Year 10 GCSE Three-Dimensional Design: Creating Worlds

John Brickels

- American artist
- creates **architectural sculptures**, **machines**, **robots**, **vintage car bodies** and **mechanics** in **clay**
- uses **slab** and **extrusion** techniques

Stephanie Kilgast

- French born in 1985
- natural forms such as **plants, mushrooms & insects**
- vibrant colours
- **organic** sculptures on manufactured objects
- cheerful **post apocalyptic** feel

Isabel & Alfredo Aquizilan

- married couple living & working in Australia
- draw on memories of their home & country (Philippines)
- **installations, painting, sculpting, mixed media & assemblage**
- focus on dwellings, connectivity and vessels.

Pauline Irvine

- graphic designer
- paper artwork and **design**
- **illustration**
- cards with three-dimensional effects
- experiments
- **effects of light & shadow**
- draw on **local subject matter**

Hari & Deepti

- **stories**
- **imagination**
- **intricate paper cut** light boxes
- paper as a medium reflects the depths of stories
- wooden boxes
- dioramas
- minimal

Allison May Kipuths

- based in Maine
- life long **nature** enthusiast
- **shrinks landscapes** found in the eastern USA into **dioramas**
- creates a mix of **forest & ocean** habitats
- night skies
- stacked wooden boxes
- **new ecosystems with different combinations**

Michael Davydov

- lived in Ukraine, now lives in Denmark since the war with Russia began
- **miniature sculptures** of homes
- **carved clay**
- placing into objects such as light bulbs or glass domes
- **magical, whimsical** worlds
- **decorated** with dry bits or recreated **natural textures**

Content
Form
Process
Mood

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CAD & CAM

CAD software:
Serif Draw
2D design
Onshape
Cura
Shining 3D

CAM equipment :
Laser cutter
3D scanner
3D printer

Did you know?....

- *3D prints can be created from drawings created by hand, 3D scanned objects and from CAD drawings!*
- *They are created in PLA: polylactic acid – a bioplastic made from corn starch.*

Health and Safety

Class rules:-
1) Always listen carefully to the teacher and follow instructions.
2) Proper footwear must be worn.
3) Do not run in the workshop
4) Tie your hair
5) Bags should not be brought into a workshop as people can trip over them.
6) Know where the emergency stop buttons are positioned in the workshop. If you see an accident at the other side of the workshop you can use the emergency stop button to turn off all electrical power to machines.
7) Always be patient, never rush in the workshop.

Clothe rules:-
1) Wear an apron as it will protect your clothes and hold loose clothing such as ties in place.

Tools rules:-
Hand Tools rules:-
1) When attempting practical work all stools should be put away.
2) Use hand tools carefully, keeping both hands behind the cutting edge
3) Report any damage to machines/equipment as this could cause an accident.

Power tools:-
1) Eye protection must be worn.
2) When learning how to use a machine, listen very carefully to all the instructions given by the teacher. Ask questions, especially if you do not fully understand.
3) Do not use a machine if you have not been shown how to operate it safely by the teacher.
4) Always use a guard when working on a machine.
5) Keep hands away from moving/rotating machinery.

Clay techniques

Slab building needs careful **preparation** but can make some impressive sculptural objects or vessels.
A lump of clay is first **rolled** out onto either a sheet of fabric or paper, using a rolling pin. The clay needs to be flipped over and rotated to achieve an even slab

Relief puts less stress on the clay so it is less likely to crack when fired. Slabs of clay can be laid over preformed objects to create 3D shapes. These can then be built upon using modelling and hand building techniques.

Wood working equipment

bench vice

try square

tenon saw

coping saw

band facer

pillar drill