

Subject	Grade	Stream	Week Commencing	Week No	Period	Chapter	Page No	Overview	Vocabulary	SLO Codes (with comma)	Assessment Focus
Design Technology	8	General	2nd Spetmber	1	1	1	14-20	Introduce 3D printing to students. Go through the overview and discuss what they will be working on in this term. Show them some examples of 3D printed objects and ask them for their understanding of 3D printing. Go through the keywords, learning outcomes and overview of unit 1. talk about additive and subtractive manufacturing. Students to complete <b>Activity 1</b> . Discuss CNC, End of lesson discuss students understanding of 3D printing.	3D printing, subtractive, prototyping, Filament , CNC		Students to understand the concept of 3D printing. Completed Activity 1
Design Technology	8	General	2nd Spetmber	1	2	1	21-24	Discuss advantages and disadvantages of 3D printing. Students to highlight the key advantages and disadvantages and as a class discuss come up with more advantages and disadvantages apart from ones mentioned in book. Students to complete <b>Activity 2</b> and <b>Activity 3</b> . Go through FDM and parts of FDM printer.	mechanical, 3D modelling software, ABS plastic, PLA, polyamide, laying down, FDM, parts of FDM printer		Students to be able to identify advantages and limitations of 3D printing. Completed Activity 2 and Activity 3
Design Technology	8	General	2nd Spetmber	1	3	1	24-29	Go through filament and material types, ABS and PLA. Discuss both types of material and identify the difference between them. Go through <b>Activity 4</b> and end of unit summary. Complete <b>pop-quiz 1</b> .	Filament , ABS, PLA		Check that students understand the different types of Filaments. Completed activity 4 and pop-quiz 1
Design Technology	8	General	9th September	2	1	2	32-36	Introduce students to design process. Go through the keywords, learning outcomes and introduction to design process. Complete <b>Activity 1</b> .	engineering problem, brief, end products, design criteria		Ensure that students read and understand design process. Share answers of different students for Activity 1.
Design Technology	8	General	9th September	2	2	2	37-39	Introduction to fusion 360. Go through different options available in Fusion 360. Give students time to explore the software interface. Students to complete <b>Activity 2</b> by looking at different menu options. Go through some basic shortcut options which they can use during designing objects.	Fusion 360, interface		Ensure that students are able to open the Fusion 360 and are familiar with the basic options in Fusion 360.
Design Technology	8	General	9th September	2	3	2	39-43	Students will be designing first object (Keychain) in Fusion 360. Students to follow step by step guide to complete the keychain. Demonstrate some main skills students need to know before asking them to follow step by step guide. Ensure that students know how to use, ViewCube, Axis, Canvas etc.	ViewCube, Axis, Canvas, Extrude, Offset, Conic Curve		Review the progress of step by step guide Students need to use the correct tools mentioned. Check the understanding of different tools they have used.
Design Technology	8	General	16th September	3	1	2	43-46	Finish off with the keychain. Ensure that students add text and engrave the text using correct dimensions. Students to save the work and complete <b>Activity 3</b> . <b>Activity 3</b> can be completed by reviewing the keychain on computer. Student can do this by reviewing each other's work and complete this activity.	tools, engrave, extrude, STL file		Check the finished keychain. Print if possible and review completed Activity 3.
Design Technology	8	General	16th September	3	2	2	47-50	Students to complete <b>Activity 4</b> as starter activity. Follow Box and Hole step by step guide to create a pen holder. Go through the tools needed to do this task. Demonstrate the key points using Fusion 360. Ensure that students know the end product. Students to complete <b>Activity 5</b> . Remind students to save the work.	Pen holder, create sketch, hole, Box		Check the pen holder designed by students. Ensure that students have used the tools correctly and are able to describe the tools they have used.
Design Technology	8	General	16th September	3	3	2	51-54	Students to complete the <b>Task sheet</b> which is based on pen holder. Go through the brief and explain the task sheet. Check the students understanding of task sheet. Here they can use two shapes either cylindrical or cuboid. They need to work on dimensions and main part is to add text on at least two sides. They must align the text properly and extrude it so that it looks good on pen holder. Complete <b>Activity 6</b> work plan, draw the pen holder and complete planning sections.	cuboid , cylinder, work plan, dimensions		Check that students have completed work plan, design and planning properly.
