



# School Radio

Primary - Science

By Heidi Burke

School Radio 2014

The date	The subject Science Sc4 – Physical processes		Class		Teacher	
Starter	Levels/Criteria	Whole class input:	Differentiated/ target groups:	Plenary:	AFL:	Class list:
<p>Handout sheets* below: Tables to read, discuss and use these throughout the lesson. The equipment displayed to encourage enquiry.</p> <p>source: Stacey Buckley: Primary Resources.</p>	<p><b>Forces and motion</b> 2. Pupils should be taught: a. <u>to find out about, and describe the movement of, familiar things [for example, cars going faster, slowing down, changing direction]</u> b. that both pushes and pulls are examples of forces c. to recognise that when things speed up, slow down or change direction, there is a cause [for example, a push or a pull]</p> <p><b>Note for 2a - Cross reference to English</b> En1 Speaking and listening: Speaking 1. To speak clearly, fluently and confidently to different people, pupils should be taught to: b. choose words with precision En1 Speaking and listening: Breadth of study 8. The range should include: c. <u>describing events and experiences</u> En1 Speaking and listening: Breadth of study 10. The range of purposes should include: c. <u>commenting and reporting</u></p>	<p>Discuss the concept of forces and motion. Displaying the equipment required* discuss with children what they think might happen dependent on different variables. Share ideas on the IWB.</p> <p>Each table should have time to make predictions: Using sheets from the starter activity. If the ramp inclines, declines or goes straight across balanced evenly. Etc..</p> <p>If possible, distribute necessary equipment to each table to allow independent research (teacher/support assisted where appropriate). If not, use the class as a whole and share the roles accordingly. Assign roles to each table: 'Driver' (operating the car) Technician (putting the bits together) Researcher (taking notes) Interviewer (asking questions – scripts attached &amp; blanks available).</p> <p>Each table can have recording equipment, turns can be taken with one recording device. To record the whole process, capturing discussion between children that can easily be assessed later so underpin progression and understanding.</p>	<p>SEN: Modelling ideas. Support with knowledge on shape properties: Print out from IWB required.</p>	<p>Listen to selected pieces from interviews highlighting strengths and relevant skills. Children contribute in ideas to improve interview: Are the key facts accurate?</p>	<p>Whole class learning?</p>	
<p><b>Table resources: Questions</b></p> <p>Placed on each table to begin discussion. Cards attached. (a seating plan may be required to maximise the potential of all: To dilute skills and enable them to transfer fairly through each group).</p>	<p><b>Sc1 Scientific Enquiry</b> 1a. that science is about thinking creatively to try to explain how living and non-living things work, <u>and to establish links between causes and effects</u> [for example, Jenner's vaccination work] b. that it is important to test ideas using <u>evidence from observation</u> and measurement</p> <p>Source: <a href="http://www.education.gov.uk/schools/teachingandlearning/curriculum/primary/b00199179/science/ks1/breadth">http://www.education.gov.uk/schools/teachingandlearning/curriculum/primary/b00199179/science/ks1/breadth</a></p>	<p>Each table should have time to make predictions: Using sheets from the starter activity. If the ramp inclines, declines or goes straight across balanced evenly. Etc..</p> <p>If possible, distribute necessary equipment to each table to allow independent research (teacher/support assisted where appropriate). If not, use the class as a whole and share the roles accordingly. Assign roles to each table: 'Driver' (operating the car) Technician (putting the bits together) Researcher (taking notes) Interviewer (asking questions – scripts attached &amp; blanks available).</p> <p>Each table can have recording equipment, turns can be taken with one recording device. To record the whole process, capturing discussion between children that can easily be assessed later so underpin progression and understanding.</p>	<p>Lower ability: As above.</p>	<p><b>Key question:</b></p>	<p>Future improvements: Extension: Create an interview throughout the school: Interviewing teachers and other classes.</p> <p><b>Note for 2a - Cross reference to English</b> En1 Speaking and listening: Speaking 8c. describing events and experiences En1 Speaking and listening: Breadth of study 10. The range of purposes should include: c. commenting and reporting En3 Writing: Breadth of study 9. The range of purposes for writing should include: a. to communicate to others d. to organise and explain information</p>	
			<p>Middle ability: Some prompting. Independent work. Blank scripts given to encourage writing their own questions and answers: Prompting further reasoning.</p>	<p>Did you guess how the experiment would work? Did you think that the ramp needed to be placed in a certain way, for the car to move? Were you right? How was the car able to move?</p>		
			<p>Higher ability: Independent work with blank scripts, as above.</p>			

Resources:	Notes/Resources	
<p>File downloaded and attached with this lesson plan: Original source: <a href="http://www.primaryresources.co.uk/science/science4b.htm">http://www.primaryresources.co.uk/science/science4b.htm</a></p>	<p>More experiments: <a href="http://www.stevespanglerscience.com/lab/experiments/category/forces-and-motion">http://www.stevespanglerscience.com/lab/experiments/category/forces-and-motion</a></p>	
<p>Levels and assessment criteria (current at time of print): <a href="http://www.education.gov.uk/schools/teachingandlearning/curriculum/primary/b00199179/science/ks1/sc1">http://www.education.gov.uk/schools/teachingandlearning/curriculum/primary/b00199179/science/ks1/sc1</a></p>	<p>And more experiments!: <a href="http://www.all-science-fair-projects.com/category57.html">http://www.all-science-fair-projects.com/category57.html</a></p>	
<p>For further studies: <a href="http://www.britishtscienceassociation.org/national-science-engineering-week/download-activities-competitions-and-quizzes/activity-packs">http://www.britishtscienceassociation.org/national-science-engineering-week/download-activities-competitions-and-quizzes/activity-packs</a></p>		

What will happen if the ramp goes straight across?

