A guide to calculation at Park Hall Academy

We hope these guides will explain the progression of the calculation methods used at Park Hall Academy.

Even though the strategies for calculations are set out in yearly expectations, it is important that children are secure in a particular method before they move on to the next one. Children will be at varying stages in their move towards this efficiency.

Children will continue to develop their mental methods of calculation both prior to and alongside any formal written methods.

The use of concrete apparatus and pictorial representations help to support children with their conceptual understanding. This method of learning ensures children learn why the methods work, not just how to perform them.

At Park Hall Academy, we believe **all** children have the capability to become Masters at Maths. Through having a 'positive growth mindset' and a 'can do attitude' children have unlimited maths potential and being good at maths is all about working hard and not about being 'smart.'

Questions that can help to extend children's thinking

Asking questions is a great way of understanding your child's thinking. It can give you a real insight into their learning and help you to understand if they are making errors. Remember not to only ask when children go wrong, but also to explain why they are correct. This encourages them to always think deeply.

When getting started:

- How are you going to tackle this?
- What information do you have?
- What do you need to find out?
- What operation/s are you going to use?
- Will you do it mentally? Why?
- What method are you going to use? Why?
- What equipment will you need?
- What questions will you need to ask?
- How are you recording what you are doing?
- What do you think the answer or result will be?
- Can you make an estimate or prediction?

To ask when stuck:

- Describe the problem in your own words?
- Talk me through what you have done so far?
- What did you do last time?
- What is different this time?
- Is there something that you already know that might help?
- Is there some equipment that might help?
- Could you try it with simpler numbers?
- What about putting things in order?
- Would a picture/diagram help?
- Why not make a guess and check it works?

To check progress while working:

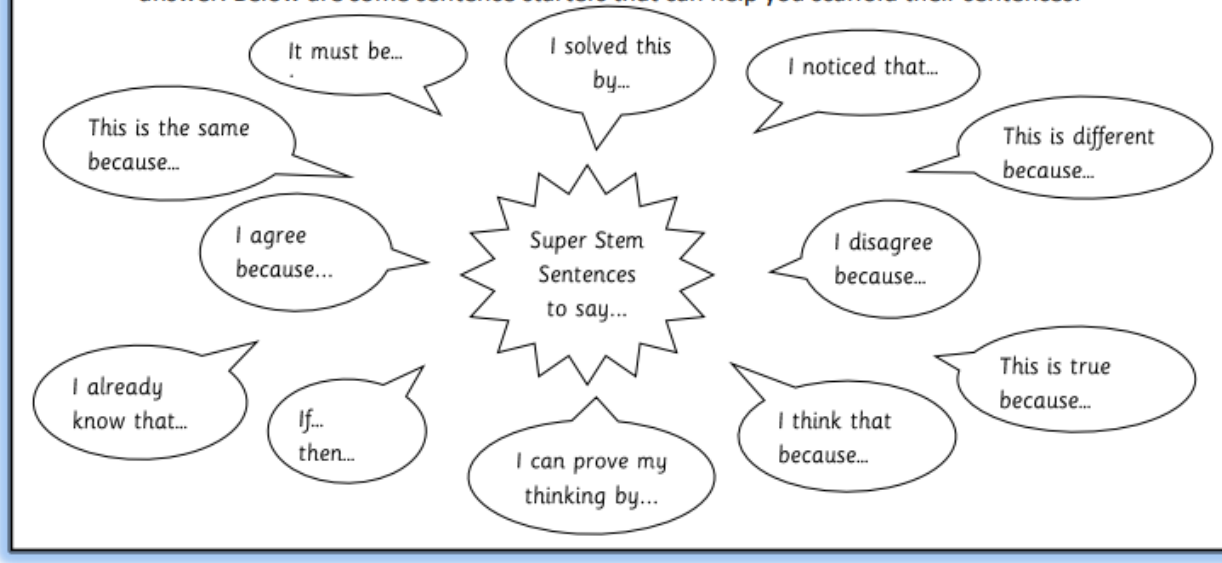
- Can you explain what you have done so far?
- What else is there to do?
- What could you try next?
- Why did you decide to use this method?
- Why did you do it this way?
- Can you think of another method that might have worked?
- Could there be a quicker way of doing this?
- What do you mean by…?
- What did you notice when…?
- Why did you organise your results like that?
- Are you beginning to see a pattern?
- Do you think that this would work with other numbers?
- Have you thought of all the possibilities?
- How can you be sure?

