Infant Resource Pack for Maths Week

This pack contains six activities that are suitable for either Junior and Senior Infants. The numbers in the questions may have to be adapted to suit the class and the time of year that they are completed. These six activities are suitable for use in the classroom.

Prior to completing the activities teachers should pre-plan their questions ensuring that the questions they ask will promote mathematical thinking. Examples of questions are given with each activity but the list below also shows some question stems:

⇒ Explain how you….

⇒ What would happen if I changed this number….

⇒ Is there another way you could do it? Show me.

⇒ If you did it again what would you do differently/keep the same?

⇒ Draw it.

One of the main emphasis of these activities should be on **language** and allowing pupils to talk about what they are doing using the correct mathematical vocabulary. The teacher needs to lead by example by always modelling the correct language and reason their own mathematical thoughts out loud.

Many of these activities can be adapted for use outside, for example, the 'Picking Apples' activity can be completed without the template and using conkers, stones, flowers, etc.

There are some great outdoor activities that can be played using the ten frame. Why not draw several of them on the ground with chalk and assign a group of children to each one. Can they arrange them selves according to the instructions you give them? For example, the second and fifth box must remain empty or only the spaces on the top row can be filled.

Remember to register your school at www.mathsweek.ie and check for any events that may be happening in your area!

Activity 1:

Picking apples

Resources: 10 counters per pair of pupils, 'Picking Apples' template

Strands: Counting, subtraction, problem solving

Activity: Give each pair of pupils the 'Picking Apples' template and ten counters (apples) placed on the branches of the tree. Pupils must take it in turns to 'pick' either one or two apples from the tree. The person who picks the last apple is the winner.

Questions: How many are you going to take?

What might happen if your partner takes two?

What might happen if your partner takes one?

Challenge Questions:

* *How can you ensure that you will always win?*
* *Can you calculate when there six apples left what you should do to ensure that you will win?*

Teacher's note: The person who leaves three apples can always win. Encourage pupils to think about the logic and reason how many they are going to take each time.

Variations:

1. Pupils can reverse the game and place the apples onto the tree. The winner is the person who places the last apple on the tree.
2. Change the number of apples on the tree and the amount that pupils can take each time.

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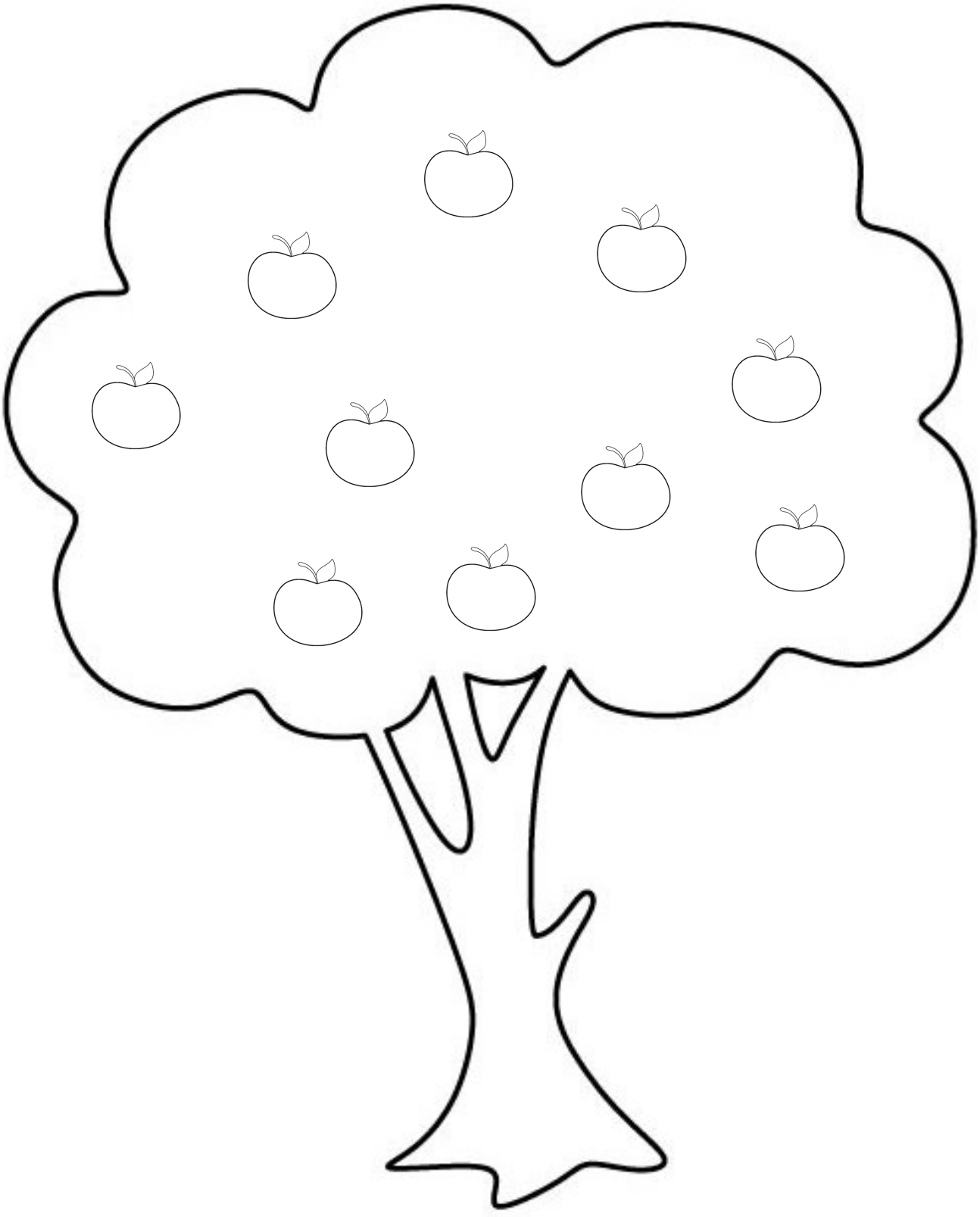

