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للتحدث إلى بوت المناهج على تلغرام: اضغط هنا

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Grade	8	Subject	DT	Lesson Numbe	er 1	Week number	1	
Unit		Date		Time		Page numbe	r	
1		WC: 02/09	/18	45 minut	es	14-20		
Equipme	nt re	quired:		Learning object	<u>tives</u>			
Grade 8 k	book			1.1 Demonstrate	e an unde	rstanding of <b>3D prir</b>	nting.	
pen/penc	:il			1.2 Compare th	e <b>advanta</b>	ges and disadvanta	ges of	
				3D printing.		-	-	
				1.3 Recognise tl	ne differer	nt hardware and sof	tware	
				used for 3D	printing.			
				Examine differ	ent 3D pr	rinting <b>devices</b> and	the	
				purpose of eac	h device			
Keywords			3D printing, su	btractive	, prototyping, filar	nent,		
			CNC					
Starter/In	trod	uction activity						
Time		Discuss 3D prir	nting. Asl	< students for th	eir unde	rstanding. Teachei	r can	
10 Minut	es	show them videos on 3D printing. Teacher can use the links below						
Арр		https://www.yo	outube.co	om/watch?v=Vx	0Z6LplaN	<u>//U</u>		
			• .• .					
Time		Introduce 3D p	orinting to	o students.	hat thay	will be working o	n in	
		this term Show	thom of	w and discuss w	f 2D prin	will be working of	n In ck	
		them for their	understa	anding of 3D printing				
		Go through the	e keywor	rds, learning outcomes and overview of unit 1.				
		Talk about <b>add</b>	litive and	l <b>subtractive</b> ma	nufacturi	na	C 1.	
		Students to co	mplete A	ctivity 1. Go thr	ouah the	answers to the		
		activity. Teache	er to disc	uss the answers	and ask	students to share	their	
		answers.						
		Discuss CNC a	nd differe	ent modelling so	oftware a	vailable.		
		Activity 1: {						
	Write down if the image shows Additive or Subtractive manufacturin						ring.	
		S	hutterst	JCK P	Subtracti	ive		

	shutterstock om - 336055742	Additive				
	Www.shutterstock.com · 201167624	Subtractive				
	ww.shutterstock.com - 676361872	Additive				
	ww.shutterstock.com - 1026829204	Additive				
	}					
Plenary						
IIme	At the end of the lesson, discuss with students their understanding of 3D printing. Ask them direct questions.					
<u>Assessment</u>	Students to understand the concept o	f 3D printing. Complete Activity				
<u>focus</u>	1.					
Learning	The entire course plus specific instruct	tional videos are available on				
<u>curve</u>	Learning curve via this link.					
	Click <u>here</u> to open the link.					

Grade	8	Subject	DT	Lesson Number	2	Week number 1	
Unit		Date		Time		Page number	
1		WC: 02/09	/18	45 minutes 21-24			
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 k	oook			1.1 Demonstrate a	n unde	rstanding of <b>3D printing</b> .	
pen/penc				1.2 Compare the <b>a</b>	dvanta	<b>ges</b> and <b>disadvantages</b> of	
				3D printing.			
				1.3 Recognise the	differer	nt hardware and software	
				used for 3D pri	nting.		
				1.4 Examine differe	ent 3D	printing <b>devices</b> and the	
				purpose of eac	h devic	ce.	
Keywords	5			mechanical, 3D m	nodelli	ng software, ABS	
				plastic, PLA, polya	amide,	laying down, FDM,	
				parts of the FDM	printe	r	
Starter/In	ntrod	uction activity					
Time		Discuss the impact of 3D printing in our daily lives. Ask students if the					
	es	know of any real-life 3D printing examples. Show them a short					
Арр		below.	outube co	om/watch?v=llaAv		Δ/	
		<u>III(p3.//www.yc</u>	Jutube.co				
Main							
Time		Teacher to di	scuss ac	lvantages and dis	sadvar	tages of 3D printing.	
		Students to high	ghlight t	he key advantages	s and o	disadvantages and as a	
		class discussio	n, come	up with more ac	lvanta	ges and disadvantages	
		apart from one	s mentic	oned in the book.			
		Students to co	mplete /	Activity 2 and Acti	vity 3.	This can be done as a	
		paired activity	or in gro	ups of four.			
		Teacher to go	throug	n FDM and parts	of FD	M printer. Explain the	
		different parts.	Teache	r can show studer	nts diff	ferent parts or can ask	
		students to car	ry out a	short research on e	each p	art and explain it to the	
		class.					
		Teacher can di	istribute	e one or two components to different group of			
		students. Each	group ca	can then share their finding to the class.			
		Teacher can sh	ow this <b>\</b>	video to the class b	based o	on time.	
		https://www.yo	outube.co	<u>com/watch?v=GxLjDNrQBgs</u>			

	Activity 2: {									
	Fill in the blanks using the words pr	ovided.								
	1. 3D printing is also known as the ad	1. 3D printing is also known as the additive manufacturing process.								
	2. 3D printers work by laying down successive layers of material until the object is created.									
	3. Some common types of 3D printing materials are: ABS plastic, PLA, polyamide (nylon), glass-filled polyamide), silver, titanium, steel, wax and many more.									
	4. 3D printers are very powerful printers that are designed using various mechanical and electrical components.									
	5. 3D printers cannot work without th	e help of 3D modelling software.}								
	Activity 3: {									
	Mark True or False for each stateme	nt below:								
	3D printers allow you to print	True								
	day-to-day objects.	True								
	objects.	The								
	3D printers cannot be used in the medical industry.	False								
	The cost of printing 3D items is very cheap compared to factory made items.	False								
	3D printed objects do not have smooth finishing compared to industry machines.	True								
Planan	,									
Time	Recap todays learning. Teacher can	prepare specific questions from								
	the topics covered and those questions in class.									
Assessment	Students to be able to identify adva	ntages and limitations of 3D								
<u>focus</u>	printing. Complete Activity 2 and Ac	ctivity 3. Show an understanding of								
Learning	The entire course plus specific instru	uctional videos are available on								
curve	Learning curve via this link.									
	Click <u>here</u> to open the link.									

Grade	8	Subject	DT	Lesson Nur	nber	3	Week number	1
Unit		Date		Tir	ne		Page numbe	r
1		WC: 02/09	/18	45 mi	45 minutes 24-29			
Equipme	nt re	quired:		Learning ol	ojectiv	<u>es</u>		
Grade 8 k	book			11 Demons	trate a	n unde	rstanding of <b>3D prin</b>	ntina
pen/pencil				12 Compare	e the <b>a</b>	dvanta	nes and disadvantad	nes of
				3D print	ina	aranta	geo ana disuditunta	<b>JCO</b> 01
				1 3 Recogni	se the	differer	nt <b>hardware</b> and <b>sof</b>	tware
				used for	3D nri	ntina		tirare
				14 Examine	differe	nt 3D	printing <b>devices</b> and	1 the
					of eac	h devic		i the
-				puipose				
Keywords				filament, Al	BS, PL	A+J3		
Starter/In	ntrod							
lime		Recap parts of	FDM pri	nter.				
	es							
App								
Timo		Co through file	montan	d material t	,	DC an		
Time		Go through his	inent an	u materiar ty	pes, r		U FLA.	
		Discuss both t	types of	material an	d ide	ntify t	he difference bet	ween
		them. Teacher	can gath	ner different	types	of ma	terial before the le	esson
		and show the s	tudents i	in class. This can also be done online by showing				
		them videos or	rimages	of each type	<b>.</b>			_
		Go through Ac	tivity 4 a	nd end of ur	nit sun	nmary.		
		Activity 4: {						
		Match the wor	d with th	e correct de	scripti	on.		
		Motors			Forces the filament into the		filament into the	
		Allows the he	ated noz	zle to	heate	ed nuz	zle.	
		move in X, Y a	and Z po	sition.	11 *- 1			
		PLA A relaction the st			It is r	not bio	degradable, nor e	co-
		A plastic that	meits an	a becomes	trien	aly, and	d is made from	
Extruder		.er neatif	ıy.		ve the l	hasted pazzla to		
		Extrucer Eorces the file	mont int	o the	Allow	in X	V and 7 position	
		heated nuzzle			move	Ξ III Λ,		
		ARS	*•		This	s the r	naterial (usually	
					nlast	ic) that	will be used to	
				produce the printed object.				

	It is not biodegradable, nor eco- friendly, and it is made from						
	Filament This is the material (usually plastic) that will be used to produce the printed object	Plastic that melts and becomes mouldable after heating.					
	<pre>POP Quiz Teacher Answers</pre>	11					
	1	В					
	2	D					
	3	C					
	4	A					
	5	C					
<u>Plenary</u>							
Time	Students to complete <b>pop-quiz 1</b> . T	his can be done in exam conditions.					
	Go through the end of unit summar	y before students attempt to do the					
	pop-quiz.						
Assessment	Check that students understand the different types of filaments.						
<u>focus</u>	Complete Activity 4 and pop-quiz 1						
Learning	The entire course plus specific instr	uctional videos are available on					
<u>curve</u>	Learning curve via this link.						
	Click <u>here</u> to open the link.						

