

MR BENJI  
COMICS GROUP

No 1  
FEB 8, 1978

# HOW TO MAKE A

# GARGOYLE

PRINT IN 3D  
WITHOUT A  
3D PRINTER!

FREE!  
PAPER  
TEMPLATES



SALE PRICE  
00:00



IN TODAY'S WORKSHOP WE'RE GOING TO LEARN ABOUT GARGOYLES.

PLUS MAKE ONE BY MIXING A FORM OF 3D PRINTING, (THAT DOESN'T NEED A 3D PRINTER) CARDBOARD, TIN FOIL AND AIR DRY CLAY SCULPTING.

3D PRINTING IS A NEW TECHNOLOGY.

MOST PRINTERS WORK BY PRINTING THINGS IN LAYERS.

LIKE A SPONGE CAKE.



UNLIKE SCULPTURE WHICH HAS BEEN AROUND SINCE CAVEMAN DAYS. WELL SOME CAVEMEN.



LEGEND HAS IT THAT ST. ROMANUS PLACED THE HEAD OF A DRAGON CALLED GARGOUILLE ON THE SIDE OF A CHURCH, TO WARD OFF EVIL SPIRITS.

I ONLY SAID...

I'M SORRY



IN REALITY, HISTORIANS SAY THAT THE MEANING OF GARGOYLE COMES FROM A MIX OF OLD FRENCH, LATIN & OTHER EUROPEAN LANGUAGES.

WORDS LIKE THROAT, OR SOUNDS LIKE GURLING WATER.

THOUGH WHATEVER VERSION YOU BELIEVE, THERE'S THREE GENERAL TYPES....

# GARGOYLE GROTESQUE CORBEL



IF YOU CAN FIND OUT THE DIFFERENCES BETWEEN THE THREE TYPES, YOU CAN WRITE THAT IN THE NEXT PANEL...

STUCK FOR THE ANSWERS? TRY THE BACK PAGE, BUT NO PEEKING!

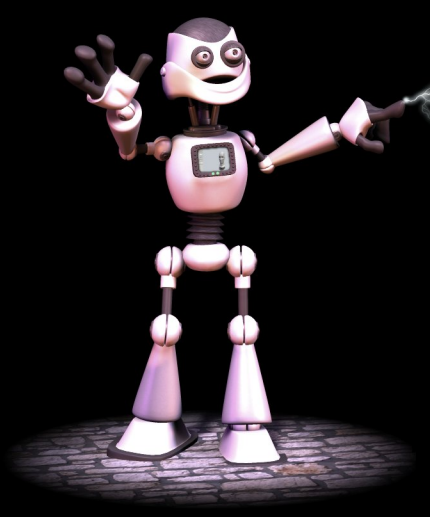


NOW IT'S YOUR TURN TO MAKE A MODEL WITH THE HELP OF ROBO-BOB. DON'T WORRY IT'S EASY!





VISIT... [APPS.AUTODESK.COM](http://APPS.AUTODESK.COM)  
...USE THE SEARCH BOX, DOWNLOAD, INSTALL AND RUN ...SLICERFORFUSION360



**1: CLICK THE TOP LEFT ICON**  
**SELECT OPEN EXAMPLE SHAPES THEN CLICK ON HUMAN HEAD**

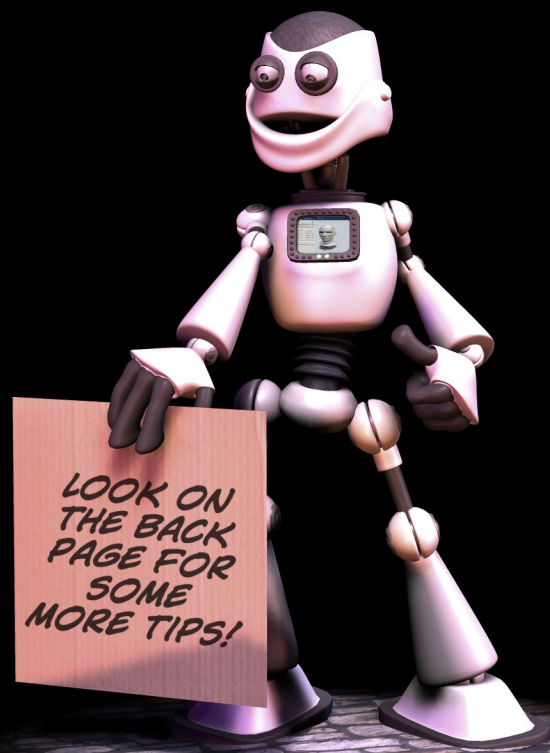
**2: MANUFACTURING SETTINGS PANEL**  
**CLICK ON THE LONG BAR AND CHANGE THAT TO: A4 8.27 X 11.69 X 0.177**

