

What if.....

..... you subtracted the two numbers?

..... you multiplied the two numbers?

..... you used two 10-sided dice?

..... you used one tens dice and one units dice?

..... you used one tens dice and one hundreds dice?

..... you had three dice?

..... you used one red dice and one green dice?



Digit Dog Challenges © Lynwen Barnsley 2017

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Two Dice Challenge

I have been rolling
two dice and adding
the spots.

I wonder how many
different totals I can
make....



Engage in the challenge – before tackling the challenge, let learners discuss what they think the challenge is about. Encourage learners to say what they see and unpick the challenge.

What do you notice? What has Digit Dog been doing? What is Digit Dog wondering? Explain in your own words and show me with the large dice.

Encourage learners to comment on each others' explanations: Do you agree with what your friend has just said?

What do you think the answer will be?

Encourage learners to make estimations and predictions.

Ask: What will the highest / lowest total be? Why?

How many totals do you think he could make altogether?

Make suggestions: Will he be able to make 100 totals?

More than 1 total? How many more than 1?

Why do you say that? Explain your thinking.

Calculating Cat said...



He can make 15 totals.

What do you think? Do you think she is right? Why/why not?

Doing the challenge

Ask learners to suggest ways of tackling the challenge and record their work.

Ask: How are you going to record your work? What totals have you found? Are all your totals different? How will you check if you've already got the total? How many totals have you found? Have you found them all? How do you know? How can you check if you have missed any?

Organise your work

Encourage learners to organise their work, to be systematic and to look for patterns.

Suggest using post-it notes or pieces of paper to record individual calculations and totals.

Totals can then be easily reorganized and sorted and patterns looked for.

Put your totals in order. What patterns do you notice?

If one dice shows 1, what might the other dice show?



Be a pattern sniffer

Explain your thinking

Encourage learners to describe and explain what they are doing.

Describe what you've done. How did you find the totals?

Explain how you know that you've found all the totals.

Convince yourself. Convince your friend.