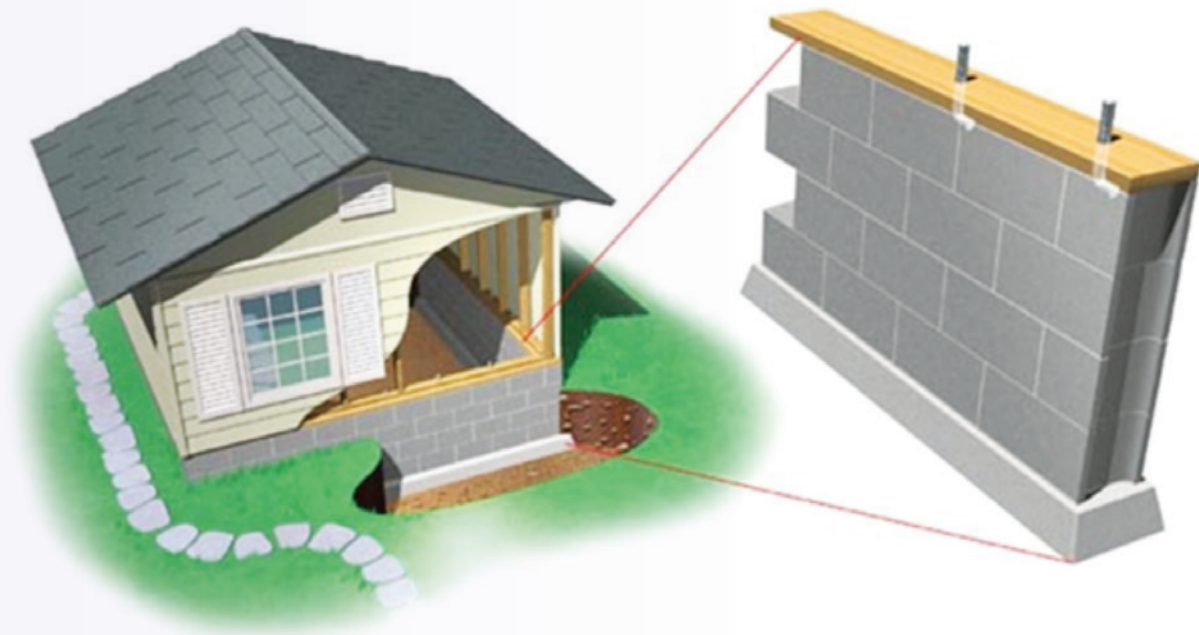




# How Does a Home Work?

## FOUNDATION

The foundation bears the load of the entire building resting on it. The forces that act on a building end up being transferred down to the foundation. It is important to remember that the soil underneath the foundation needs to have the strength to support the foundation and building, or problems like shifting and cracking can occur.



**What type of foundation does your home have?**

## Exterior Walls

The exterior walls of a home have several functions related to hurricane strength:

- The spacing of the exterior wall members (2x4s) provides strength against strong winds such as those from a hurricane; the closer the spacing, the stronger the wall
- Exterior walls also support the exterior wall covering, which protects the interior of the home from outside elements like wind and rain



**What is the exterior covering of your home made of?**



# Windows

A window provides views of the outdoors, allows daylight to enter your home, and prevents rain, wind, and other weather from entering into your home. Windows are an important part of the building, creating a barrier between the home interior and the outdoors, just as exterior walls and wall covering do.



**How many windows do you have in your home?**

## Doors

Doors provide entry and exit into a home and are a key part of the building envelope. The building envelope also consists of the windows, skylights, exterior wall coverings, soffits, roof systems, and attic vents. In homes elevated on open foundations, the floor is also considered a part of the building envelope. The building envelope is the home's primary defense against high wind, water intrusion and windborne debris.



The installation of the doors on your home is extremely important. Each door should have a three- or five-point latching system, as opposed to the traditional single-point latch and handle. Additionally, attaching the door hinges and frame securely to the wall framing will ensure a strong entry and exit from the home.