**3: MANUFACTURING SETTINGS PANEL**  
**CLICK THE COG AND LOOK AT THE BOTTOM OF THE SCREEN FOR THE MATERIAL SIZE TOOLBAR CHANGE UNITS TO CM AND SET THICKNESS TO 0.5**

**4: OBJECT SIZE PANEL**  
**CHANGE UNITS TO CM CHANGE HEIGHT TO 15 ENSURE UNIFORM SCALE IS TICKED**

**5: CONSTRUCTION TECHNIQUE**  
**SELECT STACKED SLICES**

**6: CLICK GET PLANS**  
**SET FILE TYPE TO PDF OR CLICK THE PRINT BUTTON**



NO COMPUTER ? OR SHORT ON TIME ? USE THE TEMPLATES IN THIS COMIC





STICK YOUR PRINTOUTS TO OLD CARDBOARD BOXES. WHEN THE GLUE HAS DRIED, CUT OUT THE SHAPES.

YOU DON'T NEED TO BE ACCURATE AS THE HUMAN HEAD IS NEVER SYMMETRICAL.

ALSO DON'T THROW OUT THE SCRAP CARD, INSTEAD CUT OUT SOME SMALL STRIPS AND SQUARES FROM IT.

## DID YOU KNOW?

Everyone, even newborn babies, has an innate ability called the ...

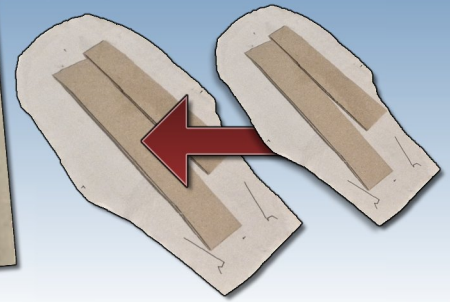
### Uncanny Valley

It's what allows us to instantly recognise that a painting, statue or computer generated image of a person isn't a real human being.

STARTING WITH SHAPE #1, GLUE SOME SMALL STRIPS OR SQUARES TO IT.

ADD SHAPE #2. REPEAT AND BUILD UP YOUR MODEL IN NUMBERED "LAYERS".

IF YOU WANT TO WALL MOUNT THE MODEL, DON'T ADD SOME OF THE BACK LAYERS.



TO ADD DETAILS JUST GLUE OR TAPE IT ON. YOU CAN USE ANYTHING YOU LIKE, FROM OLD TOYS, BITS OF CARD, OR JUST JUNK.

IT'S ALSO FUN TO JUST PLAY AROUND TO SEE IF SOMETHING WILL WORK.

IN THIS EXAMPLE, A REAL 3D PRINT, WAS COVERED IN FILLER AND PLASTER BANDAGE.

ALSO CONSIDER WHAT YOU WANT YOUR MODEL TO MEAN. IN MEDIEVAL TIMES MASONS SOMETIMES USED A SUBTLE VISUAL CODE:

HUMAN - TRIBUTES OR TELLING STORIES.

ANIMAL - SYMBOLS OF PROTECTION.

CHIMERA - A MIX OF ANIMALS OR HUMANS WITH ANIMAL FEATURES.

## MAKING A GARGOYLE?

DON'T FORGET TO ADD A WATER SPOUT!



CUT TIN FOIL INTO STRIPS. APPLY GLUE IN 2-3 AREAS OF THE FOIL. USE A SQUARE OF CARD, AND SPREAD THE GLUE OVER THE FOIL.

STICK THE FOIL ONTO YOUR MODEL. RUB THE FOIL DOWN AS YOU GO ALONG. ESPECIALLY AROUND THE EYES AND NOSE.

DON'T WORRY ABOUT BEING NEAT OR IF THE FOIL TEARS.

## DID YOU KNOW?

In Celtic style artwork, like the Book of Kells (a medieval gospel manuscript) the artists would often deliberately make one mistake.