Activity 1—Picking Apples Template 1

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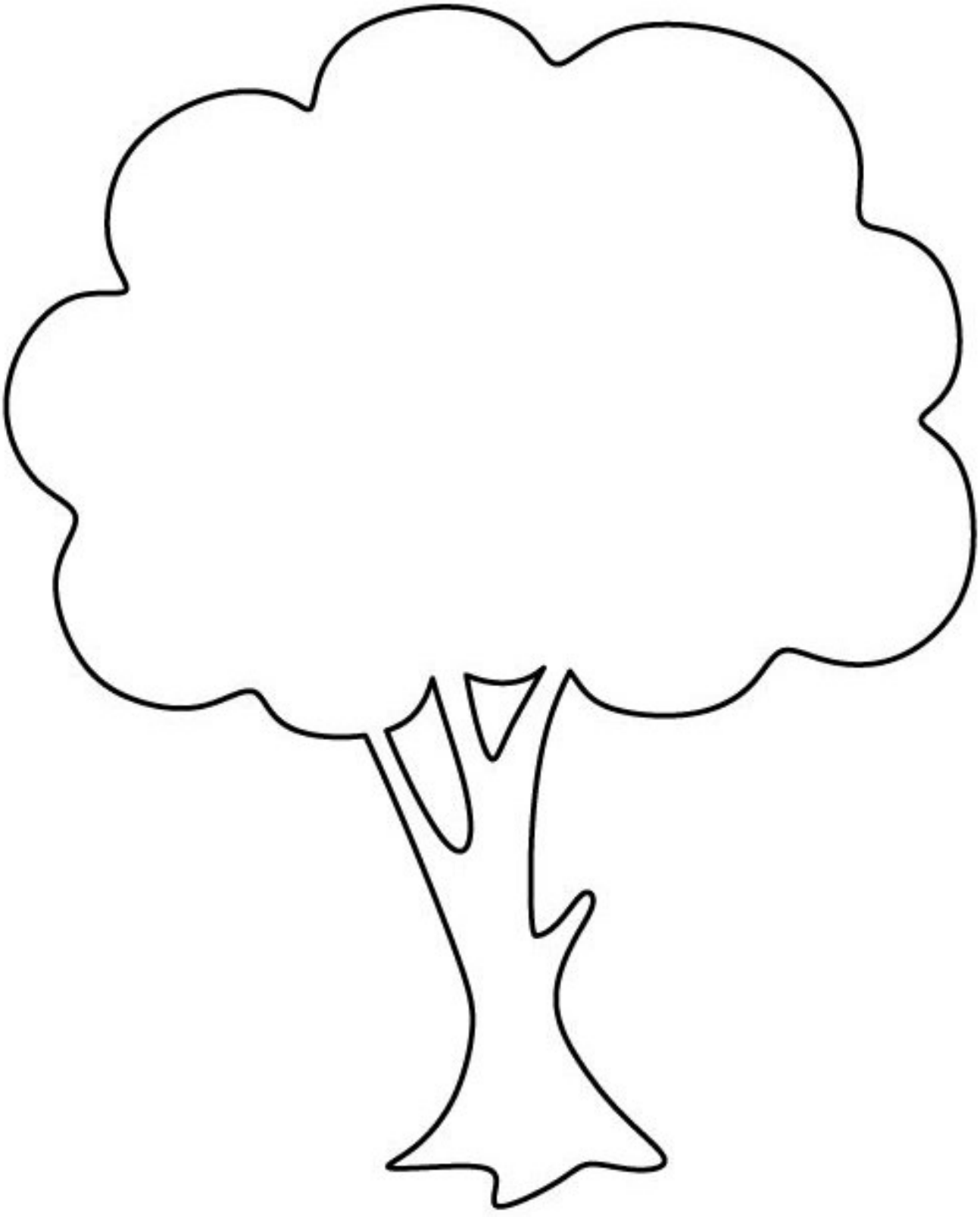

