

Lesson Plan: Bermudian Architecture: the key elements and history of Bermudian Architecture

Historical Studies and Visual Studies

Objectives:

To explore the key components of Bermudian architecture.

To study the history of Bermudian architecture.

Activities:

- ◆ Draw a house - give the students only a few minutes to do this and then ask them about their drawing. Is it a Bermudian house? etc.
- ◆ Brainstorm current knowledge of Bermudian architecture
- ◆ Read through "Bermudian Vernacular Architecture Sheet" and complete " Bermudian Vernacular Architecture Question and Answer Sheet"
- ◆ Go through the "Glossary of Key Words" and answer the "Activity Sheet"
- ◆ Show the "Carter House" image by Richmond Outerbridge
- ◆ Discuss image and then fill in "Carter House Image Sheet"
- ◆ Discuss the buildings in Bermuda. Which ones do they think came first? Use the "Bermudian Architecture Timeline" to work through and complete the "Bermudian Architecture Timeline Activity Sheet"
- ◆ Now using all acquired knowledge apply it. Design a Bermudian building using the key vernacular elements. You could add a theme to it, for example it could be for their family or it could be for a squash club or leisure club.

Assessment:

Evaluate: Carter House Image Sheet, Bermudian Vernacular Architecture Question and Answer Sheet, Bermudian Architecture Timeline Activity Sheet, Glossary of Key Words Activity Sheet.

Compare initial drawing of a Bermudian house to the final drawing.

Evaluate final drawing to your given criteria - labels, straight lines etc.

Extension Lessons: visits to properties or create a Bermudian vernacular house using card or other materials

Resources:

Bermudian Vernacular Architecture Sheet

Bermudian Vernacular Architecture Question and Answer Sheet

Glossary of Key Words

Glossary of Key Words Activity Sheet

Carter House Image

Carter House Image Worksheet

Bermudian Architecture Timeline

Bermudian Architecture Timeline Activity Sheet

Bermudian Vernacular Architecture

Vernacular architecture can be described as architecture without architects. It springs from the unique combination of local materials, climate, geological conditions, and socio-economics of a community. This appears to be true whether the landscape is cultivated or wild, as in a thatched cottage in an English pastoral setting, or an igloo in the Arctic.

In Bermuda it is the soft limestone, Bermuda cedar, hurricanes and the lack of fresh water other than rain that created the main elements of traditional Bermudian architecture.

1600s

The priority for the first settlers in Bermuda was shelter. Most houses constructed during the **17th century were half-timbered**. A wooden framework would be erected and the spaces between the wooden frames filled with wattle and daub. Roofing would have been either cedar shake or palmetto thatch.

Although half-timbered construction was the preferred building method during the 17th century, some stone houses were built; **Carter House in St. David's**, circa 1640, is one of the earliest examples. It exhibits almost all the elements of the **early vernacular stone houses**:

- gable ends, supported by substantial chimneys
- an upper two or three-room living space
- reached by an outside staircase called “welcoming arms” on the front
- the rooms are above a large storage basement

Nestled into the hillside with their basements cut into the bedrock and built with the stone quarried on site, these early houses were sheltered from the wind. The roofs, made of overlapping slates cut from stone would be coated with a thin layer of plaster to waterproof the soft porous stone and then lime-washed. Far more resistant to wind damage than thatched roofs, stone roofs were constructed with gutters to collect rainwater. Painted brilliant white, the roof reflects the hot

sun while catching rain, the lime-wash had the added benefit of purifying the water being collected.

Windows were installed right under the wall plate, tucked under the eaves, giving a low profile and further protection from the wind. Houses were built on sites with little soil — the better land was saved for farming — or on the waterside of sheltered inlets and bays.

1700s

On September 8th, 1712 a severe hurricane hit Bermuda causing widespread destruction, followed by an equally damaging hurricane in 1715. Almost all the churches and wooden houses were either badly damaged or destroyed. All new building switched to stone with stone roofs.

Another factor that promoted stone building was by 1700 Bermuda had a thriving shipbuilding industry. This put a premium on the supplies of local cedar and in this prosperous economic climate more houses could be afforded to be built such as the Globe Hotel and Verdmont.

Rooms seldom exceeded 14 feet in width as builders were limited by the length of beams that could be cut from the local cedar trees. The hipped roof (sloped on all four sides), a new development during this time was found to be more resistant than gabled roofs to hurricanes. Larger tanks were being built with a vaulted stone roof that did not require a wood framework, that had a tendency to rot and also the arched roof increased the air circulation over the water, keeping it "sweeter".

Walls were often not plastered but lime-washed inside and out. Traditionally the whole building would be re-painted sparkling white for Christmas. Colour additives for lime-wash were introduced sometime in the mid-18th century.

