall quickly. However, if children want to try timing, you should let them have a go to see if works.

Adding paperclips or Blu-Tack can increase spin speed.

Kit list

To make the spinners they will need:

- A4 Paper
- 30 cm ruler
- Metre ruler
- Paperclips or Blu-Tack
- Scissors
- 1 ready-made spinner to show the children how they work
- Large and small templates for spinners (if you think children will need them) - see following page
- Stopwatch
- Other types of paper and card

This activity is designed to get children thinking about helicopter blades and how different blade sizes change the way a paper spinner falls.



All the resources are likely to be readily available at school.

- Equipment list**
- A4 paper
 - Ruler / metre stick
 - Paperclips / Blu-Tack
 - Scissors
 - Stopwatch (optional)

Watch out!

It can be useful to drop the spinners from a height greater than a child's height. However, children should not stand on chairs or tables to launch their spinners unless very closely supervised. A library stool or kitchen stool are better.

Children need to handle and carry scissors in a safe manner.

Resources

The resources for this activity are readily available at school.

CREST SuperStar Awards demonstration - Super spinners

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Ages 7-11 - low resource project

This activity is designed to get children thinking about rocket designs and allows them to test different rocket shapes and sizes. It fits with the Y5 curriculum area 'Forces'.

All the resources are likely to be readily available at school.



CREST AWARDS SUPERSTAR

Racing Rockets

Organiser's Card

About the activity

This activity is designed to get the children to think about rocket designs and build a rocket that can go as high as possible.

The children have seen a poster about a new rocket competition inviting them to design and fly a rocket. The competitors need to set their sights high and produce creative ideas.

Through this activity you will support your group to:

- Think about different shapes of rockets
- Test different rocket shapes and sizes
- Share their findings with the rest of the group

Kit list

- Pencils or dowel to roll the rockets
- Strips of paper or card (cut to 1/4 of an A4 sheet)
- Sellotape
- Scissors
- Plastic straws - 1 per child
- Metre ruler or tape measure
- Plasticine, Blu-Tack or paperclips to add weight
- Extra card to make fins

What to do

1. Read the ACTIVITY CARD to familiarise yourself with the activity.
2. Check the Kit list to ensure you have the correct resources.
3. Set the scene using the poster and invite the children to enter the competition.
4. Give children a short time to talk about rockets and share their ideas.
5. Give each team the resources that they will need for the challenge.
6. Let children explore making and flying the basic tube shape. Give support to any groups that seem to be struggling.
7. Once they have the basic shape working, give children plenty of time to experiment to find out what makes a difference to how the rocket flies. They may need to make several versions to compare them.
8. When the time is up, all the children gather to present and test their rockets.
9. Measure the distance that each rocket travels. Test them three times each. It is up to you to decide if children can repair or adjust their rockets after each test.
10. Give points to each rocket according to the distance travelled. You can give extra points for design.
11. Announce the winners of the competition.
12. Encourage children to decide what made a difference to how each rocket flew. They could do a design report for Windy Astrobody.
13. The winning designs can be displayed on a podium.

Things to think about

The rockets will not work very well unless one end is flattened, folded and sealed. Let them explore this for themselves first.

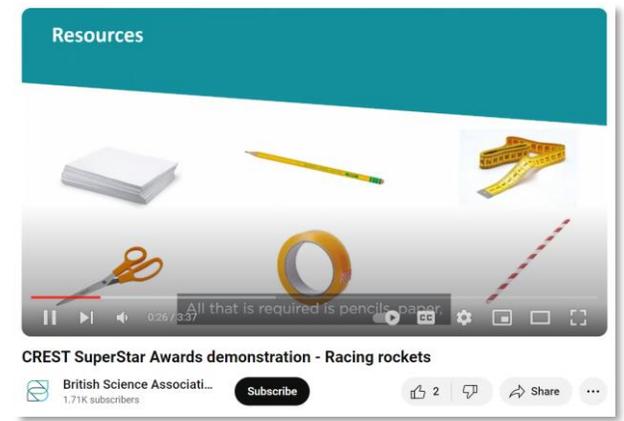
Watch out for children launching rockets by hand rather than blowing.

The children will need to agree on where to launch their rockets from and how the flight will be measured.

