

Teacher notes

Lesson 1 - does not need computer suite.

- Need A4 square paper (cut up a maths book)
- These plans will be the basis for their Minecraft creation, so make sure they are detailed and thought about (need at least 30 mins for this part)
- Discuss key features of the buildings, i.e. Splash Point = swimming pool (one for swimming, one for playing), large reception area, cafe, toilets, changing rooms (separate male and female), etc.
- Discuss aesthetics of buildings - modern appealing to some, historical appealing to others (their choice when designing).

Lessons 2-3 = Minecraft modelling (follow steps, use SC)

Lesson 4 = evaluation

We are architects - Lesson 1

3D

Graphics that use a three-dimensional representation.

Virtual environment

A made up place containing things that can be manipulated or controlled.

Aesthetics

The art, beauty or taste of a creation, in the eyes of someone viewing it.

CAD

Computer aided design.

Spatial awareness

Being aware of the objects or people within a surrounding.

We are architects

LEARNING EXPECTATIONS

This unit will enable you to:

- Understand the work of architects, designers and engineers working in 3D
- Develop familiarity with a simple CAD (computer-aided design) tool (Minecraft)
- Develop spatial awareness by exploring and experimenting with a 3D virtual environment
- Develop greater aesthetic (appreciation of beautiful things) awareness

WALT explore and experiment with virtual environments



Worthing Borough Council have asked us to become architects and design a new swimming pool to replace the Splash Point when it is due to be redeveloped in 2030 - how forward thinking!

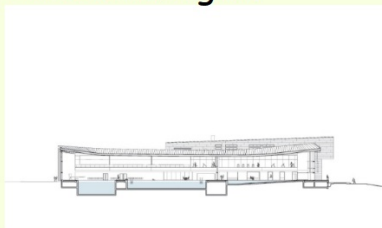
What does an architect do?



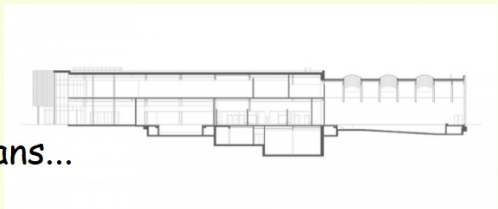
What does an engineer do?



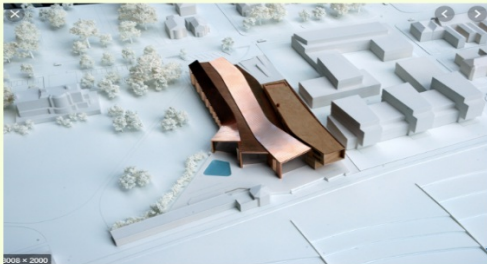
Splash Point Leisure Centre, Worthing Architects ideas turned into drawings...



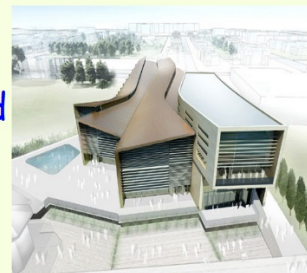
...including
internal plans...



...then models are made...



...including
computer aided
design (CAD)...



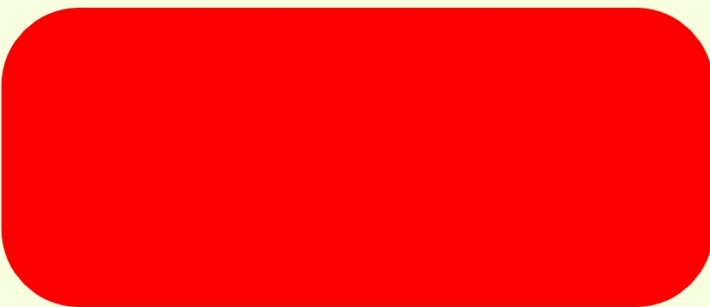
...then engineers build from the detailed plans.



WALT explore and experiment with virtual environments

Before we become architects, we need to think about what makes our current Splash Point so **aesthetically pleasing**, inside and outside, and why?

Splash Point Leisure Centre



WALT explore and experiment with virtual environments

Your task:

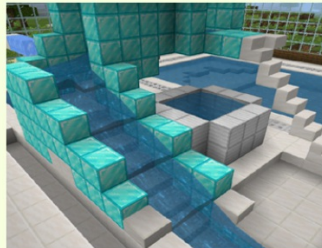
Design a swimming pool that is aesthetically pleasing but also practical for its use. Remember, you will use a computer aided design (CAD) programme - Minecraft - to model your final design.

Things you must include:


At least 1 swimming pool
Changing rooms (male and female)
Front Desk (Recption)
Cafe

Optional:

A fun pool
2nd Floor (an upstairs)



WALT explore and experiment with virtual environments

Today we will be planning our swimming pools so that we can use Minecraft to create them from next week. Before we start planning, have a look at this video to see how useful a plan is when creating a building (he's designing a house, but you'll get the idea!) 



