

## Kinetic Sandcastles

*Program: Castles in the Sunshine State/Artie the Alligator Looks for a Moat*

After learning about the different castles constructed in Florida and their different construction materials, participants will be able to build their own castles using kinetic sand. This sand is less messy than traditional sand and allows for finer details to appear in the molds.

*Objectives:*

- Introduce participants to historic “castles” in Florida through either the reading of *Artie the Alligator Looks for a Moat* or a brief talk about architecture.
- Challenge participants create their own Florida castle using kinetic sand and pre-made decorations and mold forms.
- Photograph the castles and have the participants explain why they chose certain materials to include in their castle.

*Materials needed:*

- Kinetic sand (play sand, cornstarch or flour and canola oil, 5:3:1 ratio)
- Wash tub or box to contain the sand (use a lid to keep the sand moist)
- Popsicle sticks
- Shells
- Small toy alligators
- Sandcastle molds (or anything that can be used to mold the sand, like measuring cups, plastic cups, mugs, etc.)
- Small rocks/pebbles/acorns
- Marbles or other things to decorate the castles with

*Alternative Activity*

Use materials that you have on hand to create a castle: recycled paper towel rolls, tissue boxes, scrap paper, plastic bottles, etc.. Think about what shapes Artie saw during his adventure: tall towers, crescent moons, and triangular buttresses. Can you recreate some of these shapes? What shapes are in your castle?

You can print out or trace the Artie included in this packet and let him explore your castle creation!

A Few Florida Castles Facts

- The Plant Museum was originally the Tampa Bay Hotel and Henry B. Plant paid \$2.5 million to build it. It took two years to build and had 511 rooms.<sup>1</sup>
- The hotel was electrified and the first elevator in Florida was installed in the hotel. The elevator still runs today.

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<sup>1</sup> The Plant Museum, “History,” <<https://www.plantmuseum.com/about/history>>

- The hotel uses several different architectural styles ranging from Victorian gingerbread trim around the roof lines, Moorish minarets, domes, and *chhatris* (dome-shaped pavilions from Indian architecture.)<sup>2</sup>
- Bok Tower was built in 1929 in Lake Wales by writer Edward W. Bok. It is made of pink and gray marble as well as coquina.<sup>3</sup>
- The tower is 205 feet tall and has 57 bronze bells inside, the largest of which weighs almost 12 tons.
- Ed Leedskalnin built Coral Castle after his fiancée called off their wedding the day before the event. Ed immigrated to the U.S. from Latvia after that and began sculpting his castle for nearly 30 years.
- Ed was the only person to work on building his castle, and he supposedly did not use any construction equipment to move the heavy stones. Most of the stones are between 15 and 30 tons.<sup>4</sup>
- Ed moved the castle 10 miles north when development encroached upon his original site. It took three years to move the castle.
- The Castillo de San Marcos is the oldest surviving military structure from the 1600s. It is built in the bastion system out of a limestone material called *coquina*. Fort Matanzas is the only other fort to be made of coquina.<sup>5</sup>
- Coquina is formed out of broken shells pressed together over tens of thousands of years. It is soft (for a rock), which means objects shot into it get stuck rather than break the coquina.<sup>6</sup>
- *Bastions* are built at an angle so canons can fire in several directions.

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<sup>2</sup> University of Tampa, "History," <<https://www.ut.edu/about-ut/history>>

<sup>3</sup> Florida Center for Instructional Technology, "Exploring Florida: Historic Bok Sanctuary," <<https://fcit.usf.edu/florida/lessons/boktower/boktower.htm>>

<sup>4</sup> Discover Biscayne Bay, "Coral Castle Florida," <<http://www.discoverbiscaynebay.org/coral-castle-florida.htm>>

<sup>5</sup> National Park Service, "Architecture & Construction – Castillo de San Marcos National Monument" <<https://www.nps.gov/casa/learn/historyculture/construction.htm>>

<sup>6</sup> National Park Service, "Coquina – the Rock that Saved St. Augustine," <<https://www.nps.gov/casa/learn/historyculture/coquina-the-rock-that-saved-st-augustine.htm>>