Activity 1—Picking Apples Template 2

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Activity 2:

Five Little Ducks

Resources: Five ducks (images or actual ducks)

Strands: Counting, comparing, ordering

Activity: Give each pupil five ducks that are numbered 1-5 and ask them to count out the same number of cubes for each duck stacking them together as they do. Ask them to place the stacks of cubes in order starting with the fewest number of cubes. They should then match the ducks with the correct stack of cubes.

Questions: How do you know that this stack of cubes comes first? Why?

How do you know that this stack of cubes comes last? Why?

Order the cubes now from most to fewest.

Challenge Questions:

* *What duck could come next? How do you know? Show me how many cubes he would have.*
* *What number would the duck before one be? How many cubes would he have? Can you show me?*
* *How many more cubes does this stack have? Show me how you know.*
* *How many fewer cubes does this stack have? Show me how you know.*

Variations:

1. *Place dots on the ducks to show the number.*
2. *Give pupils the ducks ordered but with a mistake and ask them to fix it.*
3. *Allow the children to be the ducks holding the correct number of cubes.*
4. *Change the number of ducks. Don't always start with one.*

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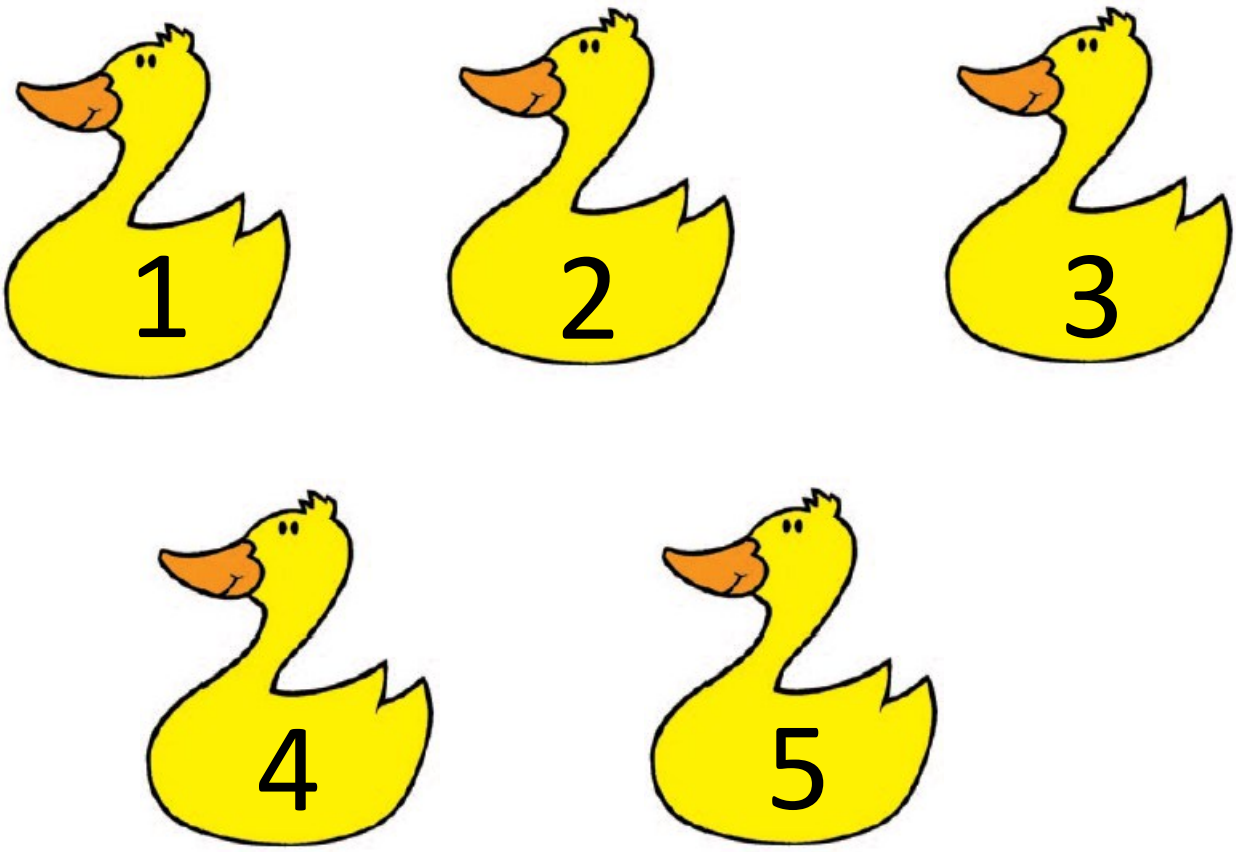