Grade	8	Subject	DT	Lesson Number	1	Week number	2
Unit		Date		Time		Page numbe	r
2		WC: 09/09	/18	45 minutes 32-36			
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 k	book			1.1 Explain the <b>des</b>	ian pro	cess and evaluate t	he
Pen/pencil			aiven <b>Obiect</b> .	5 1		-	
Computers			1.2 Demonstrate a	n unde	rstanding of <b>Fusion</b>	360	
Autodesk	c Fus	ion 360 software	5	3D printing sof	tware.		
				1.3 Use the 3D Obi	iect file	and apply basic	
				formatting befo	ore prir	nting.	
				1.4 Analyse the ob	iect and	d <b>refine</b> the printed	
				Object.	,	- · - · · · · · · · · · · · · · · · · ·	
Keyword	S			engineering prob	lem, b	rief, end products,	ı
			design criteria				
		Teacher to put	a questi	on on the board al	oout ti	ne process of maki	ing
10 Minut	es	an object. This	can be a	i chair, table, buildi	ng, ca	r etc. Ask them to	write
Арр		down the basic	the close	no material require	eu. to choi	ra tha anguara with	h tha
		class	the class	and ask students	to shai	re the answers with	n the
Main		Class.					
Time		Teacher to lea	d discus	sion from starter	and n	nove on to the d	esian
		process for de	sianina	3D objects Intro		students to the d	esian
		process for de	Jighing	5D objects. Introt	auce s		csign
		process.					
		Go through th	e keywo	rds, learning outco	omes a	and introduction to	o the
		design process	•				
		Complete Activ	v <b>ity 1</b> . Th	nis can be done as	a gro	up activity. Answe	ers to
		this activity w	ill vary	as students will o	choose	different objects	s. Go
		through the ex	ample ai	nswer before stude	ents sta	art <b>Activity 1</b> .	
Plenary							
Time		Ask students to	explain	the design process	and d	ifferent stages invo	olved
-		in the design	nrocess	Prepare questions	s hefo	re the lesson You	l can
		nrint the quest	ions or s	how them on the k	o o o o r d		
		print the quest			Juard.		
Assessme	<u>ent</u>	Ensure that all	the stud	ents read and understand the design process.			
<u>focus</u>		Share answers	of differe	ent students for <b>Ac</b>	tivity '	1	

<u>Learning</u>	The entire course plus specific instructional videos are available on
<u>curve</u>	Learning curve via this link.
	Click <u>here</u> to open the link.

Grade	8	Subject	DT	Lesson Number	2	Week number 2	
Unit Date		Time Page number					
2		WC: 09/09	/18	45 minutes	45 minutes 37-39		
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 k	book			1.1 Explain the <b>des</b>	ian pro	cess and evaluate the	
pen/penc	pen/pencil			aiven <b>obiect</b> .	5 1		
Compute	rs			1.2 Demonstrate a	n unde	rstanding of Fusion 360	
Autodesk	c Fusi	ion 360 software	9	3D printing sof	tware.	5	
				1.3 Use the 3D Ob	ject file	and apply basic	
				formatting befo	ore prir	nting.	
				1.4 Analyse the ob	ject and	d <b>refine</b> the printed	
				object.		·	
Konverde				Eusion 360 interf	200		
Starter/Introduction activity			rusion 500, interi	ace			
Time		Introduce stud	ents to F	usion 360 Show t	hem th	e video of Fusion 360	
10 Minut	es	and demonstrate basics of Fusion 360.					
Арр		https://www.youtube.com/watch?v=beebJ6fgVPo					
Main							
Time		Teacher to go t	hrough	different options av	vailable	e in Fusion 360. Teacher	
		to demonstrate	e this on	the board using te	eacher	s PC.	
		Ask students t	o open	Fusion 360. Give	studen	ts time to explore the	
		software interfa	ace.				
		Students to co	mplete /	Activity 2 by looki	ng at d	lifferent menu options.	
		Go through so	me basi	ic shortcut option	s whic	h they can use during	
		designing obje	cts.	-			
		Answers of Act	: <b>ivity 2</b> w	vill vary as students	s migh	t pick different options	
		as each menu l	nas more	e than one option.	5		
DL				•			
Time		Co through the	0.000	of Activity 2 Acts	م مام ب	to if they have identified	
Time		Go through the	answers	S OF ACTIVITY 2. ASK S	studen aluten	is in they have identified	
		any new option	is or any	options they alread	аду кл	ew of?	
Assessme	e <u>nt</u>	Ensure that stu	dents ar	e able to open the	Fusior	n 360 and are familiar	
<u>focus</u>		with the basic of	options i	n Fusion 360. Cheo	ck the	answers of <b>Activity 2</b> .	
Learning		The entire cour	rse plus s	specific instruction	al vide	os are available on	
<u>curve</u>		Learning curve	via this	link.			
		Click here to open the link.					

Grade	8	Subject	DT	Lesson Number	3	Week number 2	
Unit		Date		Time		Page number	
2 WC: 09/09/18			45 minutes 39-43				
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 k	book			1.1 Explain the <b>des</b>	ign pro	ocess and evaluate the	
pen/penc	pen/pencil			given <b>object</b> .			
Compute	rs			1.2 Demonstrate a	n unde	rstanding of Fusion 360	
Autodesk	c Fus	ion 360 software	5	3D printing sof	tware.		
				1.3 Use the 3D Ob	ject file	and apply basic	
				formatting befo	ore prir	nting.	
				1.4 Analyse the ob	ject and	d <b>refine</b> the printed	
				object.	•	·	
Karavard	_					autoria affaat Cania	
Keywords			ViewCube, axis, c	anvas,	extrude, offset, Conic		
Starter/Introduction activity			curve				
Time		Recap the tool	s from p	revious lessons. Te	acher	can show some menu	
10 Minut	es	options on the	board a	nd ask students to	identi	fy the tool along with	
Арр		the purpose of	the tool	. Teacher can also	print s	ome tools and give	
		them to the stu	udents if	needed.	-		
Main							
Time		Students will b	e design	ing their first obje	ct (Key	chain) in Fusion 360.	
		Teacher to brie	fly demo	onstrate how to us	e Fusio	on 360. Go through the	
		main steps on	how to a	open Fusion 360. S	Show s	tudents how to choose	
		objects and dra	w them	on the canvas. Talk	k abou	t dimensions, axis, tools	
		etc. Students a	re to lea	rn how to use Viev	vCube.	Show students how to	
		save their work	and aiv	e a sensible name.			
		Once basic skil	is are de	monstrated, ask st	udent	s to follow the step-by-	
		step guide. Rei	mind the	m to save their wo	ork as t	hey go along.	
	Students will have another lesson				n off th	ne keychain.	
Plenary							
Time		Recap today's	esson. A	sk students questi	ons ab	out Fusion 360 and the	
		tools they have	used in	today's lesson. Teacher to ask students to come			
		to the front an	d show t	he whole class a to	ool the	y have used and how it	
		was used.				-	

Assessment	Review the students' progress of following of the step-by-step guide.
<u>focus</u>	Students need to use the correct tools mentioned. Check their
	understanding of the different tools they have used.
<u>Learning</u>	The entire course plus specific instructional videos are available on
<u>curve</u>	Learning curve via this link.
	Click <u>here</u> to open the link.

Grade 8	Subject	DT	Lesson Number	1	Week number	3	
Unit	Date		Time		Page numbe	r	
2	2 WC: 16/09/18			45 minutes 43-46			
Equipment re	quired:		Learning objectiv	<u>es</u>			
Grade 8 book			1.1 Explain the <b>des</b>	ian pro	cess and evaluate t	he	
pen/pencil			aiven <b>obiect</b> .	5 1			
Computers			1.2 Demonstrate a	n unde	rstanding of Fusion	360	
Autodesk Fusi	ion 360 software	5	3D printing sof	tware.			
			1.3 Use the 3D Ob	iect file	and apply basic		
			formatting bef	ore prir	ntina.		
			1.4 Analyse the ob	iect and	d <b>refine</b> the printed		
			obiect.	<i></i>	- · · · · · · · · · · · · · · · · · · ·		
Keywords			tools, engrave, ex	trude,	STL file		
Starter/Introd	uction activity		a chaire tha at a d			• • •	
lime	Students to op	en the k	keychain they star	ted de	signing in the pre-	vious	
	lesson.						
App							
Time	Teacher to dem	onstrate	some key tools su	ich as e	parave text tool	offcot	
Time	etc to students		e sonne key tools so		engrave, text tool, t	Jiiset	
	Students to fin	ish off t	he keychain. Ensure that students add text and				
	engrave the tex	xt using	correct dimensions	5.			
	Students to sa	ve the w	ork and complete	e Activ	ity 3. Activity 3 ca	an be	
	completed by I	reviewing	g the keychain on	a comp	outer.		
	Teacher to assi	ist in swa	apping the seats a	ind as	king students to re	eview	
	each other's wo	ork.			-		
Plenary							
Time	Students to rev	view the	feedback given an	d impr	ove the work base	ed on	
	feedback.			- 1-			
					· · ·		
Assessment	Check the finis	hed keyd	hain. Print if possi	ble and	d review complete	d	
<u>IOCUS</u>	ACTIVITY 3.			ما برنا م			
cupre	ine entire cour	se plus s	Specific instruction	ai vide	os are avaliable or	1	
	- Larning Cungo		link				

Grade	8	Subject	DT	Lesson Number	2	Week number	3	
Unit		Date		Time		Page number	r	
2		WC: 16/09	/18	45 minutes 47-50				
Equipme	nt re	quired:		Learning objectiv	<u>es</u>			
Grade 8 book pen/pencil Computers Autodesk Fusion 360 software <b>Keywords</b>			<ul> <li>Learning objectives</li> <li>1.1 Explain the design process and evaluate the given object.</li> <li>1.2 Demonstrate an understanding of Fusion 360 3D printing software.</li> <li>1.3 Use the 3D Object file and apply basic formatting before printing.</li> <li>1.4 Analyse the object and refine the printed object.</li> </ul>					
Starter/In	ntrod	uction activity				,,		
Time 10 Minut App	es	Students to con Activity 4 • ViewCube in • Fillet is used • Canvas is th • To engrave • To draw a C • In Origin yo	<ul> <li>Students to complete Activity 4 as a starter activity.</li> <li>Activity 4</li> <li>ViewCube is used to view 3D object from different angles.</li> <li>Fillet is used to convert the sharp edges into nice round edges.</li> <li>Canvas is the area where you sketch objects.</li> <li>To engrave the text, you can use the Extrude option.</li> <li>To draw a Conic Curve, you need to select three points.</li> <li>In Origin you can see select/deselect an axis</li> </ul>					
Main								
Time	me Teacher to demonstrate the key tools students are going to use in this lesson. Teacher to discuss different sub-menus such as Create Sketch, Hole, display settings etc. Students to follow the <b>Box and Hole</b> step-by-step guide to create a pen holder. Ensure that students know the end product.							
Plenary								
Time		Students to co	mplete <b>A</b>	<b>Activity 5.</b> Remind s	studen	ts to save their wor	rk.	
Assessme focus	<u>ent</u>	Check the pen used the tools used.	holder d correctly	esigned by studer and are able to d	nts. Ens escribe	sure that students h the tools they hav	nave ve	
Learning curve		The entire cour Learning curve	rse plus s via this l	specific instruction link.	al vide	os are available on	ì	