They did this because they felt that only God could create perfection and man could not.

Recently historians have also discovered the long held belief that only monks drew these gospels was wrong. Nuns also drew them.



TO HELP THE CLAY STICK, RUB A GLUE STICK OVER THE MODEL. START ADDING AIR-DRY CLAY IN SMALL THIN STRIPS AND PRESS IT DOWN. SCORE THAT STRIP AND APPLY ANOTHER STRIP ON TOP.

CARVE OR EMBOSS DETAILS USING YOUR FINGERS, OLD PENCILS, CLAY TOOLS, STICKS.

WHEN THE CLAY FEELS LIKE IT'S THICK ENOUGH, ON THE FINAL LAYER USE THE YELLOW SIDE OF A DAMP (BUT NOT WET) WASHING UP SPONGE TO SMOOTH THE CLAY OUT.



ONCE YOUR MODEL IS DRY, TAKES ROUGHLY 2-3 DAYS, YOU CAN PAINT IT IF YOU WANT TO.

FOR SUPER-DUPER RESULTS PRIME IT FIRST. ARTISTS GESSO DIY PRIMER AND CAR SPRAY PRIMER ALL WORK WELL.

TO WEATHER YOUR MODEL, APPLY BROWN/BLACK WASHES, & DRYBRUSH ON AN OFF-WHITE HIGHLIGHT.

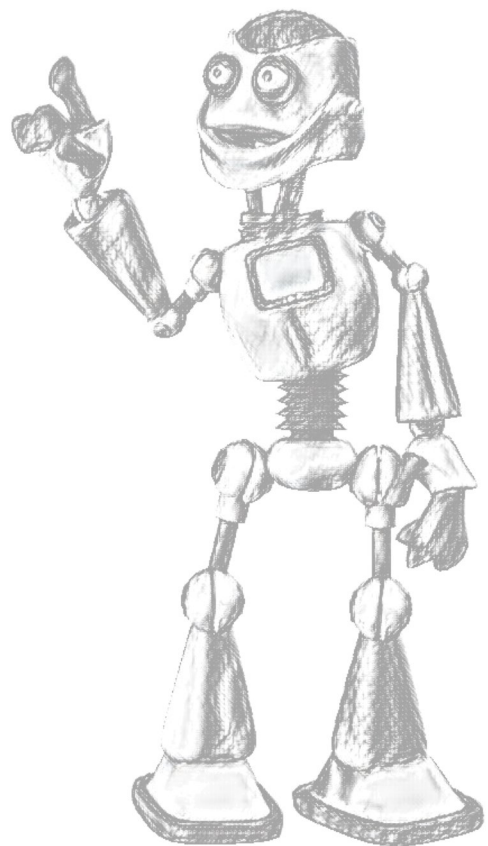
FOR BIRD-DOO-DOO, DAB RANDOMLY HEAVY DABS OF WHITE AND GREY ACRYLIC PAINT IN SMALL AREAS.

MOSS CAN BE SIMULATED BY GLUING ON TINY BITS OF GREEN WASHING UP SPONGE. OR USE MODELLING PRODUCTS SUCH AS GRASS SCATTER OR VINYL LEAVES. FOR IVY, TRY FISH TANK TREES.

WHEN DRY, IF POSSIBLE, GIVE IT 2-3 THIN COATS OF CHEAP MATT VARNISH. TO MOUNT ON THE WALL, GLUE SOME FELT OR THIN CARD ON THE BACK TO STOP THE WALL FROM GETTING SCRATCHED. THEN ATTACH A COUPLE OF 3M STYLE PICTURE HANGING STRIPS. DON'T USE HOOKS OR SCREWS AS THE CARD WILL TEAR.