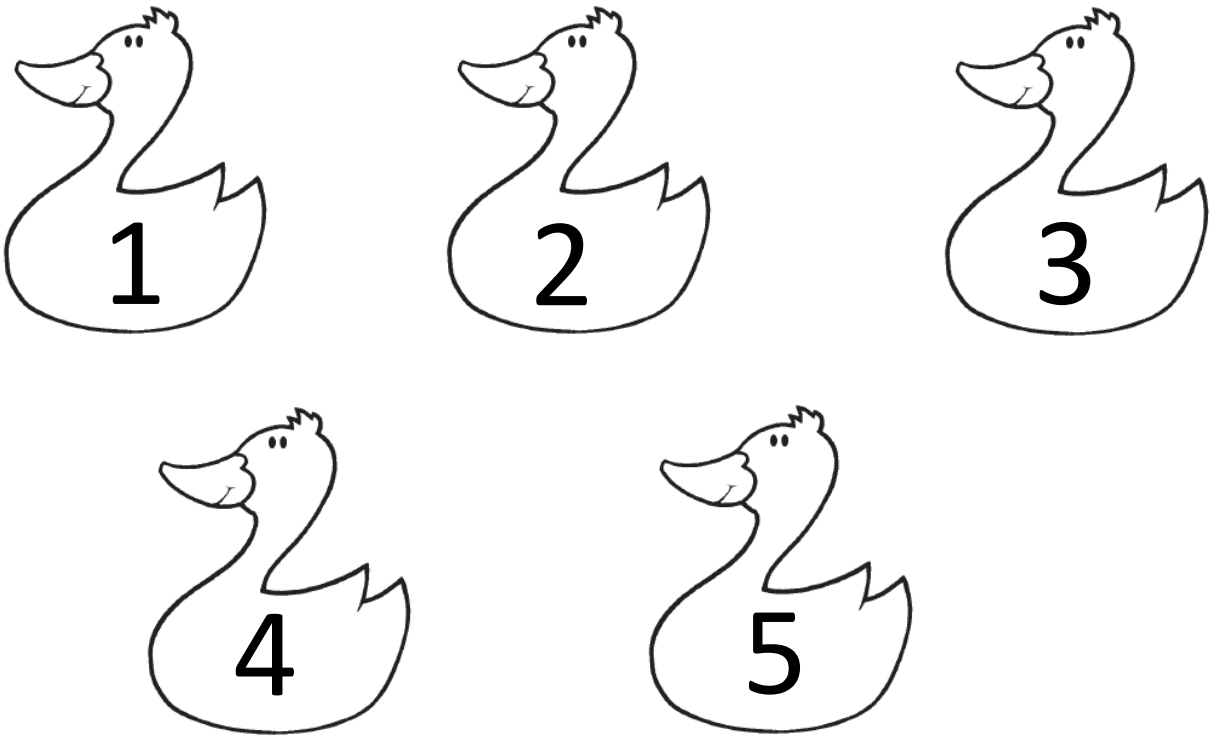

Five Little Ducks—Activity 2

Activity 3:

Snakes and ladders

Resources: One die per pair of pupils, counters, snakes and ladders board

Strands: Counting, addition, position and direction

Activity: Give each pair of pupils a die and one counter each. Each person starts on 1 and takes it in turn to roll the die and move the appropriate number of spaces. If a pupils lands on a space with a ladder they can climb the ladder. If they land on a space where a snake's head is then they must follow the slippery snake.

Questions: What number did you roll?

Are you moving forwards or backwards?

Describe to me what happened when you landed on space number 14?

Challenge Questions:

* What number would you like to roll next? Why?
* What number do you not want to roll next? Why?
* What is the least number of rolls of the die you could make to win the game? Explain.

Variations:

1. *Remove the numbers from the squares on the board and just use arrows.*
2. *Start at 20 and the winner is the first person to reach one.*