	Click <u>here</u> to open the link.
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Grade	8	Subject	DT	Lesson Number	3	Week number 3		
Unit		Date		Time Page number				
2		WC: 16/09	/18	45 minutes 51-54				
Equipme	nt re	quired:		Learning objectiv	<u>es</u>			
Grade 8 k	book			1.1 Explain the <b>des</b>	ign pro	ocess and evaluate the		
pen/penc	cil			given <b>object</b> .				
Compute	rs			1.2 Demonstrate a	n unde	rstanding of Fusion 360		
Autodesk	( Fus	ion 360 software	9	3D printing sof	tware.			
				1.3 Use the 3D Ob	ject file	and apply basic		
				formatting bef	ore prir	nting.		
				1.4 Analyse the ob	ject and	d <b>refine</b> the printed		
				object.				
Keywords	5			cuboid cylinder	work r	lan dimensions		
Starter/In	s ntrod	uction activity		cubola, cylliaer,				
Time						1		
10 Minut	es	leacher to go t	through	the task sheet obje	ectives	and task introduction.		
Арр								
Main								
Time		Students to co	mplete t	he <b>Task sheet</b> whic	h is ba	ased on the pen holder.		
		Teacher to exp	lain the	key points and di	scuss	the task with students.		
		Ensure that stu	dents cle	early understand th	ne task	requirements.		
		Teachers to dis	scuss dif	ferent tools studer	nts hav	ve used so far and help		
		them with the	design ic	leas.		ср		
		Check the stud	ents' uno	derstanding of the	task s	heet. Here they can use		
		two shapes e	ither cv	lindrical or cubo	id. Th	ev need to work on		
		dimensions and	d the ma	in part is to add te	ext on	at least two sides. They		
		must align the	text pro	nerly and extrude	it so t	that it looks good on a		
		nast alight the	idonts to	complete the <b>Acti</b>	vity 6	work plan draw the pen		
		belder and con	aplete pl	complete the Act	vity 0 \	work plan, draw the pen		
		noider and con	npiete pi	anning sections.				
		Students can c	ome up	with additional ste	ps if n	eeded. Once they have		
		discussed and	filled in t	he work steps, ask them to draw the object.				
Plenary								
Time		Ask students a	bout the	e choice and dime	nsions	they have chosen. Ask		
		then the reaso	ns to exp	lain their choices.				
			I-					

Assessment	Check that students have completed work plan, design and planning
<u>focus</u>	properly. Review the answers to <b>Activity 6</b> .
<u>Learning</u>	The entire course plus specific instructional videos are available on
<u>curve</u>	Learning curve via this link.
	Click <u>here</u> to open the link.

Grade	8	Subject	DT	Lesson Number	1	Week number 4	
Unit		Date		Time		Page number	
2		WC: 23/09	/18	45 minutes 55			
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 k	book			1.1 Explain the <b>des</b>	ign pro	ocess and evaluate the	
pen/pencil			given object				
Compute	rs			1.2 Demonstrate a	n unde	rstanding of the <b>Fusion</b>	
Autodesk	c Fusi	ion 360 software	2	<b>360</b> 3D printing	a softw	are.	
				1.3 Use the 3D Ob	iect file	and apply basic	
				formatting bef	ore prir	ntina.	
				1.4 Analyse the ob	iect and	d <b>refine</b> the printed	
				obiect.	<b>j</b>		
Keywords	s			Fusion 360, desig	In		
Starter/In	ntrod	uction activity					
Time		Recap Fusion 3	60. Ask s	students different	questic	ons on how to save	
10 Minut	es	work? Where is	s the Can	ivas? What are diff	erent r	nenu options? etc.	
Арр							
		Taraharata	·	la sta ta sa ta suba	11 -1		
Time		leacher to rem	iina stua	ients to review the	e task k	oriet. Students can look	
		at the work the	ey have a	already created in	this ur	nit or can use the book	
		as guidance.					
		Students need	to use	the information	from /	Activity 6. Students to	
		identify the too	ols they a	are aoina to use T	hev ca	in add more as they go	
		along These a	are the h	hasic ones they h	ave pr	eviously used and are	
		familiar with		Jusic ones they h		eviously used and are	
		Tarrinar With.					
		Students to de	sign the	pen holder using l	Fusion	360.	
<u>Plenary</u>							
Time		Ask a few stud	ents to a	demonstrate one s	skill the	ey have learned on the	
		teacher's PC.					
Assessme	ent	Check that the	pen holo	der meets the plan	ining s	tage and follows the	
focus		work plan step	S.	1 -	5	<b>J</b>	
Learning		The entire cour	se plus s	specific instruction	al vide	os are available on	
<u>curve</u>		Learning curve	via this l	ink.			
		Click <u>here</u> to o	oen the l	ink.			

Grade	8	Subject	DT	Lesson Number	2	Week number	4
Unit		Date		Time		Page numbe	er
2		WC: 23/09	/18	45 minutes		55-57	
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 book pen/pencil Computers Autodesk Fusion 360 software			<ul> <li>1.1 Explain the design process and evaluate the given object.</li> <li>1.2 Demonstrate an understanding of the Fusion 360 3D printing software.</li> <li>1.3 Use the 3D Object file and apply basic formatting before printing.</li> <li>1.4 Analyse the object and refine the printed object.</li> </ul>				
Keywords	s			self-evaluation, te	eacher	evaluation	
Starter/In	ntrod	uction activity					
Time		Students to op	en the p	en holder they hav	e crea	ted in the last les	son.
10 Minut	es						
Арр							
Main							
Time		Teacher to reca	ap the ta	sk. Remind student	s to re	eview the work pla	in and
		ensure that the	ey unders	stand the marking	criteria	а.	
		Students to fin	ish off d	esigning a pen ho	lder. C	Once designed the	ev can
		move on to the	self-eva	luation section in t	he boo	ok. Students can a	mend
		the pen holder	if they v	vant to based on e	valuati	ion	
					valuat		
<u>Plenary</u>							
Time		Ask a few stuc	lents abo	out their evaluatio	n and	ask them what c	an be
		improved if the	ey were t	o design the pen h	nolder	again.	
Assessme	ent	Teacher to con	nplete th	e Teacher evaluati	on and	award marks bas	sed
<u>focus</u>		on set criteria.					
Learning		The entire cour	rse plus s	specific instruction	al vide	os are available o	n
<u>curve</u>		Learning curve	via this	link.			
		Click <u>here</u> to o	pen the l	ink.			

Grade	8	Subject	DT	Lesson Number	3	Week number 4
Unit		Date		Time		Page number
2		WC: 23/09	/18	45 minutes		Improvement Lesson
Equipme	nt re	quired:		Learning objectiv	<u>es</u>	
Grade 8 book Pen/pencil Computers Autodesk Fusion 360 software			<ul> <li>1.1 Explain the design process and evaluate the given object.</li> <li>1.2 Demonstrate an understanding of Fusion 360 3D printing software.</li> <li>1.3 Use the 3D Object file and apply basic formatting before printing.</li> <li>1.4 Analyse the object and refine the printed object.</li> </ul>			
Keywords	s			self-evaluation, te	eacher	evaluation
Starter/In	ntrod	uction activity				
Time		Recap unit 2 ar	nd ask st	udents questions a	about	different tools they
10 Minut	es	have used. Ask	student	s to pick 2 tools th	ey hav	e used and explain
Арр		them to the cla	ISS.			
Main						
Time		Teacher to us outstanding we	e this le ork.	esson as a catch-	up le	sson to complete any
		Check through sheets. Ensure	assessm that stud	nents and feedbac dents have made c	k from hange:	the pop quiz and task s based on feedback.
		Look through t activities.	he book	and ensure that st	udents	have completed all the
<u>Plenary</u>						
Time		Recap end of u	ınit sumr	mary.		
Assessme	ent	Look through t	he book	s and ensure that	studen	ts have completed all
<u>focus</u>		the activities. N	<u>lark the</u>	task sheet 1 and a	ward r	narks based on criteria.
Learning		The entire cou	rse plus s	specific instruction	al vide	os are available on
<u>curve</u>		Learning curve	via this	link.		
		Click <u>here</u> to o	pen the l	link.		

Grade	8	Subject	DT	Lesson Number	1	Week number 5	
Unit		Date		Time	Page number		
3		WC: 30/09	/18	45 minutes 60-65			
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 k	book			1.1 Define the <b>des</b> i	ign pro	cess.	
pen/peno	cil			1.2 Examine the m	ain <b>des</b>	ign elements of a real	
Compute	rs			obiect before <b>s</b>	ketchir	<b>a</b> model.	
Autodesk	c Fusi	ion 360 software	9	1.3 Define and ske	tch the	design elements of a	
				chosen object	on pap	er.	
				1.4 Sketch the 3D	model i	using the skills learned.	
				1.5 Evaluate and re	evise th	e <b>design</b> to meet the	
				design criteria.			
	_				·		
Keyword	5			design process, b dimensions	oriet, pi	none stand, innovative	<u></u> ;,
Starter/In	ntrod	uction activity					
Time		Students to co	mplete <b>A</b>	ctivity 1 as a starte	er activ	vity. This will recap the	
10 Minut	es	design process	•				
Арр		Activity 1 {					
		Brief					
		Analysis of Brie	ef				
		Research and I	nvestiga	tion			
		Possible solution	ons				
		Selection of fin	al solutio	ons			
		Design chosen	solution	/ manufacture			
		Evaluation and	testing	of model			
		}					
Main							
Time		Teacher to go	through	n the lesson over	view, l	keywords and learnin	g
		outcomes. Go	through	n the answers to	Activ	i <b>ty 1</b> and ensure that	эt
		students under	rstand th	e design process.			
		Teacher to exp	lain the	task to students, v	which	is designing the phon	e
		stand.					
		Students to go	through	n the brief. Studen	ts can	work in pairs and rea	d
		and analyse the	e brief.				
		Students to co	mplete <b>A</b>	ctivity 2.			