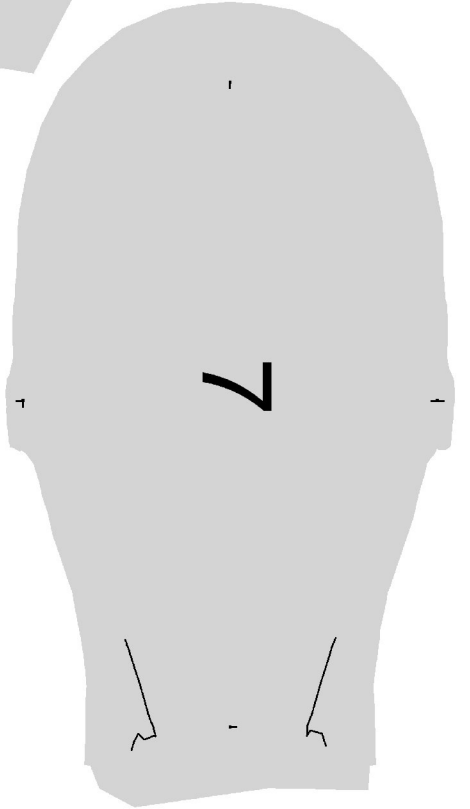
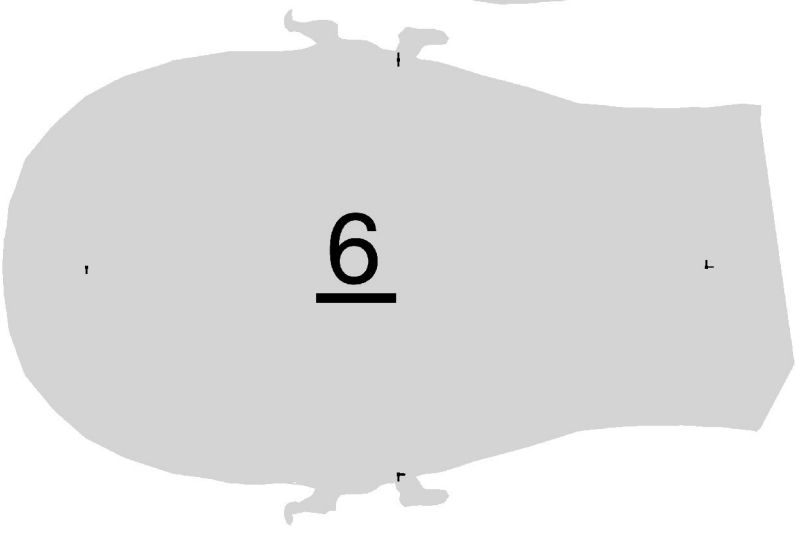
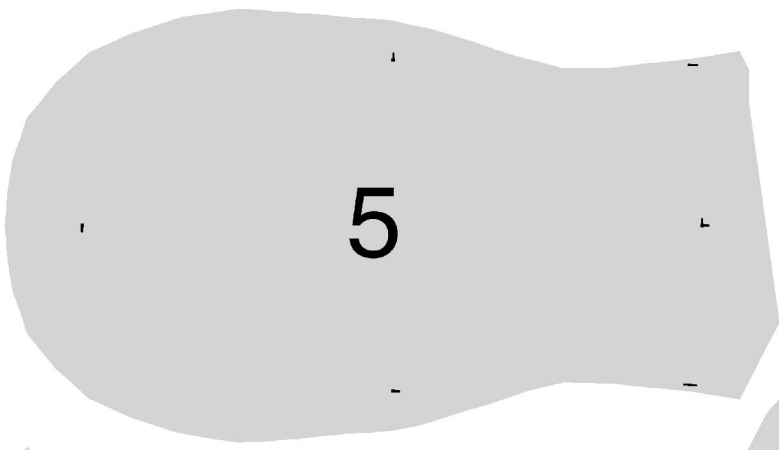
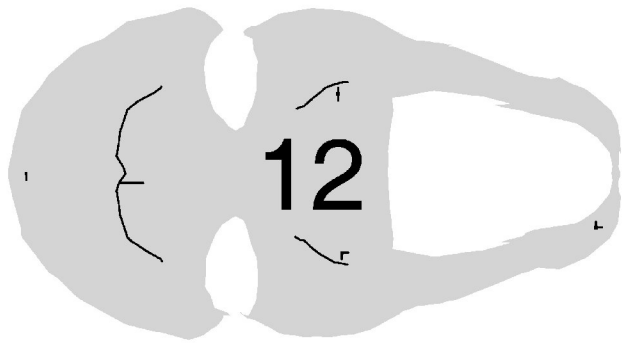
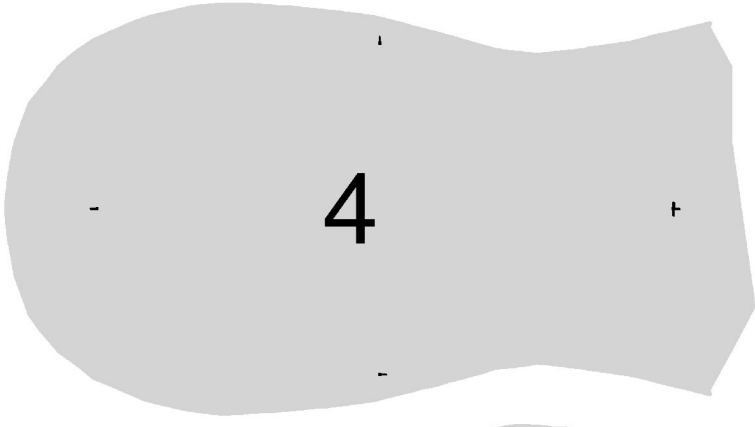
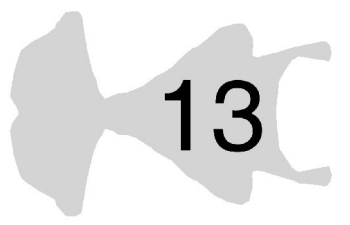
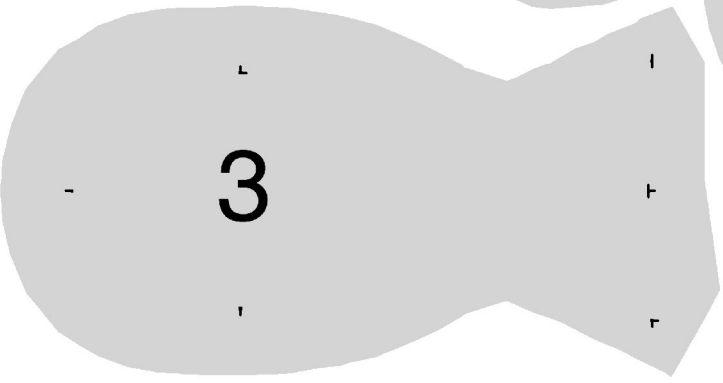
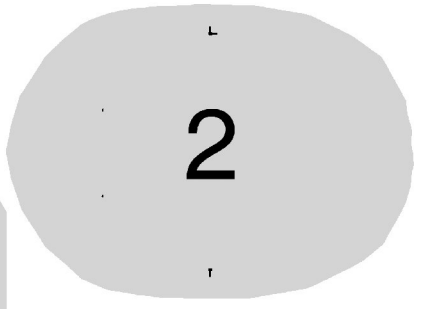
**MEANWHILE ...  
HERES A COLOURING PAGE...**



