



the Workshop

presents:

monumental
(RE)MAKE

a townwide art project



what is this?

The Monumental (Re)Make is collaboratively 3D printed scale replica of Daniel Chester French's The Minute Man.

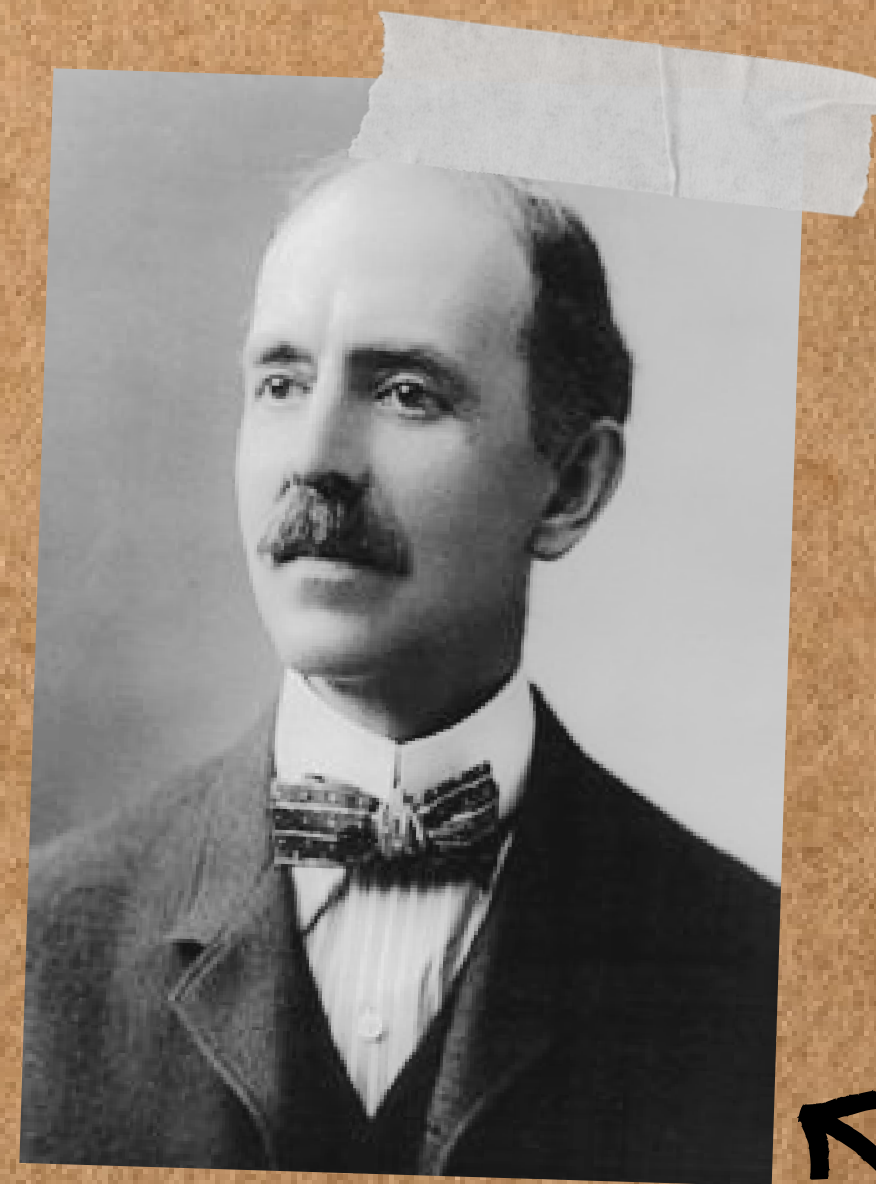
“Collaboratively” means that many people worked together to make our Minute Man.

who was
daniel chester french?

Daniel Chester French was an artist who worked here in Concord. He moved here from New Hampshire with his family when he was 17 and set up a studio at 324 Sudbury Road.

The Minute Man was Dan's first full-size sculpture, but he would go on to do many, many more, including the Lincoln Statue at the Lincoln Memorial in Washington, D.C.

The Library is home to three of Dan's sculptures! Can you find them all?



Dan in a cool bow tie in 1902!

art in parts!