Take it further

Once children have the basic rocket shape there is plenty of scope for investigation such as size, materials and shape. Three important things affect the way rockets fly - aerodynamics, stability and balance. Flattening and folding one end will help to make the rocket more aerodynamic and prevent air escaping. Children might experiment with trying to make the nose more cone-shaped. Children can try attaching fins in different positions. This will affect the stability of the rocket. Fins at the tail end tend to be the most stable. Weight will also affect the flight. A little additional weight at the tail end can help. If it is too heavy it may not fly at all.

- Equipment list**
- Pencils
 - Strips of paper or card
 - Sellotape
 - Scissors
 - Bendy straws
 - Metre rule or tape measure



Resources

All that is required is pencils, paper, scissors, tape, a ruler and a straw.

CREST SuperStar Awards demonstration - Racing rockets

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Ages 7-11 – low resource project, confidence building



CREST AWARDS SUPERSTAR
Fantastic Fingerprints
Organiser's Card

About the activity
This activity is designed to get children thinking about fingerprints. The investigators have been given a news article about fingerprints. Teachers at Startown Primary School are wondering if they can use fingerprints to identify the students. Are the students' fingerprints that different?

Through this activity you will support your group to:

- Collect their fingerprints
- Compare different fingerprints and identify patterns
- Record and present their results

Kit list

- Dust (flour, chalk, talc, cocoa powder)
- Soft pencils
- Blank paper (white paper for pencil and cocoa prints; black paper for white powder prints)
- Other things to investigate e.g. oil or cream (leaves a print on QLT film or plastic), non-permanent markers etc.
- Sellotape
- Scissors
- Hand lenses or magnifying glasses

What to do

1. Introduce the activity using the news article. Ask them if they have taken a fingerprint before.
2. Give out activity cards and equipment to the children.
3. Explain that they will be investigating fingerprints today. Give children time to talk about what they know about fingerprints. Let them look at their own fingerprints with hand lenses or microscopes.
4. Demonstrate how to take a fingerprint
5. Support the children to design and carry out a test and to make their own records of their results.

Draw children's attention to the different patterns found in fingerprints (Loops, arches and whorls).

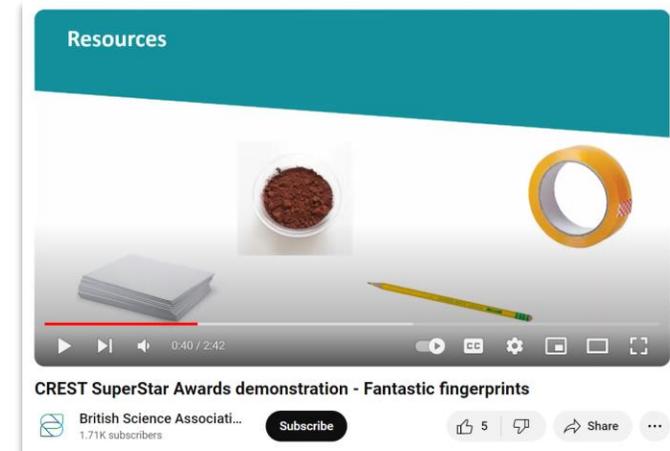
Ask the children to present their findings to the rest of the group. They can be as creative as their presentation as they want. The prints could be projected for the entire group to see. The children could try to work out which print belongs to which person. They could draw large images of their fingerprints.

British Science Association Registered Charity No. 20479 and SC028336

This activity is designed to get children thinking about fingerprints. It links to the Y6 topic of 'Evolution and Inheritance'. It requires little specialist scientific knowledge and uses easy to source equipment.



- Equipment list**
- Black and/or white paper
 - Sellotape
 - Soft graphite pencils
 - Powders (flour, cocoa, chalk dust)
 - Magnifying glasses



Resources

CREST SuperStar Awards demonstration - Fantastic fingerprints

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Live demo - Super Spinners



CREST AWARDS SUPERSTAR

Super Spinners

Organiser's Card

About the activity

This activity is designed to get the children thinking about helicopter blades, and how different blade sizes change the way a paper spinner falls.

Mr Spycorpse arrived for work in a helicopter, amazing the students. He's testing which helicopter is best. Can the students help to find out if a longer blade design will make a difference?

