



Structural Engineering!

Ruth
Spiro

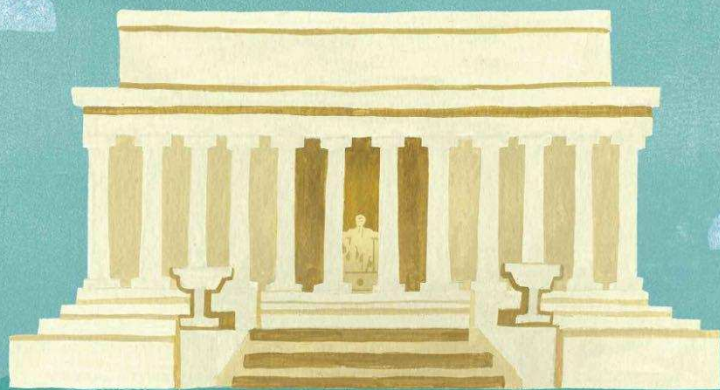
Illustrated by
Irene Chan



Baby likes to build.



Engineers do, too.



LINCOLN MEMORIAL
Washington, DC, USA

Baby builds with shapes.



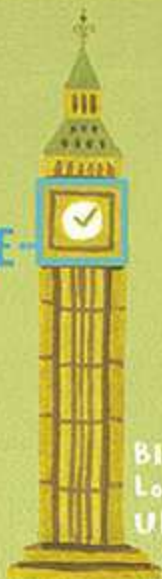
Engineers do, too.

ARCH



ARC DE TRIOMPHE
Paris, France

SQUARE



BIG BEN
London,
UK

TRIANGLE



RECTANGLE

WHITE HOUSE
Washington, DC. USA

What is Baby building?

A house!



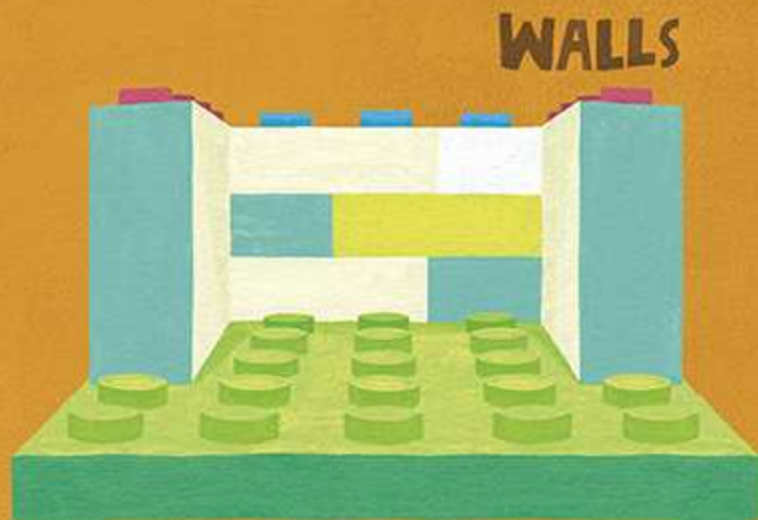
A house is a structure.
It has a foundation,
walls, and a roof.



The foundation is at the bottom.
It must support the house and
everything inside.



The walls go on the foundation.



FOUNDATION

They must support . . .

... the roof!

The roof goes on top of the house.



Inside, everyone is safe and dry.



A structure must support itself.
It must support the weight of
everything inside and on top.



It must stand up through any
kind of weather outside.



All of these things create
forces on a structure.
These forces are called loads.

WIND
(live load)

HUFF
PUFF





RAIN
(live load)

ROOF
(dead load)

WALLS

WALLS

(dead load)

PIGS
(live load)

FURNITURE
(live load)

COLUMN



Engineers find ways to make structures strong enough to bear loads.

ARCH







Engineers build all kinds
of structures.





Baby does, too!

BEEP
BEEP!





Science

Little books about big ideas



Baby likes to build. Engineers do, too!
Find out how they both use physics
to build strong, stable structures.

BEEP BEEP!

For Sara, Sarah, Bev, Bev, Jude, Marlene, and Sharon,
for their support and friendship—R. S.

For Ivan and Connor, my very own engineers—I. C.
Very special thanks to Dr. Fred Bortz and Joan Crowe
for their invaluable expertise and advice.



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