	Activity 2 answers will vary as students will write the brief in their own						
	words. Ensure that they cover all aspects of the brief.						
<u>Plenary</u>	Plenary						
Time	Ask students to give feedback on Activity 2.						
<u>Assessment</u>	Review the answers to <b>Activity 1</b> and <b>Activity 2</b> . Ensure that students						
<u>focus</u>	understand the brief and can analyse the brief.						
<u>Learning</u>	The entire course plus specific instructional videos are available on						
<u>curve</u>	Learning curve via this link.						
	Click <u>here</u> to open the link.						

Grade	8	Subject	DT	Lessor	Number	2	Wee	k number	5
Unit		Date			Time		P	age numbe	er
3		WC: 30/09	/18	45 minutes 66-69					
Equipme	nt re	quired:		<u>Learni</u>	ng objectiv	<u>es</u>			
Grade 8 k	book			1.1 Def	ine the <b>des</b> i	ign pro	cess.		
Pen/penc	cil			1.2 Exa	mine the m	ain <b>des</b>	ign elei	ments of a re	eal
Compute	rs			obj	ect before <b>s</b>	ketchin	ng a mo	del.	
Autodesk	Fus	ion 360 software	5	1.3 Def	ine and ske	tch the	design	elements of	fa
				chc	sen object	on pap	er.		
				1.4 Ske	etch the 3D	model ı	using tł	ne skills learr	ned.
				1.5 Eva	luate and re	evise th	e <b>desig</b>	<b>n</b> to meet th	ne
				des	ign criteria.				
Keywords	s			analys	e. suitabilit	V			
Starter/In	- ntrod	uction activity		anaiyo		<u>)</u>			
Time		Ask students a	bout diff	erent se	earch techr	iques	they ha	ave learned	in
10 Minut	es	previous units.	Demons	trate so	me search	techni	iques b	y using +,	-
Арр		for example:					•	, ,	
		iphone+7+phone+st	and				<b>پ</b> Q		
		All Images Vid	eos News	Shopping	More	Setting	is Tools		
		About 83,800,000 results	s (0.34 seconds)						
		iphone+7+phone+st	and-covers				<b>پ</b> Q		
		All Images Vid	eos News	Shopping	More	Setting	as Tools		
		About 35,900,000 results	s (0.30 seconds)						
		Ask them to lo	ok at the	search	results and	how	it redu	ces the resi	ılts
Main				bearen					
Time		Teacher to exp	lain Activ	vity 3. H	ere studen	ts can	choose	e the phone	e thev
		want It can be	any pho	ne Ask	students	to wor	k throi	iah the res	earch
		and investigat	ion secti	ion Sti	idents to	carny y		mo rocoar	ch on
		and investigat	on seco			t bran	dad a	nd non bra	
		existing phone		iney c	an iook a	t bran	ueu ai	na non-bra	inded
		stands. Studen	ts to con	npiete P	ACTIVITY 3.				
		Teacher to go	through	the po	ssible solu	ition se	ection.	Ask studer	nts to
		complete Activ	r <b>ity 4.</b> Asl	k them <sup>-</sup>	to draw the	e stand	l they v	want and sł	now it
		from different	angels.	They ca	an split the	e box i	in diffe	erent sectio	ons to
		show different	sides.	,					

	Students to write advantages and disadvantages of the chosen phone
	stand and explain the reasons.
Plenary	
Time	Teacher to discuss a few possible solutions with the students and share
	them with the class.
Assessment	Validity of research carried out by the students. Complete Activity 3
<u>focus</u>	and <b>4</b> .
<u>Learning</u>	The entire course plus specific instructional videos are available on
<u>curve</u>	Learning curve via this link.
	Click <u>here</u> to open the link.

Grade	8	Subject	DT	Lesson Number	3	Week number	5
Unit		Date		Time		Page number	
3		WC: 30/09	/18	45 minutes 70-71			
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Equipment required:         Grade 8 book         pen/pencil         Ruler         Phone (if possible)         Computers         Autodesk Fusion 360 software         Keywords         Starter/Introduction activity         Time       Teacher to provide rule			1.1 Define the desi 1.2 Examine the m object before s 1.3 Define and ske chosen object 1.4 Sketch the 3D 1.5 Evaluate and re design criteria. dimensions, requ	<b>gn pro</b> ain <b>des</b> <b>ketchir</b> tch the on pap model evise th iremer	cess. ign elements of a rea of a model. design elements of a er. using the skills learne e design to meet the nts, measuring tape	al a ed.	
10 Minut	es	their phone to	be able <sup>·</sup>	to design a custon	nised p	hone stand. Studer	nts
Арр		need to measu	re heigh	t, width and length	۱.		
Main							
lime		This lesson leads on from the 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's website and get the dimensions from there. It's important for them to get the correct dimensions as the phone stand will be based on these dimensions. Students to complete <b>Activity 5</b> and write down the dimensions. Once the dimensions are done, ask the students to draw the phone stand using the dimensions they have written down. They can be creative and draw different parts separately or it can be one stand. They also need to explain the reasons for their chosen design, and the					
Planar		material.		-		-	
Timo		Ack students to	shara +k	peir phone stand id	loos on	d some mossureme	anto
			share tr		ieas an		ents.
Assessme focus	<u>ent</u>	Ensure that stu written down t	dents ha he dimer	ive used reliable w nsions correctly. Cl	ebsites neck ar	s for research and h nswers to <b>Activity 5</b>	iave

<u>Learning</u>	The entire course plus specific instructional videos are available on
<u>curve</u>	Learning curve via this link.
	Click <u>here</u> to open the link.

Grade	8	Subject	DT	Lesson Number	1	Week number	6	
Unit		Date		Time Page numb			r	
3		WC: 07/10	/18	45 minutes		72-75		
Equipme	nt re	quired:		Learning objectiv	<u>es</u>			
Grade 8 k	book			1.1 Define the <b>des</b>	ign pro	cess.		
Phone (if	poss	sible)		1.2 Examine the m	ain <b>des</b>	<b>ign elements</b> of a re	eal	
Compute	rs	260 ()		object before <b>s</b>	ketchin	<b>ig</b> a model.		
Autodesk	C FUS	ion 360 software	5	1.3 Define and ske	tch the	design elements of	а	
				chosen object	on pap	er.		
				1.4 Sketch the 3D	model ı	using the skills learn	ed.	
				1.5 Evaluate and re	evise th	e <b>design</b> to meet the	e	
				design criteria.				
Keywords	5			Dimension tool, (	Offset 1	tool		
Starter/In	ntrod	uction activity						
Time		Recap the tool	s in Fusic	on 360. Open Fusic	on 360	and display it on t	:he	
10 Minut	es	board. Ask stud	dents qu	estions about diffe	erent ta	abs and options in		
Арр		Fusion 360.						
Main		- · ·			1			
Time		leacher to ens	ure that	students have com	pletec	the planning stag	je.	
		Once all the p	lanning	is complete, stud	ents c	an start designing	g the	
		actual 3D mod	lel basec	d on the informati	on the	ey have collected.	Each	
		student will ha	ve diffe	rent dimensions as they have different phones				
		and different re	equireme	ents.				
		Teacher to der	nonstrate	e the basic tools a	nd spe	cifically how to use	e the	
		Line and Spline	e tool. It'	s important to joir	י ח up al	I the points to cre	ate a	
		block shape. T	his can	be verv challengi	na for	some students, se	o it's	
		important to d	emonstra	ate it to the class	.g.e.			
		Students to on	on Eucio	a 260 and start fall	owina	the stap by stap a	uida	
		students to op	en rusioi	1 SOU and Start TOIL	owing	the step-by-step g	uiue.	
Ensure that the studen				ts save their work as they will need this for the				
next lesson. Complete t				he 'N' shape in thi	s lesso	n.		
<u>Plenary</u>								
Time		Recap the too	ols used	, especially the o	dimens	ion tool as it's r	really	
		important to g	et the co	rrect dimensions.				

Assessment	Ensure that students are familiar with saving work and have saved the
<u>focus</u>	work correctly. Review the shape they have created and ensure that
	the dimensions are all correct.
<u>Learning</u>	The entire course plus specific instructional videos are available on
<u>curve</u>	Learning curve via this link.
	Click <u>here</u> to open the link.

Grade	8	Subject	DT	Lesson Number	2	Week number	6
Unit	Unit Date		Time Page numbe			r	
3		WC: 07/10	/18	45 minutes 76			
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 book Phone (if possible) Computers Autodesk Fusion 360 software			<ol> <li>1.1 Define the design process.</li> <li>1.2 Examine the main design elements of a real object before sketching a model.</li> <li>1.3 Define and sketch the design elements of a chosen object on paper.</li> <li>1.4 Sketch the 3D model using the skills learned.</li> <li>1.5 Evaluate and revise the design to meet the</li> </ol>				
				design criteria.			
Keywords	5			Trim tool, thickne	SS		
Starter/In	trod	uction activity					
Time 10 Minut App	es	Students are to open the phone stand project they started in last lesson. Continue working on the phone stand by following the step- by-step guide. Completed any steps students have missed in the last lesson.					p- ast
Main							
Time		Teacher to demonstrate the Trim tool and go through the horizontal/vertical menu options. Students are to use the trim tool to remove unwanted lines inside the body of the phone stand. Straighten up any lines which are not straight using the horizontal/vertical options. Finally, adjust the dimensions using the dimension tool. When adjusting the dimensions, ensure that the front support is small and designed in a way that the Home button and other buttons such as the Back and Settings button of the phones can be easily 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 the correct dimensions according to their phone					the e the aight sting ed in a and r can they prrect
Plenary							
Time		Ask students to refer to the Analysis for correct dimensions. Remind students to save their work as they go along.					

