South Molton Community Primary School

Totally Unplugged - KS1 Outdoor Maths

Natural materials can be used to provide symmetry challenges. Ask children to find a natural object. Then ask them to find another one exactly the same. Discuss similarities and differences between the two objects. A partner activity can happen when one child has to collect a variety of materials and create a simple line pattern. Her partner has to find similar objects and create the symmetrical pattern as illustrated below:

Large scale symmetrical artwork can be undertaken outside. Provide materials for printing patterns. There is often a sense of symmetry about children's pattern making which can be encouraged by providing balanced sets of materials, e.g. building bricks, utensils and tools as well as natural materials.

Multiplication facts

Children get into groups of 2, 3, 4 etc. Create multiplications to match the groups. Move onto creating arrays to represent the sum using children.

Stick logic

Challenge the children to find 9 sticks/twigs of equal length.

The challenge is pretty simple: how many triangles is it possible to make using 9 sticks?

MEASUREMENT
• Compare, describe and solve practical problems for lengths and heights (e.g. long/short,
double/half)
• Measure and begin to record lengths and heights

LEARNING OBJECTIVE(S

• I can use natural materials to measure length and height.
• I understand why it's important to use standardised measurements.

ACTIVITY

Children are encouraged to explore the outdoor environment and collect natural materials, using only the natural objects (sticks, leaves, pine cone, etc.) the children will be asked to measure various body parts then compare and contrast their findings with each other.

For example,
How many leaves long are your arms? How many sticks does it take to measure your leg?
Record answers via. cameras, written work.
Do they get the same results as other people? Why not?
Explain the importance of standardised measurement.

ACTIVITY
Learning Objective(s):
I can subtract 1 or 2 away from a 2 digit number.

Once children have an understanding of take away, subtraction, organise a takeaway tournament. Divide the class into small groups. Place your acorns (or whatever natural material you choose) on the ground outside between the teams.

Taking it in turns children may take away 1 or 2 acorns. Then it is the other team's turn. They can also choose whether to take away 1 or 2 acorns away. The winner is the team that can take away the last acorn(s).
Therefore the groups will have to work out strategies, planning and problem solving. May have to play a couple of times for them to get the hang of it.

LKS2

Year 3/4 . Children collected objects in the school grounds. Below is a tally chart of the objects found. I like the visual representation of the actual objects…

You could then create a pictogram or a line graph to represent the data.

Bench Investigation

Find a bench. How many legs has it got?

How many slats have been used to make it?

How many legs and slats would there be on 6 benches?

If there were 44 legs how many benches would there be?

If the bench is 2 metres long and the wood for the slats costs £2.00 per metre how much does it cost to make all the slats for the bench?

How much for 6 benches?

KS2 Outdoor Maths

Archaeological Dig
Year 5/6
Natural Curriculum Objective(s):
Geometry - position and direction
• Describe positions on the full coordinate grid (all four quadrants), including the use of negative numbers
•Draw and translate simple shapes on the coordinate plane, and reflect them in the axes

Learning Objective(s):
I can locate a co-ordinate on a practical coordinate grid

Activity:
In a school flower bed or an area of the playground (if field/grass/mud) mark out with tape/string or wire a coordinate grid. Bury fossil or bone replicas. Have the children work in teams:

Either give them precise coordinates to find the correct item buried or ask them to complete an archaeological dig and list the coordinates when they found something. Children will rely on their mathematical knowledge to measure and count their finds and their geometry to discover the coordinates on the site grid when things are found. The beauty of doing the dig in a flower bed means you can divide the soil into layers, different textures and colours to extend the children's scientific knowledge.

Objective – To derive quickly division facts corresponding to tables up to 10 x 10

'Army style' marching and chanting around the playground, which is teacher led to begin with. Teacher calls out division calculation with either correct or incorrect answer. Children repeat correcting answer if required. Children are then split into smaller groups. One child selected to be sergeant and repeat previous teacher led activity. In same group, children get into a circle with one child selected to be the leader in the centre. Centre child calls out a division question e.g. 'How many 3s make 24?' and throws beanbag towards a child who has to try and answer before catching. Rest of group also calculate answer and give thumbs up or down as to whether 'catcher' was correct. Extension group to be working with decimals.

Teaching Activities
Objective – Use informal pencil and paper methods to divide.
Children, in same groups as oral mental, are give jumbo chalk to work with on playground surface. A problem is presented: 78 children need to be placed in teams of 6. How many teams will there be? Children are asked to solve the problem using any type of informal or formal way of recording. Children to feedback on jottings they have made using chalk and explain methods. A second problem is presented and the children chunk on the empty number line to calculate the answer. They use wipe boards, chalk and skipping ropes for jumps. Feedback is taken from children and then using one group's equipment the teacher demonstrates how to transfer the number line method to a more formal written method by moving wipe boards and placing them in vertical layout.

Group Work
Cards with word problems written on are placed in a bucket. Children take lucky dips, solve problem using written methods on playground surface.