**How many exterior doors do you have in your home?**

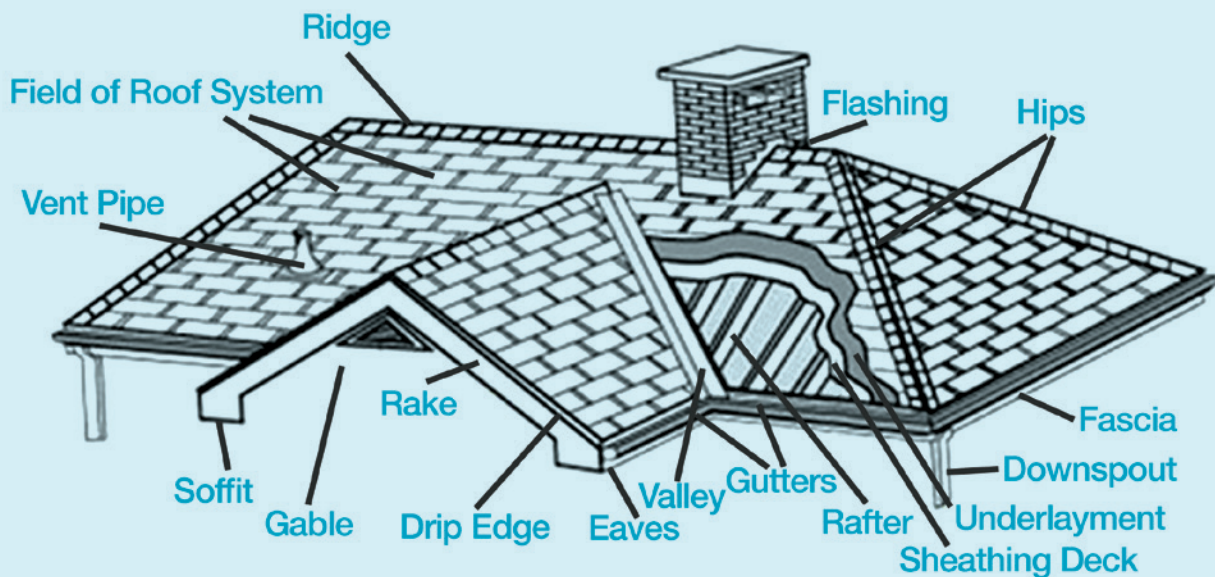


# Roof

The roof is a very important part of any building. First and foremost, the roof protects the residents of a home from the outdoor elements (rain, wind, snow, sleet, hail, dust, cold and hot temperatures) and from unwanted visitors, such as animals.

Rafters and roof trusses provide the framework that supports each layer of a roof. Sheathing, also known as decking, covers the rafters. Decks are typically made of plywood sheathing, the most common sheathing material. Tar paper, typically known as underlayment, protects the plywood sheathing from moisture and everyday weather, such as rain, snow, sleet, or hail (or some other weather event).

The roof covering, better known as materials like shingles, or clay tiles, cover the underlayment, providing the finishing touches to the roof. Shingles are fastened to the roof using roofing nails, and additional wind uplift strength is provided by adhesive strips present on the underside of each shingle. Roof tiles, on the other hand, may be attached with nails, screws, clips, adhesives, or a combination of these methods.





**Shingle Roof Covering**



**Clay Tile Roof Covering**



**What type of roof covering do you have on your home?**



# Experimental Testing

## Materials needed:

- Household items mentioned in the background section (pages 39 and 40), or boxes that are representative of these items
- Storage box (one per group)

## Goal:

To emphasize the importance of an emergency kit and the items that should be in it.

## Steps:

1. Measure the volume (length, height, width) of the storage box, recording the dimensions.
2. Measure the volume of each box or container, representative of items to be placed in your emergency kit. Record these dimensions.
3. Record the weight of each item. If the weight is given on the box, use this weight; however, if it is not, weigh the item on a scale and record this value.
4. Determine the total volume needed to stock an emergency kit for your entire household. This means you may have more than one of some items. Remember to take this fact in to account.
5. In conclusion, discuss why you placed each item in the storage box.

Item	# Needed	Length	Height	Width	Weight