Assessment	Ensure that students have used the correct dimensions and tools.
<u>focus</u>	Review the entire design and remind them to use the dimensions they
	have researched in the planning section.
Learning	The entire course plus specific instructional videos are available on
<u>curve</u>	Learning curve via this link.
	Click <u>here</u> to open the link.

Grade	8	Subject	DT	Lesson Number	3	Week number	6	
Unit	Unit Date			Time Page number			er	
3 WC: 07/10/18				45 minutes 77-80				
Equipmen	t re	quired:		Learning objectiv	<u>es</u>			
Grade 8 b	ook			1.1 Define the <b>des</b>	ign pro	cess.		
Phone (if p	poss	sible)		1.2 Examine the m	ain <b>des</b>	i <b>gn elements</b> of a re	eal	
Computer	S			object before <b>s</b>	ketchir	ng a model.		
Autodesk	Fus	ion 360 software	9	1.3 Define and ske	tch the	design elements of	fa	
				chosen object	on pap	er.		
				1.4 Sketch the 3D	model	using the skills learr	ned.	
				1.5 Evaluate and re	evise th	e <b>design</b> to meet th	ne	
				design criteria.		-		
Kowworde				oparava adaas [	illot to			
Starter/Int	trod	uction activity		engrave, euges, i	met to			
Time	liou	Teacher to ask	students	s questions about	the too	ols they are going	to	
10 Minute	s	use in this less	on. This o	can be done on pa	per. A	sk students to exp	olain	
Арр	the Engrave, Fillet and Offset tool.							
Main								
Time		Teacher to der	nonstrate	e the tools they ar	e goin	g to use. Students	have	
		used these too	ols previo	ously. However, re	ecap th	e tools. You can	ask a	
		student to com	ne up and	d show how to use	e each i	tool in class.		
		This lesson wil	l finish o	off the phone stan	d usina	a the features stu	dents	
		have already u	sed			g	0.01100	
		Once students	have set	all the dimension	s, ask :	students to extruc	le the	
		phone stand to	o give it	some thickness. E	nsure 1	that they keep thi	s to a	
		minimum to re	educe the	e print time. Once	extrud	ed, students are t	o use	
		the Fillet tool t	o smootl	h the edges. This w	vill give	e a nice look and f	eel to	
		the phone sta	nd. Ond	e the stand is c	reated	we need to thi	nk of	
		removing any u	unnecess	ary material as the	e 3D pr	inting time depen	ds on	
		material, size a	nd the ty	pe of printer used.	Now r	emove the unnece	essary	
	material by making a hole at the back of stand as this is unused sna						space	
	and doesn't require to be filled in students can make m						more	
	and doesn't require to be miled in. students can make mo						more	
		amenuments a	a long as			a the phone.		
		Students to co	mplete <b>A</b>	ctivity 6. Students	can us	se the Text tool to	write	
		their name, mo	odel, sch	ool name etc as long as it fits on the stand and				
		looks good. Students can carry on <b>Activity 6</b> in the next lesson as they						

	need to show off their creativity and the skills they have learned. Ensure
	that students save the work for next lesson.
<u>Plenary</u>	
Time	Ask students about the different amendments they have made to the
	phone stand. Teacher can show students work on the board and the
	class can discuss the positives and possible improvements.
<u>Assessment</u>	Assess the overall 3D model and ensure that they have followed the
<u>focus</u>	step-by-step guide. Remember to check the dimension. Review
	Activity 6 and give feedback where necessary.
<u>Learning</u>	The entire course plus specific instructional videos are available on
<u>curve</u>	Learning curve via this link.
	Click <u>here</u> to open the link.

Grade	8	Subject	DT	Lesson Number	1	Week number	7
Unit		Date		Time		Page number	
3		WC: 14/10	/18	45 minutes		80	
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 book Phone (if possible) Computers Autodesk Fusion 360 software			<ul> <li>1.1 Define the design process.</li> <li>1.2 Examine the main design elements of a real object before sketching a model.</li> <li>1.3 Define and sketch the design elements of a chosen object on paper.</li> <li>1.4 Sketch the 3D model using the skills learned.</li> <li>1.5 Evaluate and revise the design to meet the design criteria.</li> </ul>				
Keyword	s			tools			
Starter/In	- ntrod	uction activity					
Time		Recap the prev	vious less	on and ask studer	its to c	omplete Activity 6.	
10 Minut	es					, ,	
Арр							
Main							
Time		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 <b>Activity 6</b> table.					
<u>Plenary</u>							
Time		Ask students to to share their p	share th phone sta	ne answers to Activ and.	ity 6. A	sk some other stude	ents
Assessme focus	<u>ent</u>	Review the pho	one stand	d and answers to A	Activity	6.	
<u>Learning</u> <u>curve</u>		The entire course plus specific instructional videos are available on Learning curve via this link.					

Grade 8	Subject	DT	Lesson Number	2	Week number	7	
Unit	Unit Date		Time		Page numbe	r	
3	WC: 14/10	/18	45 minutes 81-83				
Equipment re	quired:		Learning objectiv	<u>es</u>			
Grade 8 book			1.1 Define the <b>desi</b>	an pro	cess.		
Phone (if pos	sible)		1.2 Examine the m	ain <b>des</b>	ian elements of a re	al	
Computers			object before s	ketchin	ng a model		
Autodesk Fus	ion 360 softwar	е	1 3 Define and ske	tch the	<b>design elements</b> of	a	
			chosen object	on nan	er	G	
			1.4 Sketch the 3D	modelu	using the skills learn	hed	
			1.5 Evaluate and re	wise th	e <b>desian</b> to meet th	Δ	
			design criteria			C	
Keywords			render, appearan	се			
Starter/Introd	luction activity						
Time	Show students	differen	t completed phone	e stanc	ls. These can be		
10 Minutes	images from th	ne interne	et. Ask them to rev	view th	e overall finishing	of	
Арр	the stand, how	it looks,	colours used, size	, styles	etc. Teacher can		
	create a works	heet prio	or to the lesson and distribute it at the start of				
	the lesson. One	ce studer	nts have completed	d this,	share some ideas	and	
	get feedback f	rom the s	students.				
	Teechenterre	4 la a a .la	44			200	
Time	Teacher to go	through	the appearance o	ption a		1 360.	
	Show students	how the	y can change the a	ppeara	ance of the phone s	stand	
	to see how it w	vill look li	ike.				
	Students to w	ork on s	showcasing the pl	none s	stand by changing	a the	
	appearance of	it This c	an be done by fol	lowing	, the steps in the l	book	
	Remind studer	ts to che	ose different onti	nns		0001	
				5115.			
	Students can c	hange th	e colour of each si	ide and	d have the one col	our.	
	Teacher to ask	students	s to explore differe	ent opt	ions and once the	ey are	
	ready they car	n then re	nder it using the	Rende	r mode. This will	allow	
	them to see the object as it will look once printed.						
	Students to co	mplete <b>A</b>	ctivity 7 and Start	Activit	<b>.</b> y 8.		
Plenary							

Time	Review the completed phone stands. Ask students to come up and show						
	their phone stand to the class. Students can create a short presentation						
	to show their phone stand and the different tools they have used.						
Assessment	Review the completed model and ensure that students have explored						
<u>focus</u>	different options.						
	Check the answers to Activity 7 and Activity 8.						
<u>Learning</u>	The entire course plus specific instructional videos are available on						
<u>curve</u>	Learning curve via this link.						
	Click <u>here</u> to open the link.						

Grade	8	Subject	DT	Lesson Nur	nber	3	Week number	7
Unit		Date		Time Page numl			Page number	r
3		WC: 14/10	/18	45 minutes 84-88				
Equipmer	nt re	quired:		Learning of	bjectiv	<u>es</u>		
Grade 8 b	book			11 Define t	he <b>des</b> i	ian pro	ress	
Phone (if	poss	sible)		1.7 Evamine	the m	ain <b>des</b>	<b>ion elements</b> of a re	al
Compute	rs			object b	oforo <b>c</b>	kotchir		ai
Autodesk	Fus	ion 360 software	e	1 2 Dofino a	nd cko	tch tho	design elements of	2
				choson (	nu ske		or	a
				1 4 Skotch t		on pap	ei. using the skills learn	ad
				1.4 Skelch l		moder	a design to most the	ea.
				1.5 Evaluate	and re	evise th	e design to meet the	9
				design c	riteria.			
Keywords	5			personalise	, evalu	uation		
Starter/In	trod	uction activity						
Time		Students to sta	rt Activit	y 8 and drav	v the f	final pł	none stand they ha	ive
10 Minute	es	designed using	Fusion	360.				
Арр								
Main								
Time		Students comp	lete the	evaluation s	ection	based	on the phone star	nd.
		Teacher to exp	lain each	auestion to	the s	tudent	s and ask them to	write
		answers in det	ail ovolai	ning the wor	rk that	, have	done	white
		answers in dea	ап ехріат		K they	Tave	done.	
		Students to co	mplete P	<b>op quiz 2</b> in	this le	esson.		
		Pop quiz teach	er answe	ers				
		1			D			
		2			B			
		3			C			
		4		Δ				
		5		A				
								]
Plenary								
Time		Ask students	to share	their evalua	ation	with o	other students in o	class.
_		Students to ae	t feedba	ck on the ma	ndel a	nd sha	re different ideas	
			t lecaba					
Assessme focus	<u>ent</u>	Check the eval	uation se	ection and ar	nswers	s to <b>po</b>	p quiz 2.	
Learning		The entire cou	rse plus s	specific instru	uction	al vide	os are available on	١
<u>curve</u>		Learning curve	via this	link.				
		Click here to open the link.						

