

Data Integration

Engaging Context Data Integration

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#### Data Source, Lesson Enhancement & Visual Presentation

Using the website, [Building Big](#), my 4th grade gifted students will begin to address the overarching question: What is the relationship between art and architecture? Ultimately, their summative assessment will be to create a birdhouse, from recyclable materials, that replicates a style of a self-selected architect. This PBS series allows students the opportunity to view a databank of different architecture structures around the world, complete labs that build their understanding about forces, materials, loads and shapes and tests their knowledge of building by mastering online challenges. Through this website, students will begin to collect data about materials and structures that will help guide them in the construction of their birdhouse. I will facilitate a series of labs and design challenges that access students understandings of the decisions that architects have to make when designing a structure. This exploration and data collection will allow the students to lead their own learning, and for me, the teacher, to provide consultative support throughout the learning process. I am anticipating that each day I will focus on research on a different aspect of the design process, use this site to help guide our inquiry along with other materials. Just like the 5E Instructional Model students will have the opportunity to explore, explain and extend their learning throughout architecture unit using this website and that data they have collected throughout the process.

#### Interdisciplinary STEM

The architecture unit lends itself to many cross content disciplines. The data they will be collecting throughout the labs and browsing the databank of structures can be used to integrate across STEM content areas.. Within Science, students are learning about forces and material

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properties. Through this unit students evaluate why architects choose particular materials as it relates to temperature, geographical location and the weight of the structures. Using the mathematical practices, students evaluate the use of multiple shapes and begin to understand how the shapes affect the structures stretch. Technology and Engineering go hand in hand with this resource. The Building Big [website](#) allows for students to interact digitally as they begin to understand vocabulary and engineer structures through the different challenges presented. The online tools provide a great way for students to explore in the digital world before engineering their birdhouses in the real-world. Through exploration and data tracking students are exploring the why and hows architects make choices in the buildings we see around the world.

## Using Data

Although this site does not provide “data” it does provide a great deal of labs and exploration, both digitally and in print, that allows for students to begin to collect data which will in turn affect their choices in the creation of the birdhouse. As a teacher and student, I wholeheartedly believe students learn by doing. This site provides the perfect opportunity for students to explore the vocabulary of the unit and begin to evaluate the materials and structures of their design. At the end of the unit students will be able to demonstrate their knowledge of architecture concepts and vocabulary through the design of their birdhouse.

## References

(n.d.). Retrieved from <https://www.pbs.org/wgbh/buildingbig/>