Design Technology	8	General	23rd September	4	1	2	55	Students to design the pen holder using Fusion 360.	Fusion 360, Design		Check that the pen holder meets the planning stage and follows work plan steps.
Design Technology	8	General	23rd September	4	2	2	55-57	Students to complete self-evaluation section in the book. Students can amend the pen holder if they want based on evaluation. Go through end of unit summary.	self-evaluation, teacher evaluation		Teacher to complete the Teacher evaluation and award marks based on set criteria.
Design Technology	8	General	23rd September	4	3	2	Improve ment Lesson	Check through assessments and feedback from pop quiz and task sheets. Ensure that students have made changes based on feedback. Use this lesson to complete any outstanding work for Unit 1 and Unit 2. Look through the book and ensure that students have completed all the activities.			Look through the books and ensure that students have completed all the activities.
Design Technology	8	General	30th September	5	1	3	60-65	Go through lesson overview, keywords and learning outcomes. Talk them through design process and ask them to recall what they learnt about design process in previous unit. Students to complete <b>Activity 1</b> by matching the definition with correct word. Go through designing a phone stand and a brief. Students to complete <b>Activity 2</b> .	Design process, Brief, Phone Stand, Innovative, Dimensions		Review the answers to Activity 1 and Activity 2. Ensure that students understand the brief and are able to analyse the brief.
Design Technology	8	General	30th September	5	2	3	66-69	Students to work through research and investigation section. Students to carry out some research on existing phone stands. They can look at branded and non-branded stands. Students to complete Activity 3. Before they complete <b>Activity 3</b> , show them some research techniques such as using Boolean operators when using search engines, show them how to refine the search and look for specific information etc. Go through possible solution and students to complete <b>Activity 4</b> . Ask them to draw the stand they want and show it from different angles. They can split the box in different sections to show different sides. Finally, they discuss advantages and disadvantages by explaining the reasons.	Analyse, suitability		Validity of research carried out by students. Completed Activity 3 and 4.
Design Technology	8	General	30th September	5	3	3	70-71	This lesson leads on from previous lesson, where students were given the task to research on four different existing phone stands. Now they need to look at the details and get some measurements. This can be done by using the ruler or tape measure, or they can go on the phone website and get the dimensions from there. It's really important for them to get the correct dimensions as phone stand will be based on these dimensions. Students to complete <b>Activity 5</b> and write down the dimensions.	Dimensions, requirements, measuring tape		Ensure that students have used reliable websites for research and have written down the dimensions correctly. Check answers to Activity 5.
Design Technology	8	General	7th Octotber	6	1	3	72-75	Once all the planning is complete, now students need to design the actual 3Dmodel based on the information they have collected. Each student will have different dimensions as they have different phones and different requirements. This will be done in Fusion 360. Students to open Fusion 360 and start following the step the step guide. Ensure that students save the work as they will need this for next lesson. Complete the N shape in this lesson.	Dimension tool, offset tool		Ensure that students are familiar with saving work and have saved the work correctly. Review the shape they have created and ensure that dimensions are all correct.
Design Technology	8	General	7th Octotber	6	2	3	76	Open the phone stand started in last lesson. Now use the trim tool to remove unwanted lines inside the body of phone stand. Straighten up any lines which are not straight using horizontal vertical option. Finally, adjust the dimensions using the dimension tool. When adjusting the dimensions, ensure that front support is small and designed in the way that the Home button or other buttons such as back and settings can easily be accessed. Students can change the design and have a curve in the front or can keep it straight as shown in step by step guide. Once completed they will have a nice and balanced phone stand which will have correct dimensions according to your phone. Ask students to refer back to Analysis for correct dimensions. Remind students to save the work as they go along.	Trim tool, thickness		Ensure that students have used correct dimensions
Design Technology	8	General	7th Octotber	6	3	3	77-80	This lesson will finish off the phone stand using the features students have already used. Once the phone stand is complete ask students to extrude the phone stand to give it some thickness. Ensure that they keep this to minimum to reduce the print time. Once extruded use fillet tool to smooth the edges. This will give a nice look and feel to the phone stand. Once the stand is created need to think of removing unnecessary material as 3D printing time depending on material, size and type of printer used. Now remove the unnecessary material by making hole at the back of stand as this is unused space and doesn't require to be filled in. students can make more amendments as long as the stand is able to hold the phone.	Engrave, edges, fillet tool		Assess the overall 3D model and ensure that they have followed step by step guide. Remember to check the dimension.