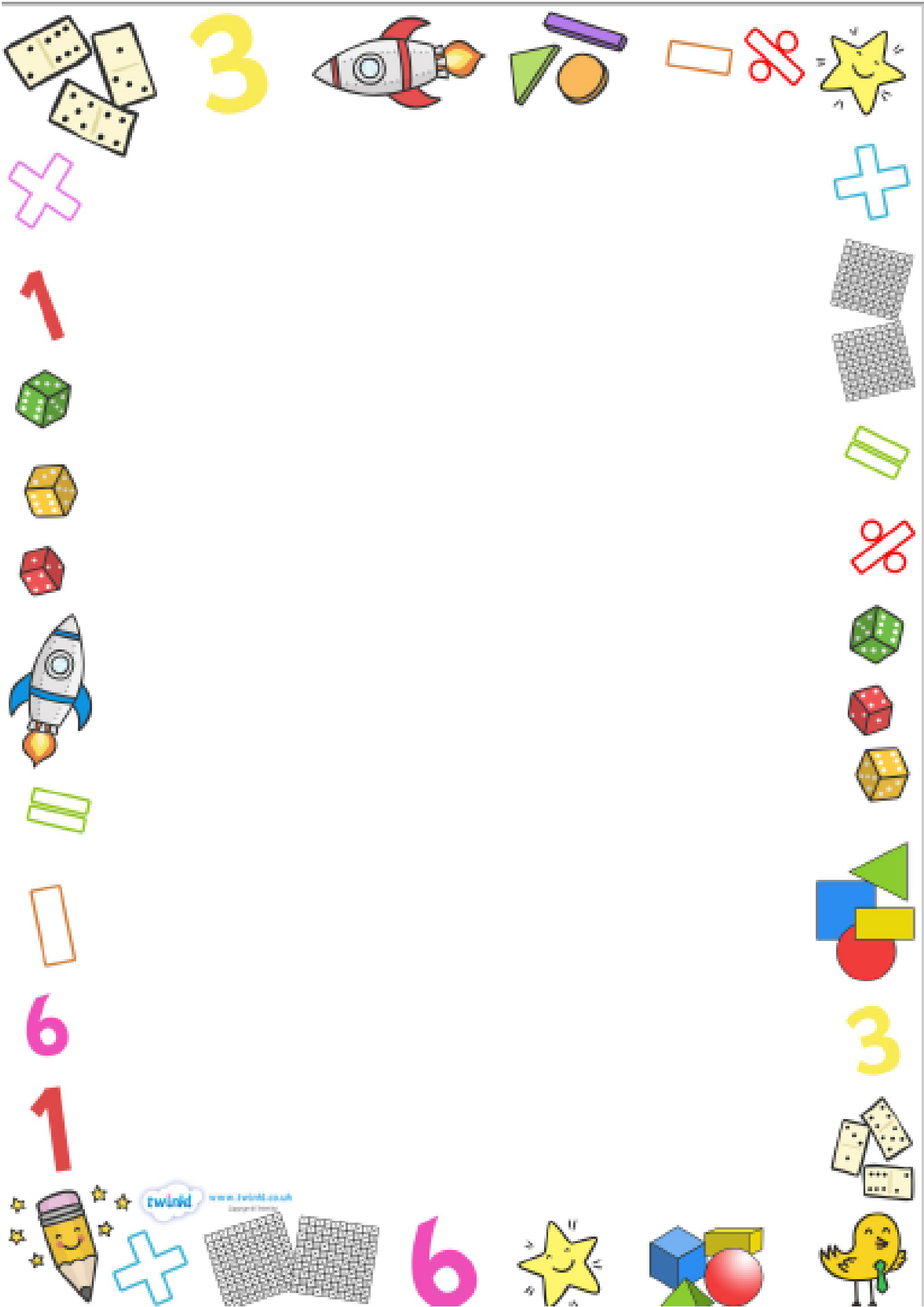
When finished working:

- How did you get your answer?
- How could you check it?
- Can you describe your method to me?
- Can you explain why it works?
- Would it work with different numbers?
- What if you started with…?
- What if you could only use…?
- What have you learnt from this?
- If you were doing it again, what would you do differently?
- Having done this, when could you use this strategy again?
- Did you use any new words? What do they mean? Can you spell them?
- What are the key points or ideas that you need to remember for next time?

Speaking in sentences

When your child answers you encourage them to use a whole sentence rather than just a one word answer. Below are some sentence starters that can help you scaffold their sentences:

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