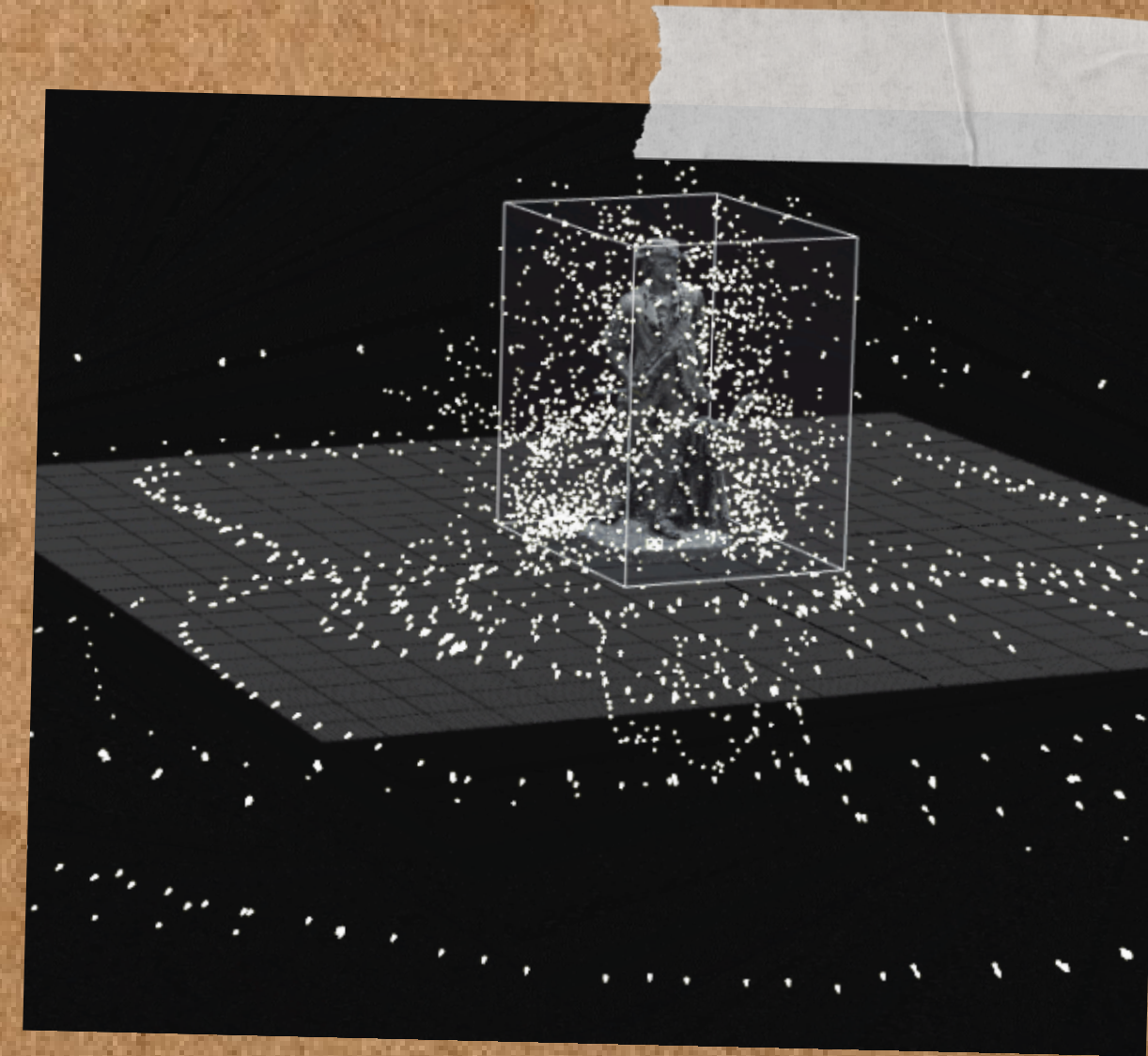
It might seem funny to make a sculpture out of separate pieces, but just like us, Dan sometimes split up a big statue into smaller blocks to help share the work.



Dan's Statue of Abraham Lincoln in the Lincoln Memorial might look like one piece, but it's actually made up of 28 separate blocks of marble.

Dan sculpted the original plaster model for the statue here in Massachusetts, but it was the Piccirilli Brothers who carved his design into 170 tons of stone – more than a year of work!

The original The Minute Man statue was cast from bronze, so it wasn't made from blocks, but the digital copy we used was compiled from hundreds of photographs taken and processed by local 3D artist Todd Taylor. Each white dot in this image represents a photo used to recreate the statue.



monumental *math!*

A lot of numbers went into our (re)making of The Minute Man. Let's take a look at the process from start to finish.



First, librarians sliced Todd Taylor's 3D scan of the original Minute Man into twenty even layers, top to bottom.

 **Z**00 ↔ **X**00 ↗ **Y**00

Next, the librarians diced each of the twenty layers into even sized parts. They numbered them back to front and left to right to keep track of how they fit together. This is called a coordinates system.

In order to be sure our Minute Man could fit through doorways, the model had to be resized from its original 7' to 5' tall. The models also had to be individually processed or “sliced” for the Library’s 3D printer.

Volunteers individually resized, processed, labeled, and organized each file to get it ready for printing, about **24 hours** of work.



It was finally time to start printing. Our Minute Man is made up of **586** 3D printed parts and took about **853** hours to print.

That's more than a month of continuous printing!

Once the pieces were printed, we hosted building sessions and used construction glue to connect the pieces.

Local author Linda Booth Sweeney joined us to teach us about Daniel Chester French.



the planet in the plans

While working on the (Re)Make, we became the first SLI-certified Sustainable Library in Massachusetts!

How did we keep the planet in mind on a project that involves so much plastic?

Our Minute Man is made of PLA, a sustainably sourced, corn-based plastic, but he's still plastic, so we knew we needed a good recycling plan.

