Scheme of Work – Construction Studies

Subject: Construction Studies **Topic:** House Construction and basic construction skills. **Class**: Transition year

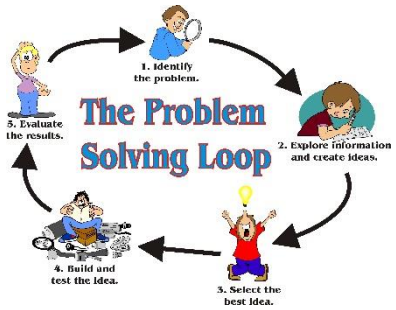
Number of pupils: 24 **Number of lessons**: 10 weeks **Length of lessons**: 80mins

Pupils level of knowledge and ability:

Most of the pupils in this transition year class would not have done materials technology wood before and therefore have very little experience in hand tools. Pupils will have little knowledge as to how houses are constructed unless some students have backgrounds in the construction industry. Students will however have skills associated with measuring and marking out, project planning, project analysis, research and investigation through engagement in subjects such as Science, Mathematics, Home-economics, Business and technical Graphics.

My overall aim with this transition year group is to broaden their understanding as to how a house is constructed from architectural plans to the finished structure. In doing this I hope to develop the students interest in the subject of construction studies for 5th year, prepare them for creating a projects in fifth year for Construction studies and other subjects. I also hope to develop student's competence in relation to their practical skills through the construction of model houses and flower boxes in collaboration with a science project they are engaged in.

Aims and objectives

Aims of Scheme	Statement of objectives
• To develop pupils skills in reading house plans. • Develop the students understanding of how a house is designed and constructed	-Pupils will become aware of sensible practical solutions to problems that are put in front of them (psychomotor & cognitive) -Pupils will list procedures involved in each stage of construction of a house. (Cognitive). 
• To motivate and encourage the students to take charge of their own learning and investigate solutions for problems they encounter in groups.	The students will be able to relate the subject matter to their own lives, for example their own homes and how they are built and the services and systems that run their homes.
• To build on the pupils knowledge and awareness of the construction processes involved in designing a domestic buildings	-Pupils will be able to describe and present about the different building styles 

	-Pupils who will be designated into groups will become specialists in the areas of architecture, foundations and wall structures, roofing structures, plumbing services and electricity services.
To develop the student to create an accurate scaled drawing on board of a building of their own design	-The pupils will be able to complete a fully detailed building on a 1-25 scaled house -The pupils will achieve a drawing in which they can relate back to as a study aid 

Practical Project (developing the model house) –Aims and objectives.

Aims of Scheme	Statement of objectives
• To stimulate the development of a range of manipulative skills through processing card and other materials. These skills are also transferable to the construction of the flower boxes for their science project.	Pupils will be able to demonstrate the correct and efficient uses of each tool 

• To promote safety within the workshop in terms of hand tools, glues and processes	-Pupils will be able to demonstrate and apply the safe usage of each of the hand tools -Pupils will have respect for each other and the environment in which they work 
• To develop the pupils cognitive and psychomotor skills through the completion of various engaging practical project	-Pupils will learn how to correctly and efficiently mark out and process a range of techniques -Pupils will build on their psychomotor skills and appreciation for the subject through completion of a motivating and engaging project
• To develop the students understanding of the drawing by bringing it to life as a 3d model	-Pupils will be able to use different colours to represent each element of the drawing -Pupils will draw from this process and will get to build a strong connection with its development 

Rationale for Selection and Structuring of Subject matter:

Selection of Subject matter:

The subject matter can be divided into two main areas of selection – practical and theory. The selection of content that I will be teaching the students are of significant educational value to the pupils. Design is vital not only in school but is a vital aspect of everyday life around us and something which I personally feel there should be more emphasis on in schools.

I am teaching these topics as I feel they will improve student's motivation to design and also increase their actual designing abilities as the capability to design is something which every student has and should be practiced. As well as this, the topics are important to learn in terms of the overall building of a domestic house. It is motivational and interesting for the pupils to learn how houses are built and operate. The project I have selected to complete in the practical side is aimed at developing the pupils processing skills and accuracy.

Structuring of Subject matter:

As with any transition year class it has various disruptions throughout the year. I feel this is the best project that students can come in and out of and even work on at home so they don't feel like there left behind. At the end of the period I hope each student to have their own model fully finished to each students best ability and who ever continues on with the construction studies programme has a good resource to carry forward.

Planning for the first four weeks (revision to be taken into account at the midterm)

Week 1:

- ✓ Introduce the topic of design to the pupils and thinking outside the box.
- ✓ Link this to the project that I set them (Scale House) where they will design their own with the influence of their own home.
- ✓ Students will be sketching their own house in the first few lessons with changes or improvements they would make themselves to it

Week 2:

- ✓ Finalising designs.
- ✓ Students will be given proper dimensions for roof heights doors, windows...etc. in which they will transfer on to there on drawing
- ✓ Producing detailed drawings on A3sheets first.

