Workshop:
The Role of Mastery in Nurturing Young Mathematicians

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When two dice are rolled they can be combined in two different ways to make a two-digit number.

For example, if I roll a 2 and a 3 I can combine them to make 23 or 32.

Now round each of these numbers to the nearest 10: 23 rounds to 20 and 32 rounds to 30.

Repeat for other rolls of the dice.

Do both of the numbers you make ever round to the same multiple of 10?

Why? When will this happen?
• What mathematics are you using as you tackle Round the Two Dice?

• What is the ‘value added’?
Nurturing Young Mathematicians

From NRC (2001) *Adding it up: Helping children learn mathematics*
**Conceptual understanding:**
comprehension of mathematical concepts, operations, and relations

**Procedural fluency:**
skill in carrying out procedures flexibly, accurately, efficiently, and appropriately

**Strategic competence:**
ability to formulate, represent, and solve mathematical problems

**Adaptive reasoning:**
capacity for logical thought, reflection, explanation, and justification

**Productive disposition:**
habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy.
Developing Mathematical Habits of Mind

- Being Curious
- Being Thoughtful
- Being Collaborative
- Being Determined

http://nrich.maths.org/11864 (in development)
Which of the five strands could Round the Two Dice potentially help to develop?
Implications for Classroom Practice

• How do we engage all learners?
• How do we ensure that learners are encouraged to ‘dig more deeply’ into an area of mathematics in order to develop their thinking and reasoning skills?
Further NRICH Support

Mastering Mathematics: Developing Generalising and Proof Feature
http://nrich.maths.org/11458

Problem Solving Feature
http://nrich.maths.org/10334

Reasoning Feature
http://nrich.maths.org/11018
References