Design Technology	8	General	14th October	7	1	3	80	Students to complete <b>Activity 6</b> . Ensure that they make suggested changes and others if they wish to. Teacher to approve the design so that they do final changes and render the model. Students to fill in the Activity 6 table.	tools		Review the phone stand and answers to Activity 6.
Design Technology	8	General	14th October	7	2	3	81-83	Students to work on showcasing the phone stand by changing the appearance of it. This can be done by following the steps in book. Choose different options. Students can change the colour of each side or use one colour. Ask students to explore different options and once they are ready they can then render using the Render mode. This will allow them to see the object as it will look once printed. Students to complete <b>Activity 7</b> . <b>Start Activity 8</b> . Complete the evaluation section based on the phone stand. Explain each question to students and ask them write answers in detail explaining the work they have done.	Render, appearance		Review the completed model and ensure that students have explored different options. Check the answers to Activity 7.
Design Technology	8	General	14th October	7	3	3	84-88	Finish off the evaluation section. Go through the end of unit summary. Students to complete Pop quiz 2 in this lesson.	personalise, evaluation		Check the evaluation section and answers to pop quiz 2.
Design Technology	8	General	21st October	8	1	4	92-98	Go through lesson overview, keywords and learning outcomes. Recap on previously used tools and the new tools students are going to use. Students to open fusion 360 and go through the tools and review the menus to find the new tools. Students to complete <b>Activity 1</b> . Students to go through the Revolve tool and follow step by step guide.	Tools, revolve tool		Check the answers to Activity 1 and ensure that students have used revolve tool.
Design Technology	8	General	21st October	8	2	4	99-102	Go through <b>Activity 2</b> . Ask students to explore and practice the revolve tool. Work through the revolve using a line tool and see what can be created using revolve and line tool. Complete <b>Activity 3</b> and ask students to fill in the book. Keep students focused on using the tools mentioned in the book. They can explore other tools once they have shown good grip on tools used in the book.	Spline tool, Curved line, Axis		Ensure that students have created different models and have saved the work.
Design Technology	8	General	21st October	8	3	4	103-105	Go through Sweep tool. Ask students to follow step by step guide. Explain <b>path</b> and <b>profile</b> to students. Students to complete <b>Activity 4</b> to draw a staircase. It can be easily achieved by using rectangle and a line tool. Ask students to fill answers in the book.	Sweep tool, path, profile, curve		Check that students have completed Activity 4 and have used correct tools.
Design Technology	8	General	28th October	9	1	4	106-108	Students to use Cylindrical tool to design different shapes. This also important as this can be really helpful in unit 5. Students to follow <b>step-by-step guide for creating the body and neck</b> . This is really important as this shape can be adapted to create different 3D objects.	Cylindrical tool, Edit Form, Sculpt mode. Alt Key, Modify		Check that students have created a bottle neck using the tools mentioned. They can use other tools to achieve the same result.
Design Technology	8	General	28th October	9	2	4	108-109	Students to follow the step by step guide to create the round bottom of the bottle. This can be very difficult if the area is not selected correctly. Once the bottom is created then close the gap using fill hole tool.	Fill hole tool, Collapse		Check that students have used correct tools and filled the hole properly.
Design Technology	8	General	28th October	9	3	4	109-110	Finally, create a bottle grip by pulling or pushing the bottle body inward or outward. Once this is completed then give some thickness to the bottle so that it has some weight.	Inwards, outwards, pull, push, thickness		Ensure that students are using correct tool to modify the body.

