ACTIVITIES

Content & context. The activities that follow were initially designed and implemented in Grades 1-3 to address grade-specific mathematics curriculum expectations, or what we may call ***content***. Wrapped around this content, using a low floor / high celling design, were mathematics ideas from higher grades, which serve as ***context***. This led to the activities being used in classrooms from Grades 1 to 10.

Each activity has several tasks. Which tasks you see as content and which as context will depend on the grade you teach and other classroom circumstances.

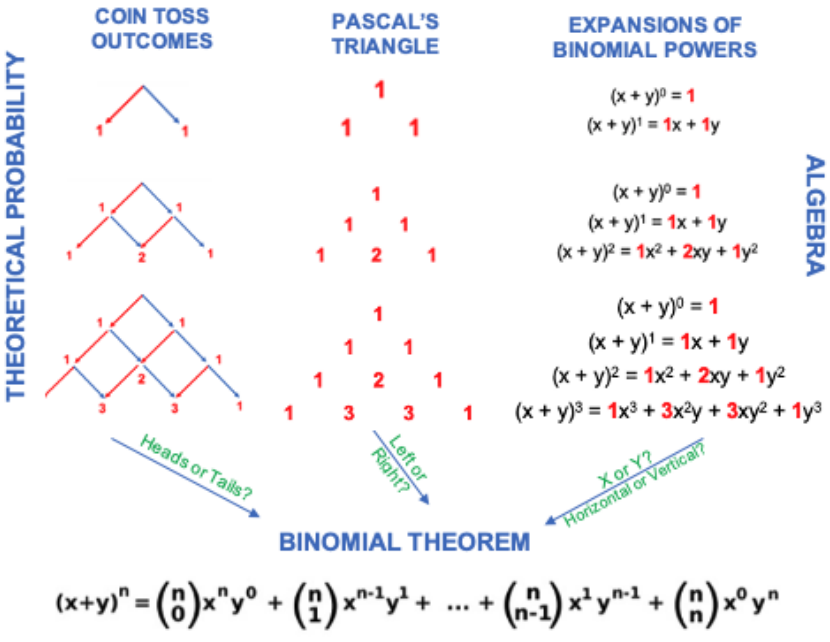
Context adds depth to content, making visible the mathematical connections across concepts and across grades and helping students and educators experience conceptual patterns and connections – mathematical beauty and wonder – that exist in the structure of mathematics.

Conceptual ecology. Mathematics is not the fragments of ideas we typically learned in school. Those ideas are part of a bigger, deeper conceptual structure – a conceptual ecology – that students need to experience, at least every now and then.

Turtles. In elementary science, students may see a turtle in a classroom aquarium.

They may also visit a pond, to observe how turtles, and other fauna and flora, live and interact within the structure of their ecosystem.

Tossing coins. In elementary mathematics, students may toss a coin and learn about probability.

They may also experience these ideas wrapped in a deeper mathematical context, to see tossing a coin connected to Pascal's Triangle and to the algebra of *binary choice*: heads or tails, left or right, x or y?

Vistas. Students – humans – thirst for such connections, such vistas, to have the space to flex their imagination, to wonder, to be surprised, to learn within the beauty that surrounds them, at least occasionally.