Grade	8	Subject	DT	Lesson Num	ber	1	Week number 8	
Unit		Date		Time	е		Page number	
4		WC: 21/10	/18	45 minutes 92-98				
Equipme	nt re	quired:		Learning obj	ective	<u>es</u>		
Grade 8 k	book			1.1 Define diff	ferent	tools	available in <b>Fusion 360.</b>	
phone (if	pos	sible)		1.2 Sketch diff	ferent	t small	models using <b>Fusion</b>	
compute	rs			360.			5	
Autodesk	c Fusi	ion 360 software	е	1.3 Sketch a s	mall <b>r</b>	nodel	using all the tools	
				learned.			5	
				1.4 <b>Sketch</b> the	e chos	sen sol	ution using <b>Fusion 360.</b>	
							5	
Karama				taala	!	1		
Keywords	S 			tools, revolve	e tool	<u> </u>		
	itroa						·	
10 Minut		Students to co		ctivity I as a s	Dante	er activ	nty.	
	es	1		8	Reci	tangle		
Арр				M <sup>2</sup>				
					Evtr	ude		
				$\leq$	LAU	uuc		
			3					
				9 mm 10				
				$\sim$				
					Fillet			
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					Offe	ot		
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	Select curve section									
Main										
Time	Teacher to go through lesson overview, keywords and learning outcomes.									
	Recap on previously used tools and the new tools students are going to use.									
	itudents to open Fusion 360 and go through the new tools and review he menus to find the new tools.									
	Teacher to demonstrate how to use the revolve tool.									
	Students to go through the Revolve tool and follow the step-by-step guide.									
Plenary										
Time	Recap the revolve tool. Ask student to show the work they have done to class.									
<u>Assessment</u> <u>focus</u>	Check the answers to <b>Activity 1</b> and ensure that students have used the <b>revolve</b> tool.									
<u>Learning</u> <u>curve</u>	The entire course plus specific instructional videos are available on Learning curve via this link. Click here to open the link.									

Grade	8	Subject	DT	Lesson Number	2	Week number	8	
Unit		Date		Time		Page number		
4		WC: 21/10	/18	45 minutes 99-102				
Equipme	nt re	quired:		Learning objectiv	<u>es</u>			
Grade 8 book phone (if possible) computers Autodesk Fusion 360 software		<ul> <li>1.1 Define different tools available in Fusion 360.</li> <li>1.2 Sketch different small models using Fusion 360.</li> <li>1.3 Sketch a small model using all the tools learned.</li> <li>1.4 Sketch the chosen solution using Fusion 360.</li> </ul>						
Kevwords			Spline tool, curve	d line,	axis			
Starter/In	ntrod	uction activity						
Time 10 Minut App	es	Students to sta previous lessor	nt <b>Activil</b> ns or can	t <b>y 2</b> as a starter act create a new desi	ivity. T gn.	hey can use work	from	
Main		Γ						
Time		Teacher to reca done to class. S Teacher to thro this can be dor	ap Activit Students bugh revo ne by a s	y 2 and ask studen to write the answe olve using line. Tea tudent demonstrat	its to sl ers in t acher c ting to	how the work they he book. an demonstrate th the class.	<sup>,</sup> have nis, or	
		Keep students can explore oth used in the boo	focused ner tools ok.	on using the tools once they have sh	menti Iown a	oned in the book. good grip on the	They tools	
Plenary								
Time		Students to co	mplete <b>A</b>	Activity 3 and ask s	tudent	s to fill in the boo	k.	
Assessme focus	<u>ent</u>	Ensure that stu the work. Revie	dents ha	ive created differei <b>ctivity 3</b> answers.	nt moc	lels and have save	ed	
<u>Learning</u> <u>curve</u>		The entire cour Learning curve Click <u>here</u> to o	rse plus s via this l pen the l	specific instruction link. ink.	al vide	os are available o	n	

Grade	8	Subject	DT	Lesson Number	3	Week number 8		
Unit		Date		Time		Page number		
4		WC: 21/10	/18	45 minutes		103-105		
Equipmer	nt re	quired:		Learning objectives				
Grade 8 b	book			1.1 Define the diffe	erent <b>to</b>	ools available in Fusion		
phone (if	pos	sible)		360.				
computers			1.2 Sketch the diffe	erent sr	mall models using Fusion			
Autodesk Fusion 360 software			360.					
			1.3 Sketch a small <b>model</b> using all the tools learned.					
				1.4 <b>Sketch</b> the cho	sen sol	ution using Fusion 360.		
Keywords	5			Sweep tool, path	profile	e, curve		
Starter/In	trod	uction activity						
Time		Recap the revo	lve tool	and ask students t	o expla	ain the revolve tool.		
10 Minute	es							
Арр								
Main								
Time		Teacher to go	through	n the Sweep tool.	Expla	in <b>path</b> and <b>profile</b> to		
		students. Go t	hrough	the sub-menu op	otions	and properties of the		
		sweep tool.						
		Students to fol	low the s	step-by-step guide	2.			
		Students to co	mplete	Activity 4 to draw	/ a sta	ircase. It can be easily		
		achieved by us	ing a Rec	tangle and a Line <sup>.</sup>	tool. A	sk students to fill all the		
		answers in the	book.					
		Students will n	eed to u	use a Rectangle ar	nd a Li	ne tool to achieve this		
		shape. They car	n use any	tool as long as the	ey have	e a clear sketch showing		
		stairs.						
<u>Plenary</u>								
Time		Students to co	mplete t	he book for Activit	y 4.			
Assessme	<u>ent</u>	Check that stud	dents hav	ve completed <b>Acti</b>	vity 4 a	and have used correct		
Learning		The entire cour	re nluc a	specific instruction	al vido	os are available on		
curve		l earning curve	via this	link				
		Click <u>here</u> to op	pen the l	ink.				

Grade	8	Subject	DT	Lesson Number	1	Week number	9
Unit		Date		Time		Page number	r
4		WC: 28/10	/18	45 minutes		106-108	
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 k	book			1.1 Define differen	t <b>tools</b>	available in Fusion 3	60.
phone (if possible)			1.2 Sketch differen	t small	models using Fusior	n	
compute	rs			360.		-	
Autodesk Fusion 360 software			1.3 Sketch a small	model	using all the tools		
			learned.				
				1.4 <b>Sketch</b> the cho	sen sol	ution using Fusion 3	60.
						-	
Keywords				Cylindrical tool, Edit form, Sculpt mode, Alt			
				key, modify		·	
Starter/In	ntrod	uction activity					
Time		Show students	differen	t types of bottles a	nd wh	ere they are used.	This
10 Minut	es	can be done by	y showin	g them on the board or the teacher can bring			
Арр		some empty b	ottles to	show them to the	studer	nts.	
Main							
Time		Teacher to de	monstrat	e the cylindrical t	ool. Ex	plain how this ca	n be
		transformed in	to many	<sup>,</sup> different things. However, in this unit we will use			
		this tool to cre	ate differ	rent parts of the bottle.			
		Teacher to de	emonstra	ate this in detail as there are several options			
		available in thi	is tool ar	nd students can get confused on which one to			
		use. Always adv	vise them	n to look for the blu	ue arro	w or pointer during	g the
		step-by-step g	uide as s	hown here.			-
		step by step guide as shown here.					
		Students to us also important	e the Cy as this c	lindrical tool to de an be helpful in ur	esign o nit 5.	different shapes. Th	nis is
		Students to fo bottle neck. Th different 3D ob	llow the nis is imp pjects.	step-by-step guid portant as this sha	le for pe car	creating the body n be adapted to cr	and reate

<u>Plenary</u>	
Time	Recap the tools and options used in this lesson.
Assessment	Check that students have created a bottle neck using the tools
<u>focus</u>	mentioned. They can use other tools to achieve the same result.
<u>Learning</u>	The entire course plus specific instructional videos are available on
<u>curve</u>	Learning curve via this link.
	Click <u>here</u> to open the link.

Grade	8	Subject	DT	Lesson Number	2	Week number 9	
Unit		Date		Time		Page number	
4		WC: 28/10	/18	45 minutes		108-109	
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 k	book			1.1 Define differen	t <b>tools</b>	available in <b>Fusion 360</b> .	
phone (if	pos	sible)		1.2 Sketch differen	t small	models using <b>Fusion</b>	
compute	rs			360.		<u> </u>	
Autodesk	c Fus	ion 360 software	9	1.3 Sketch a small	model	using all the tools	
				learned			
			14 Sketch the cho	1.4 Sketch the chosen solution using Eusion 360			
					a		
Keywords	<u>s</u>			Fill hole tool, coll	apse		
Starter/In	ntrod		_ ·				
lime		Students to op	en Fusio	n 360. Recap tools	and o	ptions used in the last	
	es	lesson.					
App Main							
Time		Toochor to roc	on tha ta	ols and ontions av	ailablo	Ack students different	
TITLE				ois and options av			
		questions abou	ut the wo	ork completed in tr	ie last	lesson.	
		Teachers to de	monstra	ate the steps required to create a round bottom			
		of the bottle a	nd close	the hole at the bo	ttom o	f the bottle.	
		Students to fo	low the	step-by-step guid	e to cr	eate the round bottom	
		of the bottle.	This car	n be very difficult	t if the	e area is not selected	
		correctly. Once	e the bot	tom is created the	en clos	e the gap using the fill	
		hole tool.					
		Ensure that st	udents p	practice these tool	s as t	hese skills will be verv	
		useful				,	
Plenary							
lime		Recap the fill h	ole and o	options used in thi	s tool.		
Assessme	<u>ent</u>	Check that stue	dents hav	ve used the correc	t tools	and filled the hole	
focus		properly.					
Learning		The entire cou	rse plus s	specific instruction	al vide	os are available on	
<u>curve</u>		Learning curve	via this l	link.			
		Click <u>here</u> to o	pen the l	ink.			