Design Technology	8	General	4th November	10	1	4	111-112	Students to work on task sheet. Task sheet is based on different activities completed in this unit. Students can use the work they have already done in this unit. Read the task sheet to students and ensure that they understand the task and different requirements. There is an activity to create a bottle neck in this task where students need to use the skills learnt. Students to work on <b>Activity 5</b> in this lesson. Identify the work plan, as the steps need to use to achieve the objective. Remind them about getting correct dimensions. They then sketch the bottle they want in book or on the paper. They also need to write down the dimensions of the desired bottle.	Dimensions, tools, thickness, grip	Review the paper design and dimensions. Ensure that they have correct dimensions.	Task sheet 2	
Design Technology	8	General	4th November	10	2	4	113	Students to plan the tools they are going to use. This can be done as a class discussion or starter activity. Students then need to start designing using Fusion 360. Give students set time to design. They can use the book to help them.	Tools, Fusion 360	Review the created bottle. Remind students to look at the work steps and self-evaluation to guide them through the things needed for this task.	Task sheet 2	
Design Technology	8	General	4th November	10	3	4	113-115	Students to finish off any work left from previous lesson. Students to complete self-evaluation and ensure that they save the work as they go along.	Self-evaluation, criteria, Teacher evaluation	Teacher to evaluate the entire project and award marks according to mark band.	Task sheet 2	
Design Technology	8	General	11th November	11	1	5	118-123	Go through unit overview, keywords and learning outcomes. Explain the Hop Probe and what it is for? Introduce the project, read the brief and ask students to complete <b>Activity 1</b> .	Hop Probe, hexagonal-section, aluminium, infrared spectrometer, Mars	Review the task requirements and ensure that students have understood the task and have completed activity 1.	Project	
Design Technology	8	General	11th November	11	2	5	123-124	Students to work on Analysis of brief. Complete Activity 2. Here write the key points students have identified from brief. This will also become a checklist of designing. Students then need to write brief in their own words. They don't need to copy everything from brief, just the main points they have understood from the brief.	Analysis of brief, brief	Review the work students have completed in this section and award marks accordingly.	Project	
Design Technology	8	General	11th November	11	3	5	125-127	Students to plan and sketch the model in this stage. This is important part as in this section students will need to carry out research on existing probes. Students to complete Activity 3 and Activity 4.	Dimensions, research, existing	Review Activity 3 and Activity 4. Award marks according to the marking criteria.	Project	
Design Technology	8	General	18th November	12	1	5	128-130	Complete Activity 5 by sketching your probe. Complete Activity 6 by identifying the work steps in order to design the probe in Fusion 360. List tools, dimensions, shapes etc students are going to use. Once completed students need to start designing probe in Fusion 360. Remind students to focus on project brief and assessment criteria. Students to save work as they will need to continue working in this in next lesson.	Probe, tools, work plan, criteria	Review activity 5 and award marks accordingly. review the work completed by students in this lesson.	Project	
Design Technology	8	General	18th November	12	2	5	130	Students to continue working on designing the probe. Remind them to review assessment criteria and design the probe which meets the brief. Complete Activity 7. Students to print the model once completed and paste it in the book.	Review, interesting feature	Review Activity 7 and mark the work accordingly.	Project	
Design Technology	8	General	18th November	12	3	5	131-134	Students to finish off any work left and complete self-evaluation. This needs to be done in detail in order to get good marks. Ask students to explain each question. Students to get teacher and test buddy feedback at this stage as well.	Self-evaluation, teacher feedback, test buddy feedback	Review Activity 8 and award marks accordingly. Teacher to finalise the marks and add marks given for each section.	Project	
Design Technology	8	General	25th November	13	1			Contingency Time				
Design Technology	8	General	25th November	13	2			Contingency Time				
Design Technology	8	General	25th November	13	3			Contingency Time				
Design Technology	8	General	2nd December	14	1			Contingency Time				
Design Technology	8	General	2nd December	14	2			Contingency Time				
Design Technology	8	General	2nd December	14	3			Contingency Time				