Through this activity you will support your group to:

- Think about what makes paper fall in different ways
- Test whether a paper spinner falls in different ways with different blade sizes
- Share their ideas with the group

Kit list

To make the spinners they will need:

- A4 Paper
- 50 cm ruler
- Metre ruler
- Paperclips or Blu-Tack
- Scissors
- 1 ready-made spinner to show the children how they work
- Large and small templates for spinners (if you think children will need them) - see following page
- Stopwatches
- Other types of paper and card

What to do

1. Read the ACTIVITY CARD to familiarise yourself with the activity.
2. Check the kit list, including preparing a spinner and templates if you think that they might be needed.
3. Set the scene by discussing the news story and show the children a spinner falling.
4. Give children time to explore foil and covered up paper and to think about what might be making a difference to the way that they fall.
5. Encourage the children to make their own large and small spinners. It is important to let them explore their ideas on their own. There templates available if children need them. Some may need help to work out how to cut and fold the spinners.
6. Now let children try the spinners to see what happens.
7. Remind them about safety, particularly about not climbing to drop the spinners.
8. Give children some time to talk about their observations and ideas. You could show children other spinners with different blade lengths and ask them to predict how they will fall.
9. Children can share their 'best' spinner or they can create a display by sticking their spinners onto paper with advice for Mr Spycorpse. Avoid too much writing by composing text message replies.
10. There are extra challenges on the ACTIVITY CARD. These can be used if there is any spare time or if the children want to try out more ideas at home and earn a bonus sticker.

Things to think about

Encourage children to drop their spinners from the same height. This should be as high as possible so that the spinners can level before they hit the ground.

Very large spinners require a long drop to see any effect. You may need to drop them. If they are too flimsy they will not spin.

Very tiny spinners can spin extremely quickly.

It is difficult timing the spinners if they fall quickly. However, if children want to try timing, you should let them have a go to see if works.

Adding paperclips or Blu-Tack can increase spin speed.

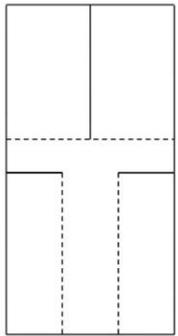
Keywords

- Flight
- Shape
- Size
- Aerodynamics

Watch out!

It can be useful to drop the spinners from a height greater than a child's height. However, children should not stand on chairs or tables to launch their spinners unless very closely supervised. A library stool or kitchen steps are better.

Children need to handle and carry scissors in a safe manner.

1. Take a piece of scrap paper.
2. Explore making a spinner – you could use the template to help you!
3. Add a paperclip to help it fall properly.
4. Explore changing the size of the spinner's blade – how does it affect the way your spinner falls?



Equipment list

- A4 paper
- Ruler / metre stick
- Paperclips / Blu-Tack
- Scissors
- Stopwatch (optional)



Engage Teacher Network

Children can use a CREST passport to keep track of the challenges they have completed...



Once they have completed 8 projects they can earn a CREST Award, recognising their achievement with a certificate!

Engage Teacher Network

HOW IT WORKS



1
Sign up for a free CREST account

You can use this account to enter students, create projects, pay CREST entry fees and request certificates.

2
Choose your activities

Browse the activities on our CREST library, selecting eight you would like to run with your students.

3
Run your activities

This is the fun part! Children take on the role of investigators and the teacher becomes the facilitator. Use the organiser card to help you set up the activity. Encourage your students to work together using the activity card with your support.

4
Record the activities

Students should record each activity they participate in with a sticker or drawing in their passport.

5
Assess your students' involvement

You or another educator should assess your students' involvement. If you feel they have sufficiently taken part then they will have achieved their CREST /

6
Certify your students

Log in to your CREST account, pay the entry fee and request certificates. These will be posted to your delivery address.





Engage Teacher Network

More support...

The CREST resource library and Help Centre

<https://primarylibrary.crestawards.org/>

Engage Grants

(Awarded twice a year to support you to run CREST)

<https://www.crestawards.org/engage/grants>

Reflection

Is there a CREST project that you would like to try with your pupils?

Could CREST help you overcome any of the barriers you face to carrying out practical science?



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*Thank you for joining us!
Any questions?*



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Engage

Teacher Conference

Thank you

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