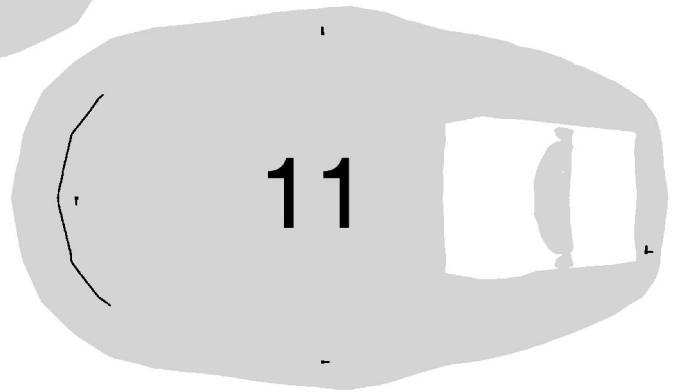
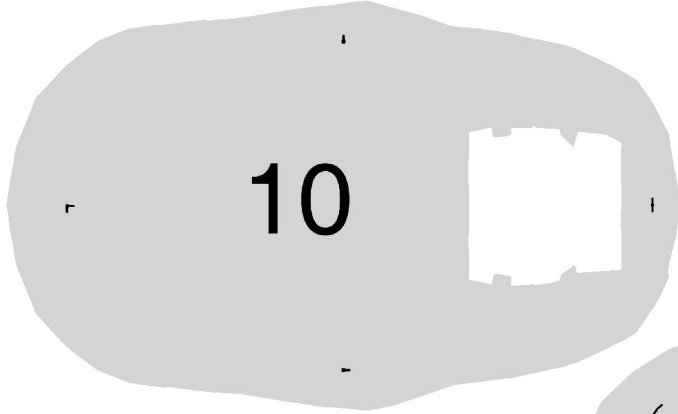
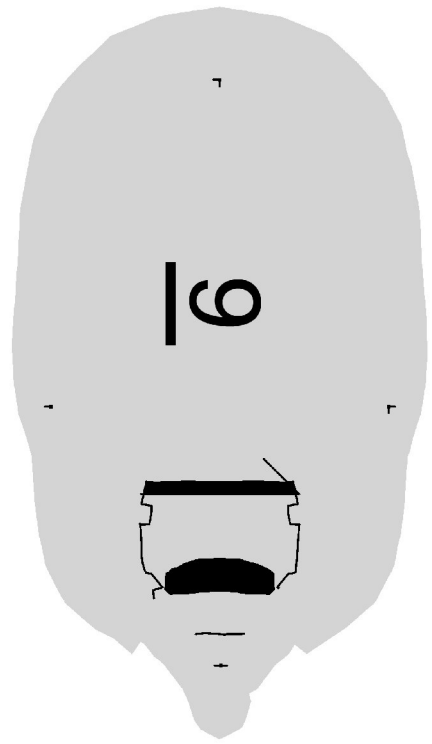
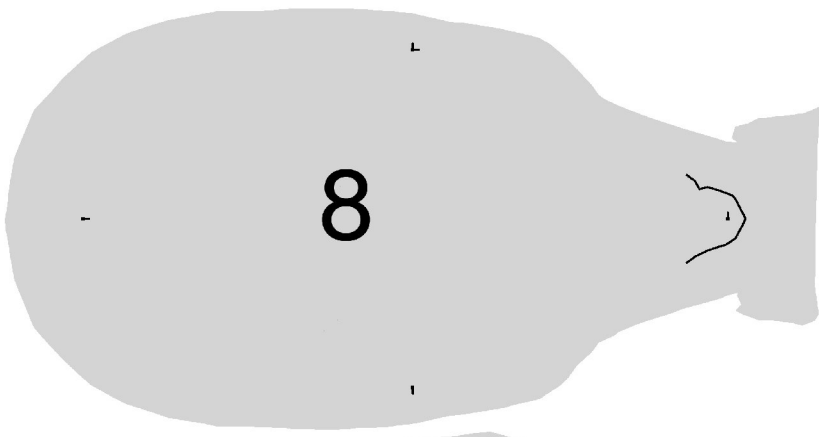
**TO GET THE SAME SKETCH EFFECT ON YOUR DIGITAL  
PHOTOS AND FOR FREE, VISIT [LUNAPIC.COM](http://LUNAPIC.COM).**