3. *Have each player play with two counters of the same colour. When you roll the die, you can move one of your two pieces by that amount. You need to have both of your pieces reach the last square in order to win.*

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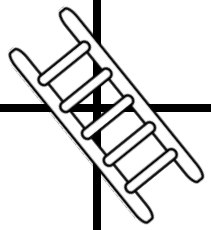
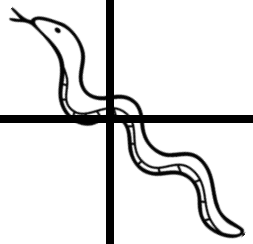
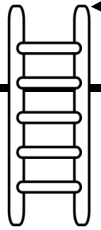
Snakes and Ladders

20 Finish	19	18 Move backwards 1 space	17	16 Move forwards 1 space
11	12	13	14	15
10	9 Move backwards 1 space	8	7	6
1 Start	2	3 Move forwards 1 space	4	5



Activity 4:

Bones

Resources: 14 bones per pair of pupils, five dogs

Strands: Grouping and sharing, counting

Activity: Each pair of pupils need 14 bones and five dogs. Ask pupils to share the bones so that each dog has at least two. Change the number of bones that each dog has the next time and ask pupils to explore.

Questions: Did each dog get the same amount? Why not?

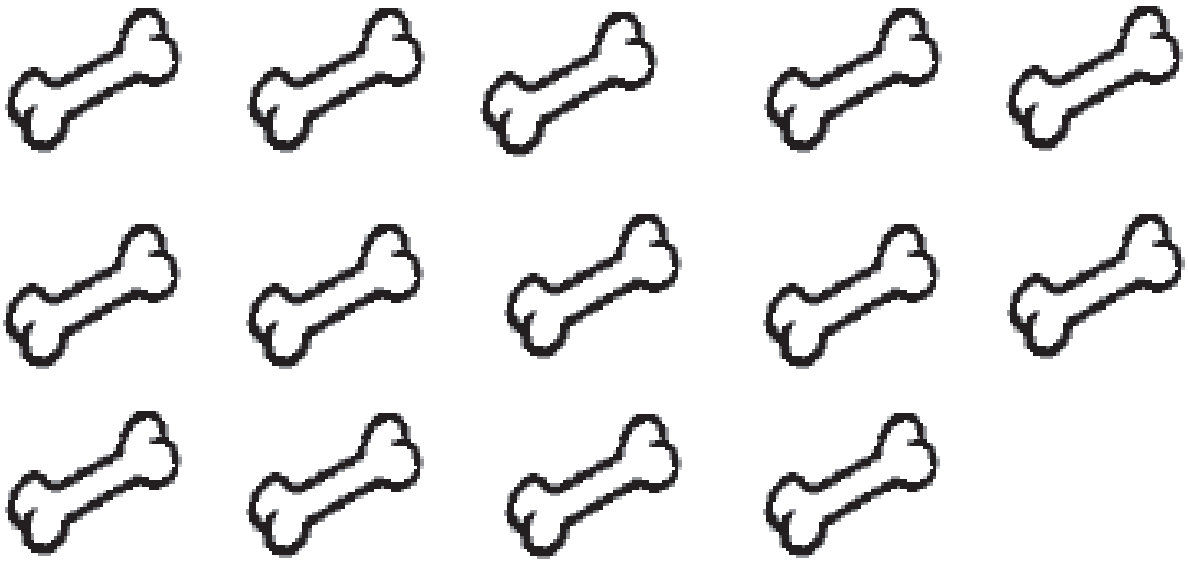
Explain to me and show me how you shared the bones.

