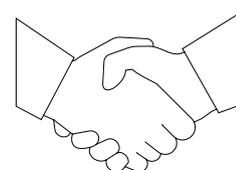


Handshakes Lesson Plan



- Lesson Plan for Year 7
- Time: 1 hour
- The aim of this lesson is for pupils to investigate the mathematical situation of counting the total handshakes when a group of people shake hands with each other. The *focus* of the investigation is on choosing the *mathematical* means to solve a problem.
- Preparation: organise two sets of groups of 4 with different membership for the two activity sections.

Starter: (15 mins)

Ask a group of volunteers to come to the front to demonstrate the problem (i.e. each must shake hands with each of the others; how many handshakes will there be?). Demonstrate and work out the answer for 0, 1, 2 and 3 people. Write the answers in a table on the board.

Activity: (15 mins)

Students work in groups of 4, each working on one of 3 different worksheets. (*Note:* each sheet gives different ways of setting out the problem). Each group member should be assigned a group role: scribe, person to report back, checker, discussion leader. The group's task is to write down one strength and one weakness of the method for showing the handshakes from their worksheet.

Feedback: (10 mins)

Groups report back on the strengths and weaknesses of the method they have used.

Activity 2: (20 mins)

New groups (composed of at least one member of each method group).

Solve the problem for 5 people shaking hands and above, using the preferred method for the group. Record results of extra worksheet. (Same group roles).

Homework:

Write a report of what has been found out.

Worksheet Method 1

Write your group role:

Scribe

Reporter

Checker

Discussion Leader.....

Everyone in your group shakes hands with everyone else.
Write down a list of all of the handshakes.

How many handshakes are there ?

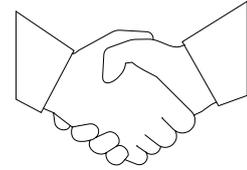
Now work out how many handshakes there would be with 5 people.

Write down one strength and one weakness of writing down the handshakes in a list:

Strength:

Weakness:

Worksheet Method 2



Write your group role:

Scribe

Reporter

Checker

Discussion Leader.....

Everyone in your group shakes hands with everyone else.

Give each person a letter A, B, C, D.

When A shakes hands with B, you should write AB.

Fill in the table to show all of the handshakes:

AB		

How many handshakes are there ?

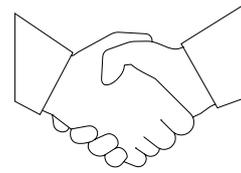
Now work out how many handshakes there would be with 5 people.

Write down one strength and one weakness of writing down the handshakes in a table like this:

Strength:

Weakness:

Worksheet Method 3



Write your group role:

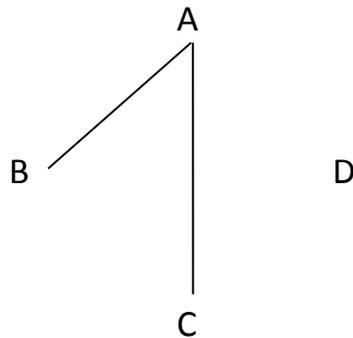
Scribe

Reporter

Checker

Discussion Leader.....

Everyone in your group shakes hands with everyone else.
Give each person a letter A, B, C, D.
When A shakes hands with B draw a line from A to B on the diagram.
Complete the diagram to show all of the handshakes.



How many handshakes are there ?

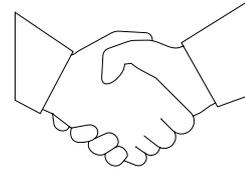
Now work out how many handshakes there would be with 5 people.

Write down one strength and one weakness of writing down the handshakes as a diagram:

Strength:

Weakness:

Worksheet



Write your group role:

Scribe

Reporter

Checker

Discussion Leader.....

- Work out how many handshakes there would be with 5 people.
- Now, work out how many handshakes there would be with 6 people.

Complete the table below:

Number of people	Number of Handshakes
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

- Write down a rule for working out the number of handshakes for *any* number of people.