Sequence and Chance Home Information Sheet

Second Level (b)

Having explored more complex number sequences, including well-known named number patterns, I can explain the rule used to generate the sequence, and apply it to extend the pattern.

MTH 2-13a

I can conduct simple experiments involving chance and communicate my predictions and findings using the vocabulary of probability.

NMU 2-22a

Over the next few weeks we are going to be learning to use numbers within 1000 to:

- Recognise sequences in which the terms are linked by one of the four operations, e.g. 9, 13, 17, 21....., 100, 91, 82, 73, 64.....,
- 3, 6, 12, 24, 48……, 128, 64,… ., 16……, 4
- Follow a rule based on multiplication, division or simple fractions to generate a sequence, e.g. start with 88 and keep dividing by 2 to find subsequent terms
- Solve problems by identifying a sequence, finding the rule and extending the sequence
- Describe a sequence sufficiently to allow a partner to reproduce it
- Understand the concept of equal chance, fifty-fifty, one in two etc.
- Use data to predict the outcome of an experiment involving chance
- Justify and explain their predictions using appropriate vocabulary (verbal or written)
- Plan and carry out a simple experiment involving chance, e.g. picking a card from a pack, rolling a dice etc.
- Be able to assign a numerical value to the likelihood of simple events occurring, e.g. there is a one in six chance that I will roll a four

Here are some ideas of how you can help me at home!

What's the rule? Give children a range of sequences to explore and ask them to find the start number and rule, such as:

• 6, 7, 9, 12, 16, 21, 27, ... (start at 6, then add 1, 2, 3, 4, 5, ...)
• 50, 49, 46, 41, 34, 25, ... (start at 50, then take 1, 3, 5, 7, 9, ...)
• 1, 3, 9, 27, 81, 243, ... (start at 1, then multiply by 3 each time).

Encourage children to write notes on the patterns in each sequence, e.g. every pair of

numbers alternates between odd and even.

Scenarios Ask children to record in pictures and words three situations on the probability scale: one which is close to 1; another which is close to 0; another that is around the middle. Back in class they share and discuss the situations they imagined.

Here are some websites that you may find useful to use with me!

http://www.bbc.co.uk/schools/teachers/ks2_activities/maths/probability.shtml - Have a play with the amazing random ball-picking machine! How likely is it that a blue or a red ball is picked?

http://www.crickweb.co.uk/ks2numeracy-properties-and-ordering.html (The 4 Digit Sequencer)- Experiment with personally made sequences

Challenge me!

True or false? Give children the following puzzle to investigate: A sequence starts at 3. The terms grow by adding 2, 4, 6, 8, 10 and so on. Every number in the sequence will have a units digit of 3, 5 or 9. *Do you think the statement is true or false?*

Odds and evens, *(Using coloured pens)* Give children a copy of Pascal's triangle (see explanation below) or ask them to write out the first eight rows. Ask them to colour the odd and even numbers in different colours and to describe what they are doing by writing notes on what patterns they notice.

Pascal was a 17th century mathematician from France. He organised work from prior mathematician sin his book, Traité du triangle arithmétique (*Treatise on Arithmetical Triangle*). *Simply, each number in the triangle is the sum of the two directly above it.*

1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1