So before we can think about creating something like this.....

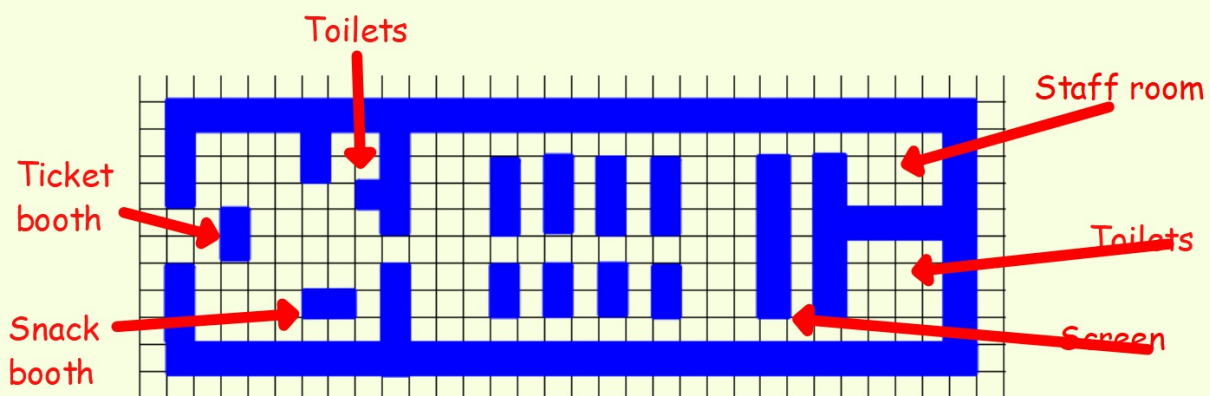


.... we have to create something like this. In order to do that, we're going to need a plan.



WALT explore and experiment with virtual environments

When planning your swimming pool the two most important things to think about are **scale** and **size**. If each square of your paper represents one Minecraft block, your swimming pool is going to be much too small - I would recommend a scale of at least **1 square for ever 4 Minecraft blocks**. Think about where most people will be - you don't want your toilets bigger than your cafe, or your cafe bigger than your swimming pool!



Here's a simple plan. What's good about it? What needs to be improved?

WALT explore and experiment with virtual environments

Now try it yourself. Remember, this is the swimming pool that you are going to build (virtually) - the aim is to create one that is as close to your plan as possible.

Things you must include:

At least 1 swimming pool
Changing rooms (male and female)
Front Desk (Recption)
Cafe

Optional:

A fun pool
2nd Floor (an upstairs)

Success Criteria:



-Include the key features for your building.



-Include a scale and practical features (doors, windows, staff area etc.).



-Think about the space needed for the number of people in each area.

If you want to design a second floor, you will need 2 plans. You will also need to decide where to put the stairs!

We are architects - Lesson 2

Unjumble the key vocabulary and the definitions.

3D

Computer aided design.

Virtual
environment

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CAD

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Spatial
awarenesss

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creation, in the eyes of
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WALT develop spatial awareness by exploring and experimenting with a 3D virtual environment



- Create a model of your plan using CAD (Minecraft).
- Explore and experiment with your design (improve if needed).
- Consider the aesthetic design of your 3D model.

Game Action	Control
Place/Use Item	Button 2 (Mouse)
Mine/Destroy Item	Button 1 (Mouse)
Jump	SPACE
Fly (Creative)	SPACE (press twice quickly)
Stop Flying (Creative)	SPACE (press twice quickly)
Fly Higher (Creative)	SPACE (hold down)
Fly Lower (Creative)	LSHIFT (hold down)
Drop/Throw Item	Q
Open Crafting Menu	Button 2 (Mouse)
Open Inventory	E
Swap Items in Hands	F
Walk Forward	W
Walk Backward	S
Strafe Left	A
Strafe Right	D
Look	Move Mouse
Run/Sprint	LCONTROL
Sneak	LSHIFT
Change Selected Item in Hotbar	Keys 1 through 9
List Players	TAB
Chat	T
Run Command	T or /
Take Screenshot	F2
Toggle Fullscreen	F11
Toggle Perspective (Change Camera Angle)	F5
Toggle Debug window	F3

We are architects - Lesson 3



Graphics that use a three-dimensional representation.



A made up place containing things that can be manipulated or controlled.



The art, beauty or taste of a creation, in the eyes of someone viewing it.



Computer aided design.



Being aware of the objects or people within a surrounding.

WALT understand the work of architects, designers and engineers working in 3D

WALT develop greater aesthetic (appreciation of beautiful things) awareness

WALT develop spatial awareness by exploring and experimenting with a
3D virtual environment

Step 2 - Model design in 3D - External.







Use CAD (Minecraft) to visualise your plan as a 3D model - create the outside of your building.

Step 3 - Model design in 3D - Internal.

Use CAD (Minecraft) to visualise your plan as a 3D model - create the inside of your building.