Week 3:

- ✓ Once students get approval by me of the detailed drawing they can transfer on to the card
- ✓ Each student only gets on big sheet of card so they must use the sheet wisely and optimise the whole sheet

Week 4:

- ✓ A demonstration will be given on marking out and how the card is cut out.
- ✓ Demonstrating best practice on use of tools.
- ✓ Students will begin to process the card.

Week 5 to 10

- ✓ Will be spent developing their practical skills as the model house progresses to a larger scale MDF model where the students will develop skill in relation to working with different materials. The students will also be asked to work on their flower boxes in collaboration with their science project.

Week 10

- ✓ The students will be asked in their groups to present what they have learned over the previous weeks in relation to their groups topic along with their model houses.

Resources

For the theory:

- PowerPoint
- Visualizer
- Blackboard
- Drawing kits
- Hand outs
- Videos
- Model of house

- Worksheets
- Textbook (maybe)

Practical work:

- PowerPoint
- Scaled drawings
- Tools
- Completed project to show the pupils

Organisation of Learning Experience:

In order to keep the pupils motivated and interested, as well as under control, I will have to use a range of teaching and learning strategies. As Yellon (1996) states, every lesson should include:

- ✓ Motivational activity
- ✓ Orientation activity
- ✓ Information activity
- ✓ Application activity
- ✓ Evaluation activity

It is important I structure each lesson logically, so I will plan my lessons based on the PAR model of learning – Present, Apply and Review. This way I can start each lesson by linking it to their previous knowledge, and finish up by reviewing the key points and concepts learned. Many students see the theory as the "boring" part of the construction syllabus. From this, it is essential I get the pupils motivated at the start of each theory lesson. I could do this by starting with a question, relate the content to what they know, and constantly question the pupils throughout the lesson. I will try to question the students as much as possible during class to keep them interested and on their feet. Pupils will be encouraged to speak up in class and to both ask and respond to questions, thus developing their communication skills, self-esteem, confidence and ability to interact with others. I believe pupils take in a lot more of what they see over what they read (Edgar Dale), so I will be using plenty of models and visual resources to make the content more interesting and easier to learn. For the practical side, I will be introducing n

Design of Assessment Procedures:

In order to assess the pupil's efforts in the theory/practical classes, I will be reviewing their work and taking note of who performed well/poor each day. I will be examining their drawing skills and competence in practical procedures . At the end of each lesson I will be questioning the pupils using higher order questions to get them thinking and engaged. Pupils will be assessed on:

- Correct scale and size of drawings
- Neatness of drawings
- Quality of practical work
- Engagement in class
- Ability to answer questions
- Knowledge on subject matter

I will be circulating the room during processing activities and questioning the pupils on their knowledge of the techniques. I will expect the pupils to demonstrate very accurate and neat work when it comes to the model, as this is exactly what is being examined in a leaving cert project such as this.

At the end of the 10 weeks the final assessment will take place. The students will be asked to present in their groups what they have learned throughout the course on their specific topic using an A2 poster accompanied with their model house.

The student's engagement in relation to the making of the flower boxes will be included along with the overall quality of the finished product.

Structure of Self-Appraisal:

At the end of each lesson it important for me to reflect on how that lesson went which will include identifying the good points of the lesson as well as areas that need improvement. In order to evaluate the lessons successfully, I will use Brookfield's four lenses model. Ultimately, this will lead to me improving my teaching by being honest with myself. It is important that I ensure that I am achieving my aims and objectives which I have set for each lesson. I also have to ensure that I am challenging the pupils and ensure that they are learning. This can be achieved by asking a variety of questions including cognitive and/or affective questions. The following sources will be used to ensure an affective self-appraisal takes place:

- Co-operating teacher's feedback.
- Student's feedback.
- Tutor's feedback.
- Results of group work and other activities.

Kyriacou (1998) states that teachers must rehearse each lesson beforehand and make sure to have back up material in case the lesson does not go to plan. As a teacher I plan on always having a plan B.

Another form of self-appraisal will be to observe the pupils behaviour after the first week and make adjustments to my discipline strategies if needed. I aim to create a warm classroom environment where pupils will feel free to ask questions without being ridiculed, but a classroom that is free of bad behaviour and messing.

Special requirements for this class

N/A

Catering for Literacy and Numeracy

As this subject is primarily based around the use of measurements the students will be engaged on a daily basis in activities that will develop their numeracy skills. It is important that the lessons are developmental and the student's skills are challenged as the weeks go on. In relation to literacy the students will be asked to design a poster for each topic of the house construction they are required to research. This will then be presented to the class. Therefore the students will be engaging in keywords they will have never of came across before and developing decorative and memorable ways in which to present them to the class.