What will happen if the ramp goes up?

What will happen if the ramp goes down?

How would you move the ramp to make sure the car moves?

Script title: The Shape Programme.

Name:

Date:

Interviewer:	What do you think will happen to the car if it goes on a ramp that goes straight across?
Interviewee:	
Interviewer:	Why?
Interviewee:	
Interviewer:	What do you have to do to the ramp, to make the car move?
Interviewee:	
Interviewer:	Can you explain why?
Interviewee:	

Script title: The Shape Programme.

BLANK COPY

Name:

Date:

Interviewer:	
Interviewee:	
Interviewer:	
Interviewee:	
Interviewer:	
Interviewee:	
Interviewer:	
Interviewee:	

Name: \_\_\_\_\_

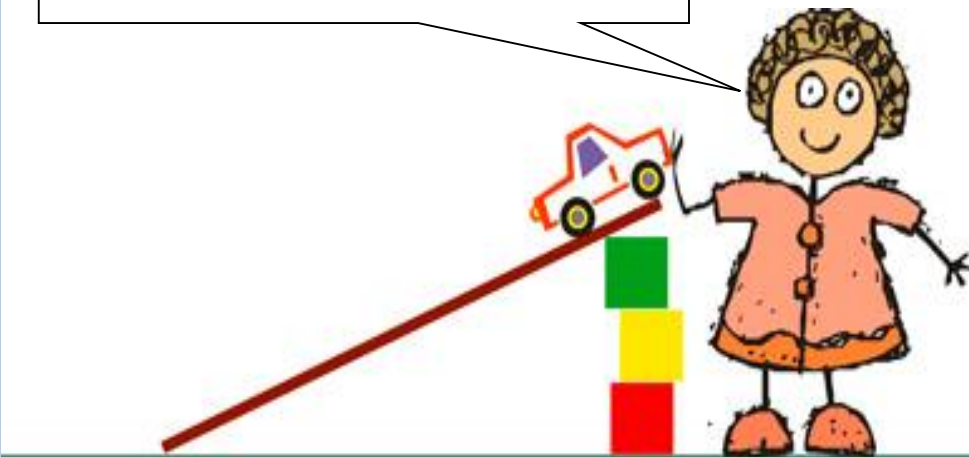
# Getting Evidence: Car Ramp Investigation

## Question:

When I change \_\_\_\_\_,  
\_\_\_\_\_,  
what happens to \_\_\_\_\_?  
\_\_\_\_\_?

## Prediction:

The \_\_\_\_\_ the ramp, the  
\_\_\_\_\_ the car will go.