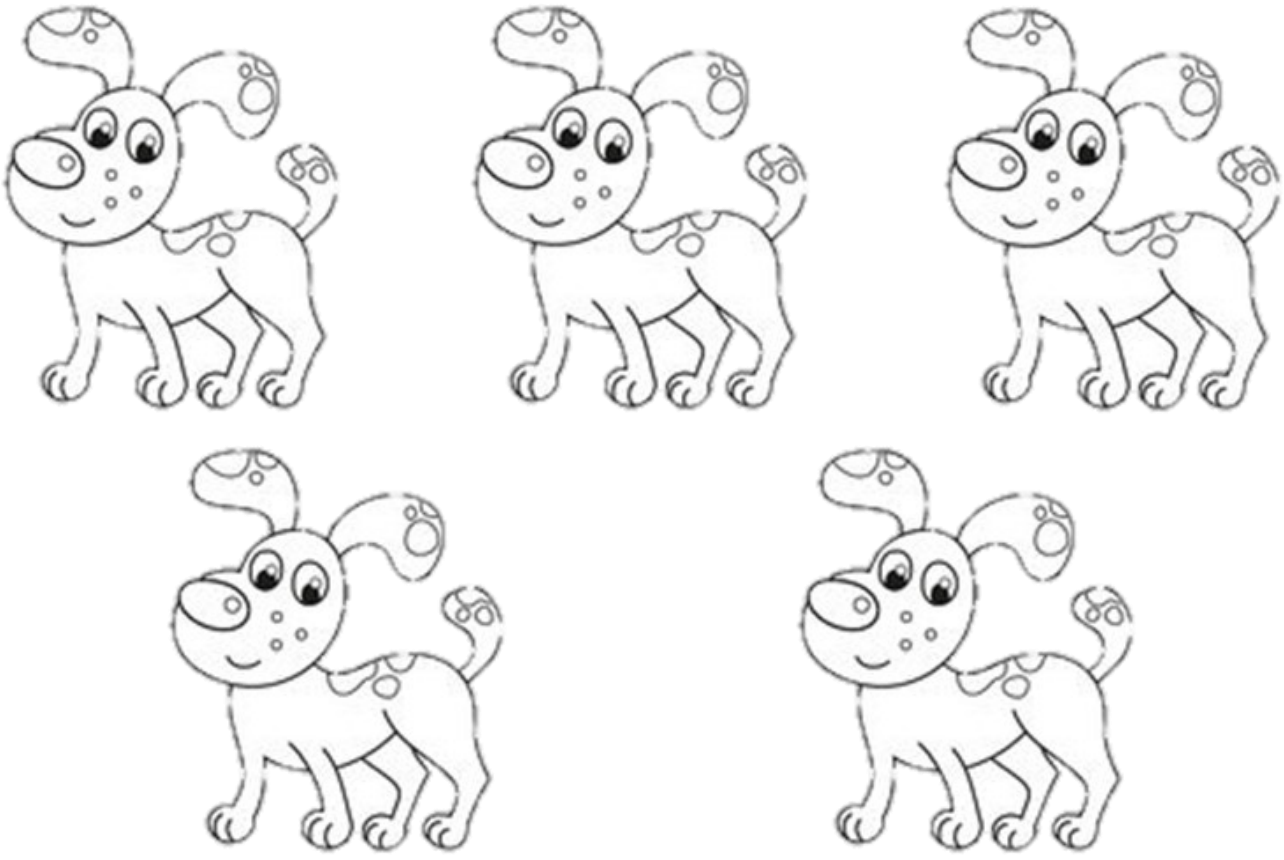
Challenge Questions:

* *How many would you need so that each dog has the same amount?*
* *This dog was greedy and took six of the bones. What does that mean for the other dogs?*

Variations:

1. *Change the number of dogs and bones as appropriate. Ensure that there will not always be equal sharing.*
2. *Encourage pupils to apply logic, for example, if three, three, three, two and one are 12, then three, three, three, one and one are 11 because I took one away from the two. 11 is one less than 12.*
3. *Encourage pupils to check if there is another way to distribute the bones. Have you found all possible ways? How do you know?*





Bones—Activity 4

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Activity 5:

Class Party

Resources: Images of the juice drink, biscuit, strawberry and cupcake and images of 20 children

Strands: Grouping and sharing, counting, ordinal number

Activity: There are 20 children in the class. The teacher had a Halloween party and started to give out some treats. All pupils lined up and he gave a juice drink to the first child, a biscuit to the second child, a strawberry to the third child and a cupcake to the fourth child. He continued this until he had given something to each child. What did the seventh child get? What did the last child get?

Questions: What was the pattern in which the teacher was giving out the treats?

How many cupcakes did he give out?

How many cupcakes would he need if he wanted to give one to each pupil?

Challenge Questions:

* *Did he give out the same number of cupcakes as strawberries?*
* *Was it fair the way he gave out the treats? Why or why not?*
* *If I wanted to receive a strawberry where could I stand?*

Variations:

1. *Change the pattern and/or number of children in the question.*
2. *Change the pattern so that the teacher gave a juice drink to every second child and a cupcake to every third child. What did the 12th child receive?*

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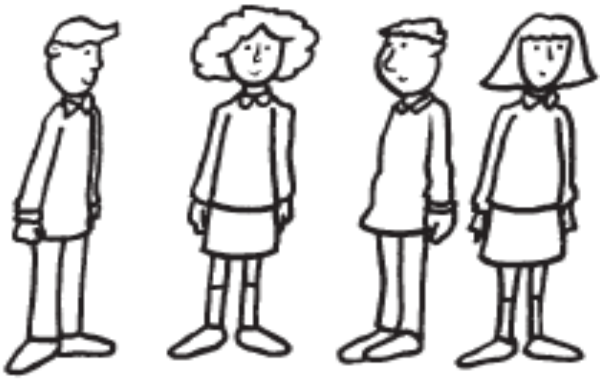