Furniture, stair cases, lighting, decorations, etc.

Success Criteria:

-  Include the key features for your building.
-  Include practical features (doors, windows, toilets, staff area).
-  Think about the space needed for the number of people.
-  Create a model of your plan using CAD (Minecraft).
-  Explore and experiment with your design (improve if needed).
-  Consider the aesthetic design of your 3D model.

We are architects - Lesson 4

Unjumble the key vocabulary and the definitions.

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Step 3 - Model design in 3D - Internal.







Use CAD (Minecraft) to visualise your plan as a 3D model - create the inside of your building.

Step 4 - Model design in 3D - Internal.

Use CAD (Minecraft) to visualise your plan as a 3D model - modify the inside of your building.

Is your building fit for purpose? How have you included thoughts considering spatial awareness? Is the building aesthetically pleasing?

Success Criteria:

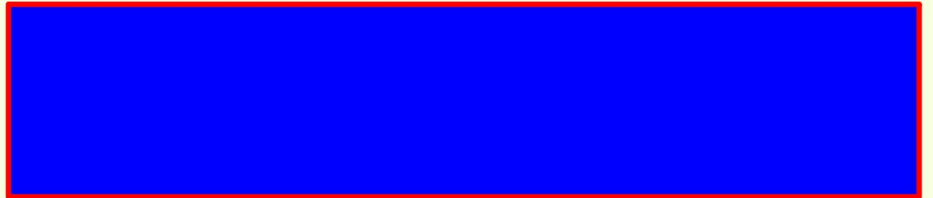
-  Include the key features for your building.
-  Include practical features (doors, windows, toilets, staff area).
-  Think about the space needed for the number of people.
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-  Explore and experiment with your design (improve if needed).
-  Consider the aesthetic design of your 3D model.

We are architects - Lesson 5

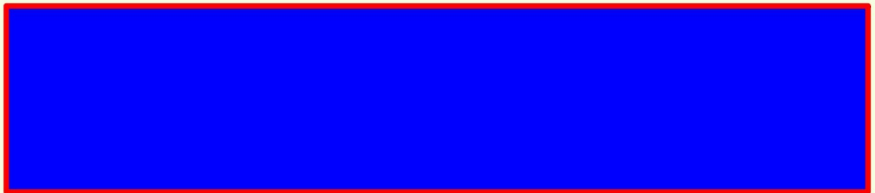
3D



Virtual
environment



Aesthetics



CAD



Spatial
awarenesss



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Step 4 - Model design in 3D - Internal.







Use CAD (Minecraft) to visualise your plan as a 3D model - modify the inside of your building.

Step 5 - Model design in 3D - Aesthetics.

Use CAD (Minecraft) to visualise your plan as a 3D model - modify the outside of your building.

What have you done to make your building aesthetically pleasing?

Success Criteria:

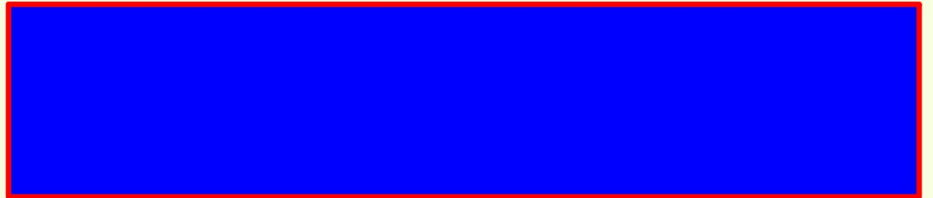
-  Include the key features for your building.
-  Include practical features (doors, windows, toilets, staff area).
-  Think about the space needed for the number of people.
-  Create a model of your plan using CAD (Minecraft).
-  Explore and experiment with your design (improve if needed).
-  Consider the aesthetic design of your 3D model.

We are architects - Lesson 6

3D



Virtual
environment



Aesthetics



CAD



Spatial
awarenesss



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WALT develop spatial awareness by exploring and experimenting with a
3D virtual environment

Step 6 - Evaluate design.

Save your copy of the 'Pupil Self Assessment' Word document (z:drive) in your class architects file. Use print screen tool to capture elements of your Minecraft design to explain how you met the success criteria.

Find 'Print Screen' button on your computer. In Minecraft, make the feature you want to show clear on the screen, then press the 'Print Screen' once. Open your 'Pupil Self Assessment' Word doc, right click on mouse and select paste (clipboard picture) or use the Ctrl & V shortcut to paste.

Success Criteria:

-  Include the key features for your building.
-  Include practical features (doors, windows, toilets, staff area).
-  Think about the space needed for the number of people.
-  Create a model of your plan using CAD (Minecraft).
-  Explore and experiment with your design (improve if needed).
-  Consider the aesthetic design of your 3D model.

Plenary

What was the most pleasing aspect of your model?

As an architect, what advice would you give to others about this project?

Was Minecraft a good CAD programme to use?