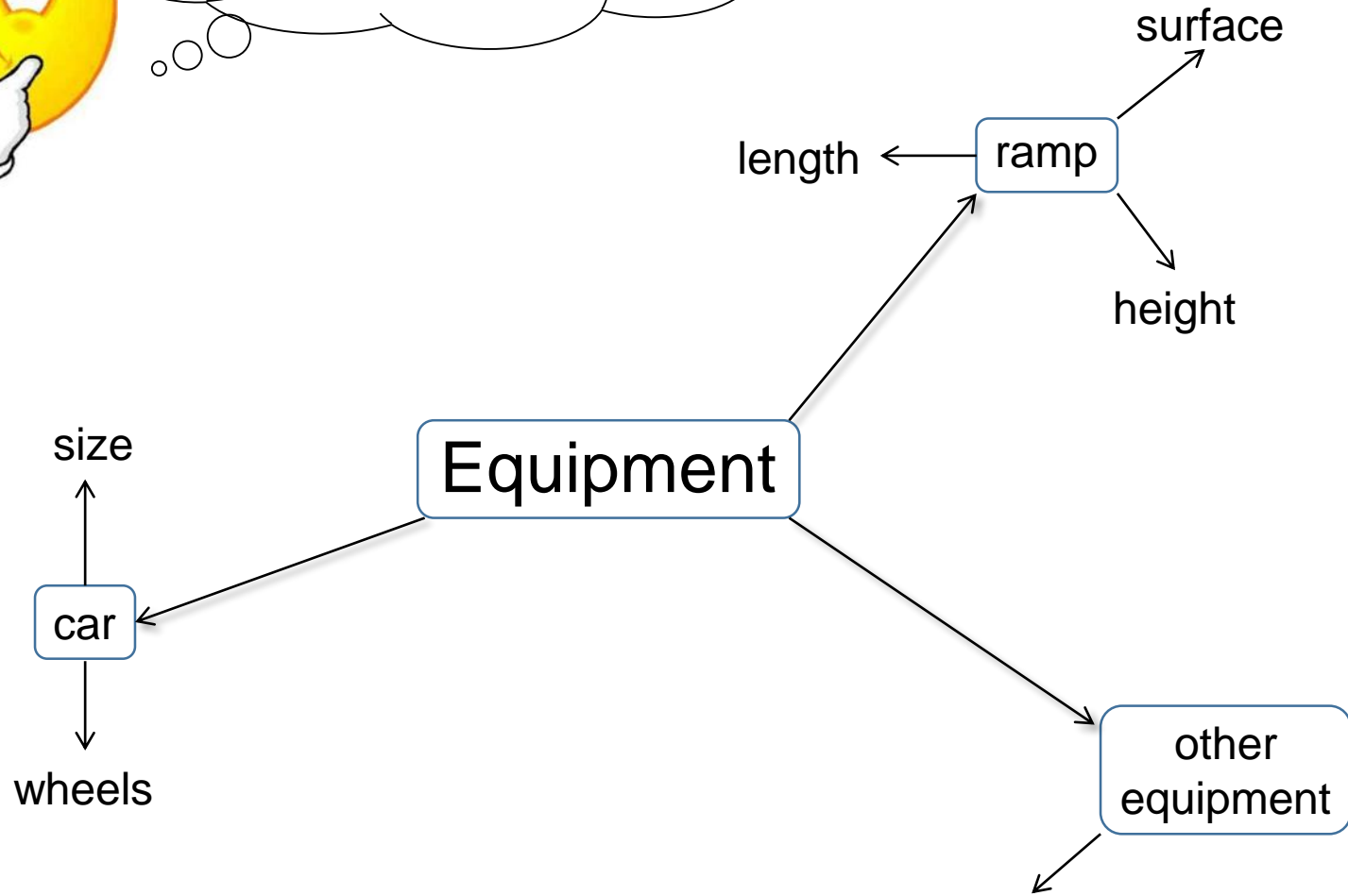
## A fair test:

We will keep these things the same:

We will only change:

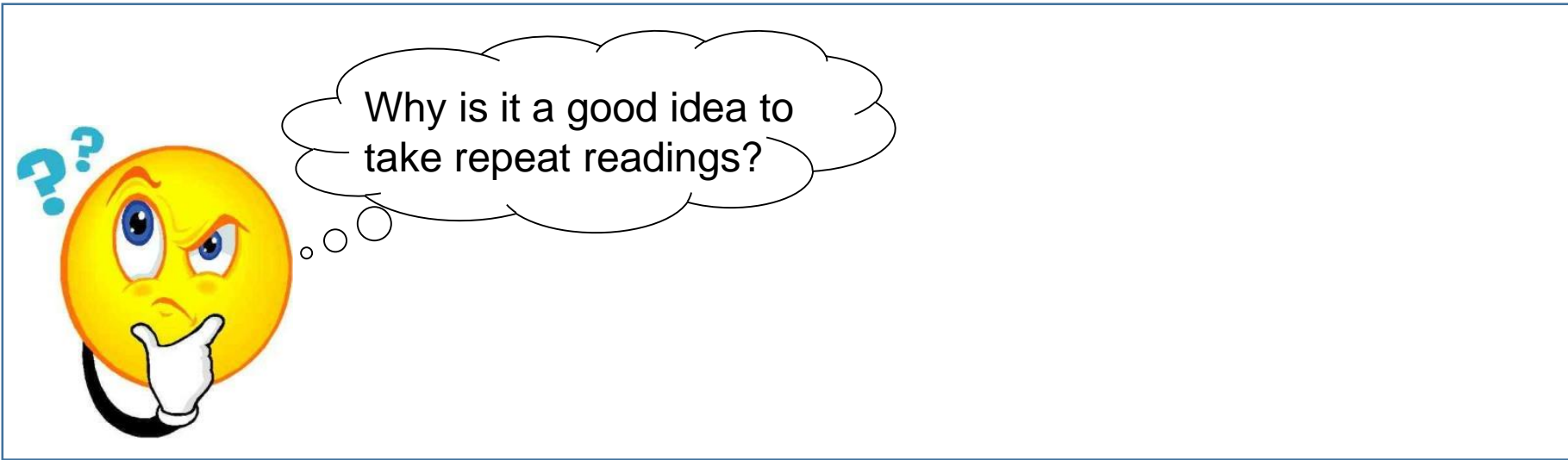


How do I choose the right equipment for my investigation?



Source:  
Primary Resources website.  
<http://www.primaryresources.co.uk/science/science4b.htm>





Making a table for repeat readings:


A diagram with the word "THINK..." in green at the top. Below it are four rounded rectangular boxes arranged in a 2x2 grid. The top-left box contains "Which heights to test?", the top-right box contains "Units", the bottom-left box contains "Repeats", and the bottom-right box contains "Average". Four arrows point outwards from the center of the boxes: up, down, left, and right.