

Firework Patterns 1

Estimating and making Numicon Patterns activity

What you will need

- 1 copy of this sheet per child/pair (please note: this is an A3 document and needs to be printed at 100%)
- 3 different colours of Numicon Pegs (at least 6 of the first colour, 12 of the second colour and 24 of the third colour)
- Numicon Shapes for checking (including a 2-shape, a 4-shape, a 6-shape and four 10-shapes)
- A number line.

What to do

- Talk about the different kinds of firework on the page, and estimate how many of each there are. Ask children to record their estimates.
- Ask children to choose one colour of Pegs and put one of that colour Peg on one kind of firework until all that kind is covered by Pegs.
- Once all those fireworks have a Peg, collect the Pegs and arrange them into Numicon Patterns to work out how many in total.
- Repeat for each kind of firework, using a different colour of Peg. Ask children to record the totals next to their estimates.

Extensions and questions

- How close were your estimates?
- Which firework was there least/most of?
- Put the totals in size order, what do you notice about them? Is there a pattern?
- What would you need to do to the number of rockets to give you as many rockets as firework spirals?
- Can you find the totals on a number line?
- How many fireworks are there altogether? Ask children to show this with Numicon Shapes.



Firework Patterns 2

A multiplying activity

What you will need

- 1 copy of this sheet per child (please note: this is an A3 document and needs to be printed at 100%).
- Several sets of 1–10 number rods

What to do

- Ask children to choose a number rod from 1–3 to start with and to use some of that number rod to create a firework spiral pattern in the space below. Then ask them to choose a slightly bigger number rod to continue the spiral pattern. Repeat this until children have

made a firework spiral pattern using at least four types of number rod.

- Notice how big the spiral could become.
- Discuss with children which number rod they think it is best to start with. Encourage them to explain their choices.
- Ask children to think about when bigger number rods could be used.

Extensions and questions

- Think about how many times you used each number rod. What number sentences could you write about each type of number rod in your firework spiral pattern? Use the space below to write your number sentences.
- Can you make a different firework spiral?



Firework Patterns 3

A multiplying activity

What you will need

- 1 copy of this sheet per child (please note: this is an A3 document and needs to be printed at 100%).
- A box of number rods

What to do

- In the space below ask the children to make a five-pointed star using one size of number rod.

- Now use different number rods to make other 5-pointed stars but always use only one size of number rod for each star.
- Ask children to write some number sentences in the space below for each of their stars. Use the space below to record the number sentences.
- Encourage children to talk about what they notice.

Extensions and questions

- What would happen to your number sentences if you changed the star to have six points?
- What about 4 points? etc.