Grade	8	Subject	DT	Lesson Number	3	Week number	9
Unit		Date		Time		Page numbe	r
4		WC: 28/10	/18	45 minutes		109-110	
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 book Phone (if possible) Computers Autodesk Fusion 360 software			<ul> <li>1.1 Define differen</li> <li>1.2 Sketch differen</li> <li>360.</li> <li>1.3 Sketch a small learned.</li> <li>1.4 Sketch the cho</li> </ul>	t <b>tools</b> It small <b>model</b> sen sol	available in <b>Fusion 3</b> models using <b>Fusio</b> using all the tools ution using <b>Fusion 3</b>	360. n 360.	
Starter/In	s strod	uction activity		inwarus, outwaru	s, puii,	push, thickness	
Time 10 Minut App	es	Teacher to bring some bottles into class and show them different bottle grips. Ask students to identify the positions where the bottle is pulled out and positions where bottle is pushed in. Discuss this as a class and explain that this is what that they are going to do in this lesson.					
Main							
Time		Teacher to den	nonstrate	e the skills they ne	ed to c	reate different gri	ps.
		Students to fin pulling or pus complete, give Guide students	ish off th hing the some th s to comp	ne step-by-step gue bottle body inw ickness to the bot plete the above ste	uide to ard or tle so t eps.	create a bottle gr outward. Once th hat it has some we	ip by his is eight.
<u>Plenary</u>							
Time		Recap work co completed all t	mpleted he step-	in today's lesson a by-step guides.	and en	sure that students	have
Assessme focus	<u>ent</u>	Ensure that stu	dents ar	e using the correct	t tool t	o modify the bottl	e.
<u>Learning</u> <u>curve</u>		The entire cour Learning curve Click <u>here</u> to o	rse plus s via this l pen the l	specific instruction link. ink.	al vide	os are available or	ו

Grade	8	Subject	DT	Lesson Number	1	Week number	12	
Unit		Date		Time		Page numbe	er	
4		WC: 18/11	/18	45 minutes		111-112		
Equipme	nt re	quired:		Learning objectiv	<u>es</u>			
Grade 8 k	book			1.1 Define differen	t <b>tools</b>	available in <b>Fusion</b> 3	360.	
phone (if	pos	sible)		1.2 Sketch differen	t small	models using <b>Fusio</b>	n	
compute	rs			360	e ornan			
Autodesk	c Fus	ion 360 softwar	е	1 3 Sketch a small	model	using all the tools		
				learned	medel			
				1.4 <b>Sketch</b> the cho	sen sol	ution using <b>Fusion</b>	360	
					5011 501			
Keyword	s .			dimensions, tools	s, thick	ness, grip		
Starter/In	ntrod	uction activity						
Time		Students to rea	ad the ta	sk sheet 2 and ide	ntify th	ne key points.		
10 Minut	es							
Арр								
		Taasharta aa	the way work	Teal Cheat 2 Dia				
Time		reacher to go	through	Task Sneet 2. Disc	uss th	is as a class and e	nsure	
		that students u	inderstar	nd the task.				
		Task sheet is	based o	on different activities completed in this unit.				
		Students can u	se the wo	ork that they have already done in this unit. Read				
		the task sheet t	to studer	nts and ensure that they understand the task and				
		different requi	rements	There is an activity to create a bottle neck in this				
		task where stu	dents ne	ed to use the skills	learne	ed.		
		Students to wo	ork on Ac	tivity 5 in this less	on Ide	ntify the work play	n and	
		the steps need	ed to acl	hieve the objective	Rem	ind them about g	ettina	
		the correct dir	nensions	They then sketch	n tha l	nottle they want i	n the	
		book or on pa	nor Thou	also pood to write		the dimensions (	of the	
			bei. mey				Ji the	
		desired botte.						
Plenary								
Time		Review the wo	rk plan o	f different student	s and $\overline{a}$	ask them to share	some	
		ideas with the	class.					
Assessme	ent	Review the pap	per desig	n and dimensions.	Ensur	e that they have		
<u>focus</u>		correct dimens	ions.			-		
Learning		The entire cou	rse plus s	specific instruction	al vide	os are available oi	n	
curve		Learning curve	<u>via this l</u>	link.				

Click here to open the link.
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Grade	8	Subject	DT	Lesson Number	2	Week number	12
Unit		Date		Time		Page number	r
4		WC: 18/11	/18	45 minutes		113	
Equipme	nt re	quired:		Learning objectiv	<u>es</u>		
Grade 8 book phone (if possible) computers Autodesk Fusion 360 software			<ul> <li>1.1 Define different tools available in Fusion 360.</li> <li>1.2 Sketch different small models using Fusion 360.</li> <li>1.3 Sketch a small model using all the tools learned.</li> <li>1.4 Sketch the chosen solution using Fusion 360.</li> </ul>				
Kowword	<u> </u>			tools Eusion 260			
Startor/In	s strad	uction activity		10015, FUSION 500			
Time 10 Minut App	es	Students are to plan the tools they are going to use. This can be done as a class or discussion. Remind students of the tools they have used previously. Teacher can display several tools on the board and ask students to choose the ones which they think are suitable for the task sheet					
Main							
Time		Teacher to brie	efly recap	activities complet	ted in t	his unit.	
		Students to sta	art desigr	ning the bottle usi	ng Fusi	ion 360.	
		Give students a if needed.	a set time	e to design. They c	an use	the book to help t	them
<u>Plenary</u>							
Time		Students to re- that they know	view the v what is	criteria and look a expected at the er	nt sell-e nd of p	evaluation questior roject.	ns so
Assessme focus	ent	Review the cre and self-evalua task.	ated bot ation to <u>c</u>	tle. Remind studer guide them throug	nts to le h the t	ook at the work ste hings needed for t	eps his
Learning curve		The entire cou Learning curve Click <u>here</u> to o	rse plus s via this l pen the l	specific instruction link. ink.	al vide	os are available on	

Grade	8	Subject	DT	Lesson Number	3	Week number	12	
Unit		Date		Time		Page numbe	er	
4		WC: 18/11	/18	45 minutes 113-115				
Equipme	nt re	quired:		Learning objectiv	<u>es</u>			
Grade 8 book phone (if possible) computers Autodesk Fusion 360 software			<ul> <li>1.1 Define different tools available in Fusion 360.</li> <li>1.2 Sketch different small models using Fusion 360.</li> <li>1.3 Sketch a small model using all the tools learned.</li> <li>1.4 Sketch the chosen solution using Fusion 360.</li> </ul>					
Keywords				self-evaluation, c	riteria,	teacher evaluatio	n	
Starter/In	ntrod	uction activity						
Time 10 Minut App	es	Students to ca Fusion 360.	arry on f	rom previous less	son to	design a bottle	using	
Main								
Time		Teacher to rec and complete to Students to fin to complete th they go along.	ap the ta the self-e iish off a ie self-ev	ask. Ask students t evaluation once the ny work left from valuation and ensu	to revie e desig the pre ire tha	ew the marking c In has been comp evious lesson. Stu t they save the wo	riteria leted. dents ork as	
Plenary								
Time		Teacher to go through the self-evaluation questions and ensure thatstudents understand the questions.Complete the self-evaluation section.						
Assessme focus	<u>ent</u>	Teacher to eva the mark band	luate the	e entire project and	awaro	d marks according	j to	
Learning curve		The entire cour Learning curve Click <u>here</u> to o	rse plus s via this l pen the l	specific instruction link. ink.	al vide	os are available o	n	

Grade	8	Subject	DT	Lesson Number	1	Week number	13	
Unit		Date		Time		Page numbe	er	
5		WC: 25/11	/18	45 minutes		118-123		
Equipme	nt re	quired:		Learning objectiv	<u>es</u>			
Grade 8 book phone (if possible) computers Autodesk Fusion 360 software			<ul> <li>1.1 Understand the</li> <li>1.2 Plan, design solution.</li> <li>1.3 Sketch the cho</li> <li>1.4 Justify the de design and pro</li> <li>1.5 Evaluate and re</li> </ul>	e <b>Mars</b> and pa osen sol esign a oduct. evise the	Challenge. aper sketch the c ution using Fusion spect and evaluat e design to meet the	:hosen <b>360.</b> t <b>e</b> the e <b>Mars</b>		
				Challenge desi	gn crite	eria.		
Keywords			Hope Probe, hexa infra-red spectro	agonal meter,	-section, aluminiu Mars	ım,		
Starter/In	ntrod	uction activity						
Time		Ask students to	Ask students to research the Hope probe and share their research with					
10 Minut	es	the class.						
Арр								
Main								
Time		Teacher to go students under	through rstand th	the project and Bi e project brief.	rief of	the project. Ensur	e that	
		Go through un	it overvie	w, keywords and l	earnin	g outcomes. Expla	in the	
		Hop Probe and	d what it	is for? Introduce t	the pro	ject, read the brie	ef and	
		ask students to	comple	te <b>Activity 1</b> .		-		
Plenary								
Time		Students to sha	are <b>activ</b>	ity 1 with the class	s and t	eacher to share c	orrect	
Assessme focus	<u>ent</u>	Review the tasl understood the	k require e task an	ments and ensure d have completed	that th <b>activit</b>	ne students have <b>y 1.</b>		
Learning curve		The entire cour Learning curve Click here to or	rse plus s via this pen the l	specific instruction link. ink.	al vide	os are available o	n	

Grade	8	Subject	DT	Lesson Number	2	Week number 13	
Unit		Date		Time		Page number	
5 WC: 25/11/18			45 minutes 123-124				
Equipment required:			Learning objectives				
Grade 8 book			1.1 Understand the Mars Challenge.				
phone (if possible)			1.2 Plan, design and paper sketch the chosen				
computers			solution.				
Autodesk Fusion 360 software			1.3 Sketch the chosen solution using Fusion 360.				
				1.4 Justify the <b>design aspect</b> and <b>evaluate</b> the			
				design and product.			
				1.5 Evaluate and re	evise the	e <b>design</b> to meet the <b>Mars</b>	
				Challenge desi	gn crite	eria.	
Keyword	s			analysis of brief,	brief		
Starter/In	ntrod	uction activity		, ,			
Time		Students to sta	rt Activit	<b>y 2</b> as a starter activ	vity. En	sure that students have	
10 Minut	es	read the brief a	and unde	erstand the task.			
Арр	Арр						
Main							
Time		Teacher to go through the brief and analyse it with students.					
		Students to wo	ork on A	nalysis of brief. Co	omplet	e Activity 2. Here write	
		the key points	student	s have identified	from t	the brief. This will also	
		become the ch	necklist o	f designing. Stude	nts the	en need to write a brief	
		in their own wo	ords. The	ey don't need to co	opy ev	erything from the brief,	
		just the main p	oints the	y av have understoo	d.	, , , , , , , , , , , , , , , , , , , ,	
		<b>J</b>		· · · · · · · · · · · · · · · · · · ·			
Plenary		- · · ·			6.41	· · · · · · ·	
lime		leacher to ask	< studen	ts to share some	of the	e key points they have	
		written for <b>act</b> i	vity 2.				
Assessme	ent	Review the work students have completed in this section and award					
<u>focus</u>		marks accordingly for this section.					
		Students must write their analysis in detail or use bullet points. They					
		will be awarded a half mark for each keyword they have used from the					
		brief for a max	imum of	3 marks.			
Learning		The entire course plus specific instructional videos are available on					
<u>curve</u>		Learning curve	via this l	link.			
		Click <u>here</u> to open the link.					

