Session 3 – Roamer counting on and back along a Number Line

Activities for Class or Group (Teacher or TA)

Reception (Y1 - ICT KS1 Unit 1F understanding instructions and making things happen)

ICT — To use common language and follow simple instructions to make things happen.
To sequence instructions and predict what will happen. To use a common format to record.
Numeracy – To count on and back from zero (reception) or from any number (Y1) 10/20

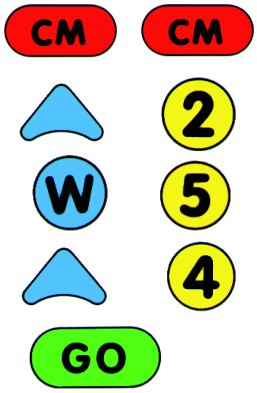
Resources: Roamer with a face drawn on it to help children realise which way it will move when going forward. 0-10 Number Line (reception) 0-20 (Y1) – interlocking 30x30cm squares **or** 30x30cm squares drawn onto a piece of floor covering to make a number line mat.
Number cards 1-10 or 1-20;
Roamer symbol cards made from symbols downloaded from http://www.valiant-technology.com/freebies/free8.htm (Clear memory key x2 ; forward key ; **wait key**; **back key**; number keys 0-9; GO key) and stuck with Blu-tak onto an easel or board in random order.
Laminated copies of Roamer Control Panel (downloaded from above site) for children to refer to.

Recap
Which keys can they identify on their copies of the control panel?
What colour is it? What does it do? Can anyone remember how to make Roamer move forward?
Invite child/ren to try their ideas. What happened? Why?
Can anyone remember how to instruct Roamer to move to the number 5 on the number line? (from zero) Make sure the children are counting on.

Introduction Tell the children that this time they are going to learn how to make Roamer move to one number, **stop and wait** and then move on to a higher number.

The 'wait' key Show the children the 'wait' symbol and ask them to find it on their control panel. Tell them that when they press the wait key on Roamer's control panel Roamer will wait but they will have to tell it how long they want it to wait otherwise it won't understand. They have to press the wait key and then choose a number key to tell Roamer **how long** to wait before it moves forward again to another number square (It is possible to count as Roamer waits since pressing eg number 5 = about 5 seconds)
Model this using a child as Roamer. Make sure that the children are counting the moves correctly. They can count the 'waiting time' (but **do not** do this during the first demonstration) and then move on again. Relate this action to addition (5 Roamer steps and 2 more make 7) (5+2=7) according to ability and stage. When the children are clear about this they can count the 'wait time'.

Sequencing the instructions



Tell the children that they are going to decide which instructions to give Roamer **BEFORE** they press any of its keys.
Choose a child to be Roamer and ask them to stand on zero. As you help the child to move down the number line (to model the sequence opposite) talk/prompt them through the sequence by asking questions and reminding them of actions. What do you press first? Which way? How far? How long? etc. and invite individuals to find each correct symbol key in turn (matching each action to a symbol) and Blu-tak it onto the board. They should have made the sequence opposite. Read/chant the sequence.
Tell them that now it is Roamer's turn and IF they have got the sequence of instructions right Roamer will do as it has been told and move to number 2, stop, wait 5 seconds and them move on 4 Roamer steps to number 6.

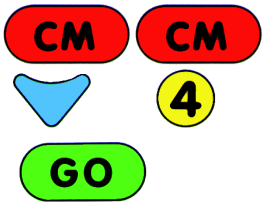
Invite different children to press each key in turn. **Train the children to always stand behind Roamer so that they are looking at the keys the right way up. This is important as it will help them when they have to decide which direction Roamer has to go in.**
This activity can be repeated changing the distance and wait time and can be related to adding 2 numbers by counting on along a number line.
When the children are familiar with counting on from zero, the starting number can be changed and the children encouraged to count on from the new number.

Extension/Further Session
Tell the children that Roamer can go backwards as well as forwards. Locate the 'back' key on the control panel and explain its function as before. The children should now be more familiar with

moving Roamer along the number line and using the symbol cards to make a sequence of instructions (with help). Most should be familiar with counting the squares (counting on) to determine how far Roamer should move.

To begin with use a child as Roamer to demonstrate. The child should move backwards not forwards from 10. The children should guess/count back in order to work out how many Roamer steps it will be to get to the lower number.

Using the back key to make Roamer move backwards



Start with Roamer on number 10 (facing forwards) and tell the children that they must decide what instructions to give it to move Roamer to number 6. Which way will Roamer move? So which key will tell Roamer to go back? Find it on the (laminated) control panel.
Talk/prompt them through the moves as before. ★
Choose a child to be Roamer and to move backwards while others (in turn) stick symbols on the easel in sequence to match and record their moves.
Read/chant the instructions then choose individuals to program Roamer as before using the new instructions. Repeat activity and relate to counting back along the number line and, depending on ability, subtraction. (10 count back 4 steps = 6) (10 – 4 = 6)

Extension:
Children use Roamer to count back

- from different starting points eg 7-5=
- using the wait key to demonstrate eg 8-2-3=

At this stage most children should be more familiar with the keys used so far and be starting to use common language to talk about what action the keys represent even though they may not always be correct.
They should recognise what a sequence of instructions looks like (using symbol keys) even though they cannot yet record a sequence without prompts from the teacher.
Some children may be more confident and be able to suggest their own sequence.
Some children will find counting on and counting back difficult (they count the square that Roamer starts on as 'one') and will need to relate this to jumping along a number line and only saying the 1st counting number as they land after their first jump.

Make sure that the children have realised that in order for Roamer to respond they need to give it instructions by pressing keys on the control panel and are beginning to realise that the correct keys need to be pressed in the correct sequence. ★

NB. When using interlocking tiles to make a number line it is difficult to place Roamer in such a way that it stays on track.
Be ready to push it back on as soon as it wavers or it will grind to a halt! Better still use more squares to make a run off on each side.