3D Dream House

IB MYP Design (Grade 7 - MYP Year 2)

MYP Design: Design

Duration
8 weeks
16 hours

Start Date
W2 Feb

Term 2
(Jan 2017 - Jun 2017)

Inquiry: Establishing the purpose of the unit

Key concept

Systems

Related concept(s)

Design

✓ Collaboration
✓ Sustainability
✓ Form

Global context

Orientation in space and time

• Peoples, boundaries, exchange and interaction

Statement of inquiry

We either shape our homes or our homes shape us

Inquiry questions

Factual

What are the essential and non essential components of a house?
What can we do to create a more sustainable home?

Conceptual

What are the implications of living in a community

Debatable

What can we do to improve our communities for future generations?
## Summative assessment

<table>
<thead>
<tr>
<th>Assessment Criteria</th>
<th>Tasks in all classes</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Inquiring and analysing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Developing ideas</td>
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<td>C Creating the solution</td>
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<td></td>
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<tr>
<td>D Evaluating</td>
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</tbody>
</table>

**Class mean of Assessed Criteria**

6/8

6/8

N/A

N/A

### Relationship between summative assessment task(s) and statement of inquiry:

Using the design cycle, students will create a 3D model home, research sustainable solutions and place it in a neighbourhood where they will cooperate to create one system. They will learn to use 3D software and architectural concepts as well as sustainable demands and possibilities.

### Objectives

**A Inquiring and analysing**

- i. explain and justify the need for a solution to a problem
- ii. construct a research plan, which states and prioritizes the primary and secondary research needed to develop a solution to the problem
- iii. analyse a group of similar products that inspire a solution to the problem
- iv. develop a design brief, which presents the analysis of relevant research

**B Developing ideas**

- i. develop a design specification, which outlines the success criteria for the design of a solution based on the data collected
- ii. present a range of feasible design ideas, which can be correctly interpreted by others
- iii. present the chosen design and outline the reasons for its selection
- iv. develop accurate planning drawings/diagrams and outline requirements for the creation of the chosen solution.

**C Creating the solution**

- i. construct a logical plan, which outlines the efficient use of time and resources, sufficient for peers to be able to follow to create the solution
- ii. demonstrate excellent technical skills when making the solution
- iii. follow the plan to create the solution, which functions as intended
- iv. explain changes made to the chosen design and plan when making the solution.
### Assessment Criteria

<table>
<thead>
<tr>
<th>Tasks in all classes</th>
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<tbody>
<tr>
<td>v. present the solution as a whole</td>
</tr>
<tr>
<td>Evaluting</td>
</tr>
<tr>
<td>i. describe detailed and relevant testing methods, which generate accurate data, to measure the success of the solution</td>
</tr>
<tr>
<td>ii. explain the success of the solution against the design specification</td>
</tr>
<tr>
<td>iii. describe how the solution could be improved</td>
</tr>
<tr>
<td>iv. describe the impact of the solution on the client/target audience.</td>
</tr>
</tbody>
</table>

### Approaches to learning (ATL)

<table>
<thead>
<tr>
<th>Communication skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchanging thoughts, messages and information effectively through interaction</td>
</tr>
<tr>
<td>i. Give and receive meaningful feedback</td>
</tr>
<tr>
<td>ii. Negotiate ideas and knowledge with peers and teachers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organization skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing time and tasks effectively</td>
</tr>
<tr>
<td>i. Plan short- and long-term assignments; meet deadlines</td>
</tr>
</tbody>
</table>

### Action: Teaching and learning through inquiry

<table>
<thead>
<tr>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject: Physical Education</td>
</tr>
<tr>
<td>Year: Grade 7, Grade 9, Grade 10</td>
</tr>
<tr>
<td>Start Date: W2 September</td>
</tr>
</tbody>
</table>
Knowledge & Skills

- Students will learn how to use Sketchup to create their 3D model.

Service

Demonstration: Guided inquiry Presentation by teacher
Open inquiry Design video from YouTube
Action: Direct instruction with inquiry Group and class discussions and in-class work
Investigation: Guided inquiry using resources found online and researched by the student.

Learner Profile

Knowledgeable: We will use digital tools, explore possibilities and develop conceptual understanding
Communicators: We will express ourselves confidently and creatively in a digital form, we will learn to cooperate, compromise and create together

<table>
<thead>
<tr>
<th>Learning process</th>
<th>Formative Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1-2: Introduction to Architecture and evaluating an existing solution to a dream home</strong></td>
<td>Project</td>
</tr>
<tr>
<td>- What is Architecture, What is your dream home</td>
<td>Mon 13 Feb 2017 11:15 AM</td>
</tr>
<tr>
<td>- Evaluate an existing dream home according to Criterion D</td>
<td>Dream house and Google sketchup introduction</td>
</tr>
<tr>
<td>- Introduction to Sketchup</td>
<td>- Resort villa near Cape Panwa, Phuket, Thailand: <a href="http://www.homedsgn.com/2013/10/08/villa-kiana/">http://www.homedsgn.com/2013/10/08/villa-kiana/</a></td>
</tr>
<tr>
<td><strong>Week 3-4: Inquire and Analysis</strong></td>
<td>- Luxury mountain home in Swiss Alps: <a href="http://www.homedsgn.com/2012/03/12/six-star-luxury-boutique-">http://www.homedsgn.com/2012/03/12/six-star-luxury-boutique-</a>...</td>
</tr>
<tr>
<td>- Explore and develop your idea of a dream home</td>
<td>SketchUpMake-en.dmg</td>
</tr>
<tr>
<td>- Learn how to use Sketchup</td>
<td>Wed 1 Mar 2017 5:00 PM</td>
</tr>
<tr>
<td><strong>Week 5-7: Develop your dream home and incorporate sustainable elements</strong></td>
<td>Task</td>
</tr>
<tr>
<td>- Explore sustainable elements</td>
<td>MYP 2 Design Semester B - Dream House research</td>
</tr>
<tr>
<td>- Build your dream home</td>
<td>Complete the task in our google classroom -</td>
</tr>
<tr>
<td>- Cooperate with your friends to create a community</td>
<td>Find examples for your dream house - Copy paste 3 real world</td>
</tr>
<tr>
<td><strong>Week 8: Evaluate and review</strong></td>
<td>images that show what you want your Dream House to look like.</td>
</tr>
<tr>
<td>- Present the final digital product and evaluate it</td>
<td>Write what you like about ea...</td>
</tr>
</tbody>
</table>
Differentiation