**DON'T WANT TO CUT UP YOUR COMIC?**  
**JUST B&W PHOTOCOPY THESE TEMPLATES ONTO A4 PAPER. OR FOR A LARGER MODEL ENLARGE TO A3.**







HERE'S A  
SPACE FOR  
TAKING NOTES,  
OR MAYBE EVEN  
DESIGNING YOUR  
OWN MODEL.





# BACK PAGE SOFTWARE TIPS

**DOWEL PANEL**  
IF YOU REQUIRE A VERY ACCURATE MODEL, USE THIS OPTION. ON THE CARD MODEL, DRILL/CUT OUT THE HOLES AND INSERT DOWELS.

**SLICE DIRECTION PANEL**  
IF YOU IMPORT MODELS, THIS OPTION ALLOWS YOU TO CHANGE THE WAY THE MODEL IS SLICED UP.

**ASSEMBLY STEPS PANEL**  
USING THIS PLAYER WILL SHOW YOU HOW TO ASSEMBLE YOUR MODEL.

**GETTING OTHER MODELS**  
THINGVERSE.COM IS THE BIGGEST AND SAFEST WEBSITE TO GET FREE 3D PRINTABLE MODELS FROM.

MOST ARE RELEASED UNDER A CREATIVE COMMONS (COPYRIGHT) LICENCE. SO THESE ARE OK TO USE, MODIFY ETC.



# BUILDING HINTS

## GET COIFFERED

TO MAKE HAIR, CUT STRIPS OF CARD ROUGHLY 1CM WIDE AND 10CM LONG. GLUE THE STRIPS DOWN LEAVING A 5MM TO 1CM GAP BETWEEN EACH STRIP. COVER WITH CLAY, TINFOIL AND SCULPT AS USUAL.