During the late 1700s the Georgian style was properly established. These homes were prominently sited proclaiming the owner's status. Facades were symmetrical with pilasters or quoins on the corners and occasionally around the centrally placed door.

1800s to date

During the 19th century the British military introduced the concept of the veranda and concrete as a building material. The idea caught on with the merchants in Hamilton and today verandas run the entire length of Front Street sheltering shoppers from the hot summer sun and rain.

Rapid social change followed Emancipation in 1834 and freed slaves, many whom were skilled builders, were able to buy land and build houses. These were concentrated in areas such as North Village in Pembroke and Wellington in St. George's. Many of these early buildings still exist, albeit hidden by later additions.

As tourism developed during the early 20th century there was a revival in the Bermuda cottage-style architecture. Bermudian architects Wil Onions (architect of City Hall and Bermuda National Gallery building) and Nat Hutchings created long low contemporary houses using the traditional vernacular style.

Name

1700s

What are the dates of the two hurricanes that hit Bermuda in the 1700s?

- a. 1712 + 1715 b. 1703 + 1715 c. 1712 +1717

What did the hurricanes do that made people decide to build with stone?

What other factor promoted stone building?

ship building

ship sailing

carriage construction

In the 1700s why did the roofs seldom exceed 14 feet?

- a. limited to the size of the wood b. tradition c. limited to the size of the builder

What can hipped roofs do better than gabled roofs?

a. they can look better

b. they can catch more water

c. they can withstand a hurricane better

Walls were not often plastered but:

a. painted

b. lime -washed

c. washed

What style was properly established in the late 1700s?

a. Rococo

b. Elizabethan

c. Georgian

1800s

Who introduced the concept of veranda to Bermuda?

- a. The American military b. The British military c. The British merchants?

What is the purpose of a veranda?

a. shelter

b. exposure

c. spying

Freed slaves were able to buy land and build houses after Emancipation. When was Emancipation?

a. 1834

b. 1884

c.1934

What building did the architect Wil Onions design?

a. Sessions House b. Perotís postoffice

c. City Hall and National Gallery building



Glossary of Key Words for Vernacular Bermudian Architecture

- Buttress** support the walls so they won't topple over by being built at right angle to the wall
- Eaves** the overhang of the edge of the roof
- Eyebrow** a semicircular moulded shape over the top of a window
- Gable end** The generally triangular section of wall at the end of a pitched roof, occupying the space between the two slopes of the roof
- Gabled roof** a roof with two sloping sides, forming a gable at one or both ends
- Georgian style** a period roughly corresponding to the reigns of King Georges I-IV (1714-1830)
- Hipped roof** a roof with four sloping sides
- Pilasters** a rectangular column with a top (capital) and base, projecting only slightly from a wall as an ornamental motif.
- Quions** An exterior angle of a wall or and any of the stones used in forming such an angle, often being of large size and dressed or arranged so as to form a decorative contrast with the adjoining walls.
- Vernacular**
- Architecture** an indigenous building style using local materials and traditional methods of construction and ornament, especially as distinguished from academic or historical architectural styles.
- Wall plate** a piece of timber set on top of a wall to support the weight of the roof
- Wattle and daub** interwoven twigs plastered with clay

Name _____

Glossary of Key Words Activity Sheet

Draw a hipped roof:

What does a buttress do?

What are the eaves? Why do you think they are used?

Draw a gabled roof:

Draw an architectural eyebrow:

What is a wallplate?



Carter House by Richmond Outerbridge
Watercolour circa 1948

Time Line for Architecture in Bermuda

- 1612: Town of St. George begun. First long-term dwellings constructed
- 1612-1627: Nine churches constructed of wood, plaster and palmetto thatch
- 1620: State House in St. George's, one of the first stone buildings constructed in Bermuda but in an English style
- By 1620: Eleven forts built in Bermuda limestone for defense
- c. 1640: Carter House in St. David's, one of the earliest houses built of stone in a vernacular style
- 1700: Globe Hotel, St. George's built as residence of Governor Day
- 1705: The Old Rectory in St. George's
- 1710: Verdmont, in Smith's Parish
- 1711: Tucker House in St. George's
- 1712 and 1715: Severe hurricanes encourage Bermudians to build in local limestone
- 1716: Old Devonshire Church
- 1731: Mitchell House, now St. George's Historical Society: the stone house of a prosperous Bermudian family
- c. 1770: Smith house, Devonshire Bay, typical of houses in stone for Bermudians of the 'middling' sort
- 1796: Clermont, Paget. Wealthy Bermudians built houses in the Georgian style: symmetrical, with high ceilings, fanlights, and quions

Name _____

Time Line for Architecture in Bermuda Activity Sheet

Match the dates with the description

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