Describe how you will differentiate teaching & learning for this unit?

- Students will work in small groups and individually and will have the opportunity to both share their work, give and receive feedback
- Each student will be judged according to his own pace and ability to advance his design
- Advance students will have a chance to further develop their design and research materials, complex shapes and advance modeling techniques

Resources

Summary index: 1 Journal, 1 Website, 2 Video, 0 File, 0 Photos, 0 Books

Video Tutorials: Getting Started...

Teaching & Learning
A beginners video tutorial series to help you started with Google Sketchup

Why the buildings of the future ...

Inquiry & Purpose
A TED talk by Architect Marc Kushner: "Architecture is not about math or zoning — it’s about visceral emotions" In a sweeping — often funny — talk, he zooms through the past thirty years of architecture to show how the public, once disconnected, have become an essential part of the design process.

3D modeling for everyone | Sketchup...

Content
The 3D free software we will be using to create our dream house

Journal
Summary
Laptop computer, Sketchup maker (free software), sketching materials, online software tutorials, online design videos
Reflection: Considering the planning, process and impact of the inquiry

Prior to teaching the unit

- Why do we think that the unit or the selection of topics will be interesting?
- What do students already know, and what can they do?
- What in the unit might be inspiring for community or personal projects?

This is the main unit for the 2nd term so the students are coming with some knowledge of the design cycle and the expectations have already been set. In this unit the students are their own clients and this will hopefully get them more engaged and allow for deeper research in other areas of the design process. The time for this unit is short and the goals are ambitious, the students are required to both understand the 3D software and research and develop their dream house so depending on the students prior knowledge in this planned areas and our progress, some adjustments will undoubtedly happen. One of the main focus areas for the unit will be the action plan, by dividing and working on a small part of the project at a time I hope to help the students practice their understanding and ability to plan a project, a skill they can use in their personal and community future projects.

During teaching

- What difficulties did we encounter while completing the unit or the summative assessment task(s)?
- What can we adjust or change?
- What is the level of student engagement?

As expected, the time frame is ambitious and the students are expected to hit the ground running which required adjustment to the tutorials shown for Google Sketchup and to add a summative task for Criterion A and B to get the students to summarize and evaluate their progress.

An unexpected proposal from the students led to a great experience as a group of students came forward and wanted to do the project in Minecraft. I allowed that and their levels of engagement and progress were amazing. Should consider adding Minecraft for the whole class for next year.

Some students find it hard to master the use of Google Sketchup but they all were excited to research their dream homes and what it meant.

After teaching the unit

- What evidence of learning can we identify?
- Which teaching strategies were effective? Why?
- What student-initiated action did we notice?
- What can students carry forward from this unit to the next year/level of study?

The main take away from this unit is the need to plan more differentiation experience. All the students were able to complete the research phase and showed understanding and engagement but the students had varying levels of success in understanding and utilizing the 3D software. This led to a larger than planned portion of the unit being devoted to mastering the technical skills instead of developing Criterion C and D. For future projects, different set of goals, more fitting for different level of technical understanding needs to be implemented.
The students were very interested to learn about Architecture and responded very well to the examples shown in class. Their progress in the action plan was successful once proper scaffolding were introduced, the knowledge and skills gained from this unit can be used in the future for a more complex 3D unit or a more socially involved unit.
## Assessment Tasks

### Calendar Summary

**Term 1**

- Aug
- Sep
- Oct
- Nov
- Dec

**Term 2**

- Jan
- Feb
- Mar
- Apr
- May
- Jun

### IB MYP Design (Grade 7 - MYP Year 2)

#### Assessment Criteria

- A: Inquiring and analysing
- B: Developing ideas
- C: Creating the solution
- D: Evaluating

#### Tasks

- **Project**
  - Dream house and Google sketchup introduction

- **QR**
  - 11:15 AM
**Assessment Criteria**

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**Tasks**

### Wed 1 Mar 2017 5:00 PM

**Task**

**MYP 2 Design Semester B - Dream House research**

Complete the task in our google classroom - Find examples for your dream house - Copy paste 3 real world images that show what you want your Dream House to look like. Write what you like about ea...

### Mon 13 Mar 2017 5:00 PM

**Assignment**

**Summative Report 001 - Criterion A - B - Progress summary**

Summative report you did in class. You can see your Google Classroom task for comments

### Mon 29 May 2017 12:00 PM

**Assignment**

**MYP Design 2 - Semester B - Final Summative assignment**

Hello All,

Building on the knowledge and tasks we did in class, you will now combine the houses you have created to form a community, each group of 4 student will work together to place their hous...