## GET BUILDING

THIS TECHNIQUE ALSO WORKS WELL WITH OTHER MATERIALS: SUCH AS PAPER MACHIE, HOUSEHOLD & MODEL FILLERS (SUCH AS POLYFILLA OR MILLIPUT), PLASTER, OR PLASTER BANDAGE. PLUS YOU DON'T NEED ANY TIN FOIL.

## GET STICKY

CAN'T GET THE FOIL TO STICK? TRY A HOT GLUE GUN. PRIT STICK OR UHU.



# LITTLE IDEAS

WHY NOT TRY THIS APPROACH TO MAKE OTHER THINGS? SUCH AS CREATIVE MOM, A YOU-TUBER, WHO MAKES FANTASY HOUSES FROM SOFT DRINK BOTTLES.

THESE MODELS CAN ALSO BE USED TO MAKE MOULDS. MAKE THE MODEL WITH CLAY, FLAT BACKED ONES WORK BEST, THEN COVER IT IN CLINGFILM OR VASELINE.

PLACE IN A LIDLESS BOX AND POUR IN A MOULDING MATERIAL. IE: LATEX OR PLASTER, TOTALLY COVERING THE MODEL.

WHEN DRY REMOVE THE MODEL FROM THE MATERIAL. CLEAN UP THE MOULD AND POUR CASTING STUFF INTO THE MOULD.

IF YOU WANT TO CAST MORE THAN ONE MODEL FROM PLASTER MOULDS, COAT THE INTERIOR WITH VASELINE EVERY TIME YOU CAST.

# SAFETY

CLAY, PLASTER AND GLUES, CAN AFFECT SKIN, SO PLEASE WEAR THE GLOVES PROVIDED.

IF YOU PLAN TO SAND OR ENGRAVE YOUR MODEL AT HOME, ALWAYS WEAR A FACE MASK.

IF YOU FEEL UNCOMFORTABLE ABOUT USING SCISSORS PLEASE ASK FOR HELP.

THE JAPANESE SAW USED TO HALVE THE FORMERS IS VERY SHARP. PLEASE ASK FIRST BEFORE USING IT.



# CREDITS

3D DRAGON, ROBOT & GARGOYLE MODELS: 3DUNIVERSE.CO.ZA  
FOR THE TIN FOIL TO CLAY TRICK: CREATIVE MOM ON YOUTUBE  
CHICHESTER CATHEDRAL & PALLANT HOUSE GALLERY  
TEMPLATE MAKERS: ELAINE, MICHELLE, TRISH & VICKY  
WORKSHOP CONCEPT & COMIC: ALAN

# RESPECT

THE CATHEDRAL IS A PLACE OF WORSHIP, SO PLEASE RESPECT THAT AND THE BELIEFS OF OTHER PEOPLE AS YOU ARE HERE TODAY.

IT'S ALSO BEEN A BEAUTIFUL SANCTUARY FOR OVER 500 YEARS, SO LET'S KEEP IT THAT WAY BY KEEPING THINGS CLEAN AND TIDY.

# BIG IDEAS

WHEN HISTORIANS WANT TO RECONSTRUCT A FACE FROM HISTORY, THEY USE A TECHNIQUE CALLED OSTEO-METRIC MARKING. WHERE MARKERS ARE PLACED ON A MODEL WHICH INDICATES THE DEPTH OF MUSCLE AND SKIN AT CERTAIN PLACES.



WE CAN REPLICATE THIS BY USING 3MM WOODEN DOWEL (FROM MOST DIY STORES). CUT THE DOWEL TO THE LENGTHS/PLACEMENTS, PLACE AS SHOWN ON THE WEBSITE BELOW. BEFORE APPLYING CLAY SHAPED AS FACE MUSCLES.

<https://www.futurelearn.com/courses/forensic-facial-reconstruction/0/steps/31185>

IF USING AN ELECTRONIC PAPER CUTTER, IN SLICER 360 SET THE CARD THICKNESS TO THE CARD IN THE CUTTER. THIS WILL MAKE 100'S OF PARTS. BUILD THE MODEL AND COVER IN THIN CLAY TO GET AN AMAZING ARTWORK.