

## Lesson Plan

Date	Time	Subject	Class	Key Stage	Teacher	Assistant
08.11.11	1.30 -2.15	Science	Sutton	3, Year 9	Colin Esrich	W Shaw and N Brailsford (SSA), H Maunder (GSA)

### Learning Outcomes – General

All will

Make a contribution to a group science investigation

Make a prediction

Communicate what they observe

Most will

Take measurements with support

Draw a conclusion based on their observation

Some will

Carry out a fair test

Make accurate measurements and repeat these measurements

Explain conclusions in terms of the science of paired forces

One or two will.....

Make their own suggestion for an investigation and investigate independently

\*\*\*\*\*See also IEP sheet for individual targets - social skills, communication and language

### Specific Pupil Learning Outcomes

L2 Heidi, Samuel, Lucy, Laxmi - Make predictions, measure (with support), communicate conclusions

L3 Haider, Tyrie, Tyler, Victoria, Ben - Identify a fair Test, Measure length, Make conclusions linked to evidence

L4 Sam, Nick - Use standard measures, Check observations and measurements, Provide an explanation for their results linked to the science of paired forces

Heidi: communicate effectively (verbally or using communication aid); move around safely with greater independence

Samuel: Make cleaner hand shapes when signing; respond appropriately to "what?" questions; use his voice when communicating

Sam, Laxmi, Lucy, Victoria, Tyrie, Haider, Ben - social / emotional skills. See IEPs

Ben, Sam, Nick - develop confidence / self esteem

\*\*\*\*\*See also IEP sheet.

## Lesson Content

Starter: Discuss pupil ideas from brainstorm notes - how to travel to space. Illustrate ideas of paired forces that explain how a rocket takes off

Main: Demonstrate a balloon rocket and ask pupils whether the idea of paired forces applies to this? Explain the lesson objective (present visually and verbally) and allocate groups that pupils will be working in.

Group 1 Science room (Wendy & Heather with Heidi, Lucy, Laxmi and Sam. Sam with Heidi to build his self confidence and to help Heidi to learn from Sam (paired tutoring)

Group 2 Kitchen (Colin with Tyrie, Ben, Victoria, Tyler).

Group 3 Woodwork room (Nicki with Samuel, Haider and Nic). Nic to gain confidence through opportunity to work independently.

### Suggested format

1. Set up balloon rockets

2. Get pupils together and remind them of the question they have to investigate (written in symbols). Can they tell you what they need to do to find out? Use the symbol word sheets to show pupils what they will have to:

L2 pupils PREDICT, MEASURE, CONCLUDE;

L3 pupils explain FAIR TEST; MEASURE WITH ACCURACY

L4 pupils REPEAT MEASUREMENTS/ OBSERVATIONS, PROVIDE EXPLANATION OF RESULTS RELATING TO SCIENCE OF PAIRED FORCES.

3. Ask pupils to predict what they think will happen (you could inflate balloons to help pupils understand what is going to happen and what they need to predict).

3. Allow pupils to investigate - you may have to allocate roles but it would be good if pupils could negotiate turn taking. If they don't suggest measuring the distance, prompt them. What can they use? Provide help where needed. STAFF TO RECORD MEASUREMENTS / OBSERVATIONS.

5. Bring pupils together to discuss what they found out. Encourage them to draw a conclusion.

If time.....

.....ask pupils to use the idea of the forces in pairs to explain what they saw. (FORCE OF AIR BEING PUSHED OUT OF THE BALLOON IN ONE DIRECTION MAKES THE BALLOON TRAVEL IN THE OTHER DIRECTION)

..... ask pupils how they think changing the shape of the balloon might affect the distance travelled? You could show them a thin balloon and discuss or, if time, carry out a second investigation using the same method - predict, measure, conclude.

Plenary - Probably in groups in which case please keep an eye on the time. We might get them all back together if time. Use Assessment For Learning (AFL) traffic light system. Pupils to use coloured stickers to say how they think they did with each part (prediction, measurement, conclusion). Try to provide some feedback yourself into this process so that pupils know what you think. Also peer assessment - what did individuals do well?

### **Assessment for Learning**

Staff to annotate on record sheet - whether pupils are independent or need prompts.  
Pupils use traffic light system to record how they found the activity.

### **Targeted Assistant Support**

Nicki with Samuel (L2) and overseeing Nic and Haider (both L4) working independently. Refer to IEP targets.

Heather with Heidi (L2). refer to IEP targets.

Wendy with own group (see above).