We tested a variety of glues until we found one that was both strong enough to support his weight and fully removable without the use of water, so all the plastic used in this statue can be cleaned and recycled if he is deaccessioned.

built together

Our Minute Man was made possible by
more than 100 named contributors!

Aadvik
Z01X01Y05

Aeryn
Z01X07Y01

Afton
Z01X08Y04

Alex
Z01X03Y05

Ali
Z01X05Y05

Alice
Z01X08Y05

Alison
Z01X08Y01

Alphie
Z01X08Y05

Ambre
Z01X04Y08

Anaya
Z02X08Y04

Andi
Z01X05Y04, Z02X08Y06

Anna
Z17X03Y01

Annie
Z02X02Y02

Arden
Z20X02Y02

Asher
Z01X08Y04

Atticus
Z02X06Y02

Audris
Z02X06Y01, Z02X09Y05, Z03X05Y02,
Z03X03Y03, Z19X01Y02

Austin
Z01X03Y01, Z01X04Y03

Bart
Z02X01Y03

Becca
Z04X04Y03

Beckett
Z01X03Y06

Bennett
Z01X06Y08

Bridget
CAD processing

Charlie
Z01X05Y09

Christy

Z01X06Y01, Z01X04Y07, Z02X05Y09,
Z03X07Y01, Z01X06Y02, Z02X08Y01,
concept, CAD processing, assembly

Daniel

original sculpture

Danielle

Z02X04Y04, Z02X08Y07

Darian

Z03X03Y02

Delina

Z01X08Y05

Desmond

Z03X06Y07

Divya

Z02X08Y04

DSK Architects &
Planners

Z05X07Y01, Z06X05Y04, Z07X03Y05

Eliza

Z01X02Y08

Ellery

Z01X05Y02, Z11X02Y01

Elliot

Z02X08Y08

Elliott

Z01X03Y06

Emily

Z01X02Y06

Emma

Z01X08Y05

Enora

Z01X07Y04

Erick

Z02X09Y06

Ethan

Z01X03Y08

Finn

Z01X04Y01

Graham

Z01X01Y04

Hailey

Z01X02Y02, Z01X05Y03

Henry

Z01X06Y05, Z01X01Y06, Z01X05Y06

Imogen

Z01X04Y06, Z15X04Y03

Jackson

Z01X08Y04

Jacque

Z02X06Y06

Jen

Z19X04Y04

Jessie

Z02X09Y04

John

Z01X04Y01

Jon

Z02X09Y01

Kacey

Z02X08Y02

Kamryn

Z01X08Y01

Karin

Z05X06Y04, Z06X04Y04, Z07X04Y03

Khyati

Z17X01Y03, Z18X01Y01

Lauren

Z02X05Y03, Z02X04Y06, Z02X04Y02,
Z02X05Y01, Z02X02Y05

Liam

Z01X08Y05

Lily

Z01X08Y05

Linda

Z01X03Y02, concept, assembly

Lukas

Z01X05Y03, Z01X05Y08, Z01X06Y02

Mackenzie

Z02X06Y06

Madhavi

Z01X02Y07

Medford Public
Library Staff

Z02X02Y01, Z03X04Y02, Z06X03Y07,
Z08X02Y01, Z09X02Y01, Z10X02Y01,
Z11X04Y03, Z14X08Y06, Z20X03Y02,
Z17X02Y04, Z15X03Y03

Mike

Z17X01Y05, Z16X01Y01

Molly

Z02X02Y02, Z02X07Y05

Morgan

Z01X08Y01

Linnea

Z13X07Y02

Liz

Z01X05Y01

Lola

Z01X03Y03

Naomi
Z01X02Y08

Nate
CAD processing, assembly

Nivicari
Z02X05Y04

Noah
Z01X08Y04

Orli
Z01X08Y09
Ouelette
Z02X04Y05

Owen
Z02X07Y07, Z19X03Y01, Z20X03Y03

Pippa
Z02X03Y04

Poppy
Z02X07Y05

Ray
Z01X07Y01

Rohan
Z03X06Y04

Rose
Z01X07Y06

Sam
Z01X04Y02

Samar

Z01X02Y01, Z01X07Y07

Sara

Z01X03Y06, Z01X04Y04, Z01X04Y05,
Z02X09Y02

Scott

Z17X01Y05

Shaunna

Z02X02Y04

Simon

Z01X01Y04

Sofia

Z02X03Y08

Sophie

Z01X03Y06

Soren

Z01X09Y01

Tasheen

Z01X03Y03

Thayer

Z02X09Y03

Tobin

Z01X02Y05

Todd

original 3D design

Tracey

Z01X06Y03

Travis

Z02X07Y04

Veronika

Z02X07Y04

Vivian

Z01X07Y01

Walter

Z01X06Y06, Z02X08Y03, Z19X03Y04

Waltham Public Library

Z06X05Y01, Z07X03Y03, Z08X03Y07,

Z09X02Y04, Z10X04Y04, Z16X03Y02

Z19X03Y03

Trey

Z01X06Y04, CAD processing

Uma

Z01X07Y07

Wes

Z01X06Y07

Yoon

Z02X04Y03