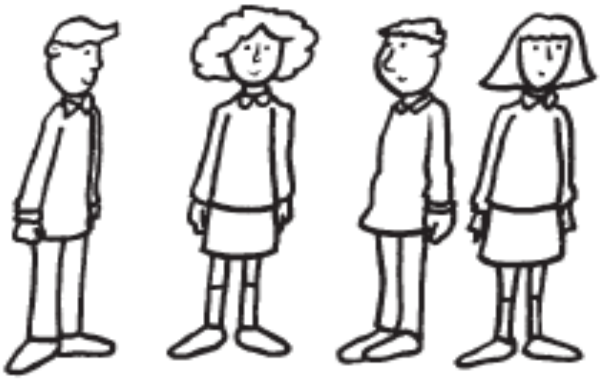

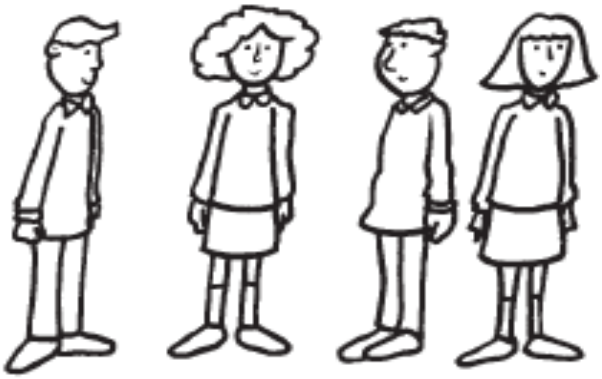

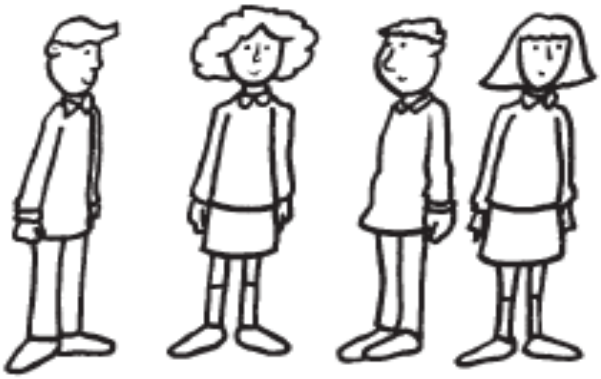

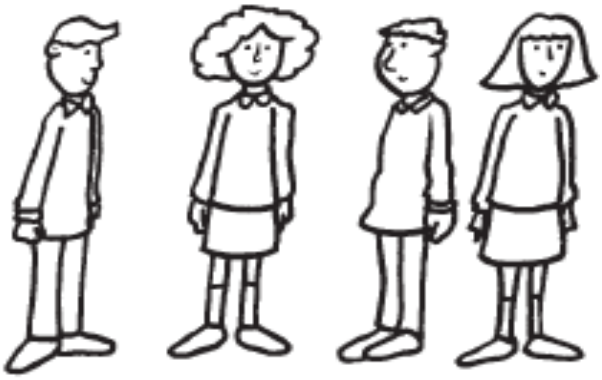

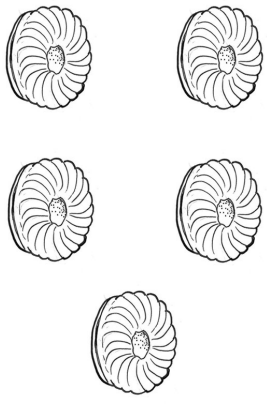

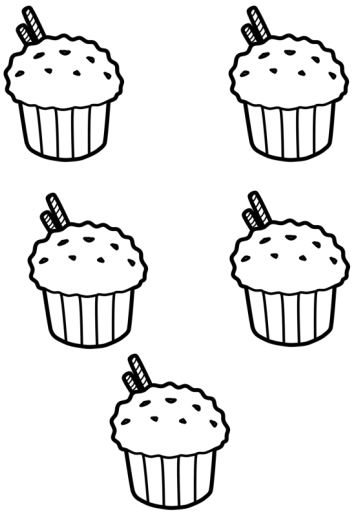

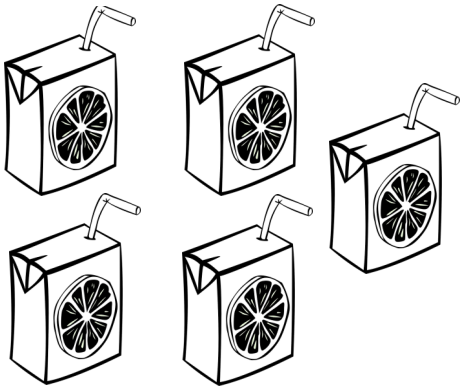

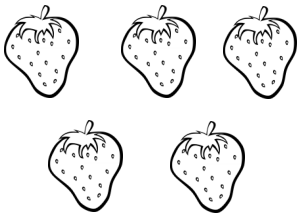

Activity 5

Activity 6:

Ten Frames

Resources: blank ten frames for each pupil, a barrier, ten counters for each pupil

Strands: Counting, position and direction

Activity: Children should work in pairs and each child will need a ten frame and ten counters. They will need a barrier between both of their ten frames. Child A places some of the counters on the ten frame and child B must ask questions about the position of each counter and must try to replicate what their ten frame looks like. Child A can only answer yes or no. Pupils then swap roles and repeat.

Questions: Are there some counters in the top row?

Is there a counter in the second box on the top row?

Are there seven counters in total?

Challenge questions:

* *Do you think child A has more than or less five counters on the ten frame? Why?*
* *If you have four counters on the ten frame how many spaces are empty?*

Variations:

1. *Reverse the game so that child A calls out instructions as to where their counters are and child B must follow the instructions.*
2. *Limit the number of questions that can be asked, for example, child B can only ask five questions.*
3. *Use different coloured counters and child B must have the correct colour in the correct space on the ten frame.*

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