Grade	8	Subject	DT	Lesson Number	3	Week number 13	
Unit		Date		Time Page number		Page number	
5 WC: 25/11/18		45 minutes 125-127					
Equipment required:			Learning objectives				
Grade 8 book			1.1 Understand the	e Mars	Challenge.		
phone (if possible)			12 Plan, design	and pa	aper <b>sketch</b> the choser		
computer	S			solution	and p		
Autodesk	Fus	ion 360 softwar	е	1 3 <b>Sketch</b> the cho	son sol	ution using <b>Eusion 360</b>	
				1.4 Justify the design aspect and evaluate the			
				design and product			
				1 5 Evaluate and re	wice th	a <b>design</b> to meet the Mars	
				Challenge desi	an crite	e design to meet the Mars	
Keywords				dimensions rese	arch o	vistina	
Starter/In	trod	uction activity		unnensions, resea	arcn, e	xisting	
Time		Students to st	art Activ	vity 3 They need	to loc	ok at different existing	
10 Minute	25	probos and wr	ito down	the recults in the		arovidad	
Ann		probes and write down the results in the space provided.					
7.66		Students to carry out research. You can show them one as an examp				em one as an example	
		and then they	can carry	out research on three other probes. They need			
		to be aware of	the adva	antages and disadvantages of each one. This			
		can also be do	ne as a g	group activity, and then groups can share			
answers with the whole			class.				
Main		Γ					
Time		Students to pla	an and sk	etch the model in	this sta	ge. This is an important	
		part of this sec	tion. Cor	nplete <b>Activity 4</b> .			
		Based on the i	requirem	ents and the resea	arch, st	udents need to design	
		their own prot	be which	they will be desig	anina i	n Fusion 360. Thev can	
		show 4 differen	nt angles	or sides		,,	
<u>Plenary</u>							
Time		Students to complete the sketch.					
Assessme	nt	Review Activity 3 and Activity 4. Award marks according to the					
<u>focus</u>		marking criteria.					
		Teachers can award 1 mark to each sketch if they are clear, unique and					
		have distinctive	s for a maximum o	of 4 ma	irks. Remember to		
		evaluate and give feedback to the students before proceeding to				pre proceeding to the	
		final design.					
Learning		The entire cou	The entire course plus specific instructional videos are available on				
<u>curve</u>		Learning curve via this link.					

	Click <u>here</u> to open the link.
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Grade	8	Subject	DT	Lesson Number	1	Week number	14
Unit		Date		Time Page nu		Page numbe	er
5 WC: 02/12/18		45 minutes 128-130					
Equipment required:			Learning objectives				
Grade 8 book			1.1 Understand the	e Mars	Challenge.		
phone (if possible)			12 Plan design	and na	aper <b>sketch</b> the c	hosen	
computers			solution	und pt	aper sketen the e	nosen	
Autodesk Fusion 360 software			1.3 <b>Sketch</b> the chosen solution using <b>Eusion 360</b>				
			1.4 Justify the decign aspect and evaluate the				
				design and product			
				1.5 Evaluate and re	uuci.	<b>decign</b> to prost the	Mora
				1.5 Evaluate and re		e <b>design</b> to meet the	enviars
					gn crite	eria.	
Keywords	5			Probe, tools, wor	k plan,	criteria	
Starter/In	itrod	uction activity			<del>.</del>	·	
		Students to th	ink of th	e measurements.	This is	very important a	as the
	es	printer can only print small models. They can use a measuring tape or a					e or a
Арр	ruler.						
Main							
Time		Students to complete <b>Activity 5</b> by sketching your probe					
		Complete Activ	vity 6 by	/ identifying the work steps needed in order to			
		design the pro	be in Fu	sion 360. List the <b>tools</b> , <b>dimensions</b> , <b>shapes</b> etc.			
		students are go	oing to u	se.			
		Once the <b>wor</b>	k stens	have been compl	eted (	students need to	start
		designing the	nroho ir	Eucion 260 Pom	ind ctu	idents to focus o	n tha
		uesigning the		r ant aritaria. Stud			
		project brief an	a assess	ment criteria. Stud	ents to	save their work as	stney
		will need to co	ntinue w	orking on this in t	ne nex	t lesson.	
		Students will co	ome up v	with different mea	sureme	ents for each part	of
		the probe. You	can guio	de them on the me	easurei	ments. This can be	٤
		scaled down during printing if necessary. The last rows are left empty					וpty
		for students to write something they want to add.					
<u>Plenary</u>							
Time		Students to carry on designing using Fusion 360.					
Assessme	ent	Review <b>activity 5</b> and award marks accordingly. Review the work					
<u>focus</u>		completed by students in this lesson.					

	Award marks based on realistic measurements. The maximum dimensions a school 3D printer can print is H-140 mm, W–140 mm and L-140 mm Award one mark for a clear sketch, one mark for dimensioning and labelling and one mark for including at least one advantage AND disadvantage.
<u>Learning</u>	The entire course plus specific instructional videos are available on
<u>curve</u>	Learning curve via this link.
	Click <u>here</u> to open the link.

Grade	8	Subject	DT	Lesson Number	2	Week number 14	
Unit		Date		Time		Page number	
5 WC: 02/12/18		45 minutes 130		130			
Equipment required:			Learning objectives				
Grade 8 book			1.1 Understand the	e <b>Mars</b>	Challenge.		
phone (if possible)			1.2 Plan, design	and pa	aper <b>sketch</b> the chosen		
computers			solution.	I			
Autodesk	Fus	ion 360 softwar	е	1.3 <b>Sketch</b> the cho	sen sol	ution usina <b>Fusion 360.</b>	
				1.4 Justify the <b>design aspect</b> and <b>evaluate</b> the			
				design and product.			
				1.5 Evaluate and re	evise the	e <b>design</b> to meet the <b>Mars</b>	
				Challenge desi	gn crite	eria.	
Keywords	5			review, interestin	g featu	Jre	
Starter/In	trod	uction activity		· ·	<u> </u>		
Time		Students to co	ntinue w	ith the design fror	n the la	ast lesson.	
10 Minute	es			2			
Арр							
Main	Main						
Time		Students to continue working on designing the probe.					
		Remind studer	nts to revi	iew the <b>assessmen</b>	t criter	<b>ia</b> and design the probe	
		which meets th	ne brief.				
		Students to co	mplete <b>A</b>	ctivity 7. Students	to prin	t the model on a paper	
		once complete	d and pa	aste it in the book.	to più		
Plenary							
Time							
Assessme	ent	Review Activity	<b>/ 6</b> and m	nark the work acco	ordinal	٧.	
focus		Teacher to revi	ew the c	ompleted model a	and ens	sure that it is designed	
		using the corre	ect tools,	shapes, properties	s etc. A	sk students to write	
		comments to j	ustify the	e completed task. Comments here will be useful			
		in the next sec	tion as th	ney will need to im	prove	the work based on the	
		comments.					
		Review Activity 7 and mark the work accordingly.					
Learning		The entire cou	rse plus s	specific instruction	al vide	os are available on	
<u>curve</u>		Learning curve via this link.					
		Click here to open the link.					

Grade	8	Subject	DT	Lesson Number	3	Week number	14		
Unit		Date		Time		Page numbe	er		
5 WC: 02/12/18			45 minutes 131-134						
Equipment required:			Learning objectiv	Learning objectives					
Grade 8 book				1.1 Understand the Mars Challenge.					
phone (if possible)				1.2 Plan, design and paper sketch the chosen					
computers				solution.	solution.				
Autodesk Fusion 360 software			1.3 <b>Sketch</b> the chosen solution using <b>Fusion 360</b> .						
				1.4 Justify the <b>de</b>	sign a	spect and evaluat	e the		
				design and pro	design and product				
				1.5 Evaluate and re	vise the	e <b>desian</b> to meet the	e Mars		
				Challenge desi	an crite	eria.			
Keyword	s			self-evaluation te	acher	feedback_test_bu	ddv		
incy word.	•			feedback	Jucher		aay		
Starter/In	ntrod	uction activity							
Time		Students to fin	ish off t	he evaluation section	on.				
10 Minut	es								
Арр									
Main									
Time	Students to finish off a			any work left and	comple	ete the <b>self-evalu</b>	ation.		
		This needs to b	pe done	in detail in order to	in detail in order to get good marks.				
	Ask students to explain		each question. Students to get the teacher and						
	test buddy's feedback a			at this stage as wel	I.				
Plenary									
Time		Review the wor	<sup>-</sup> k comp	leted and hand the	work ir	n to the teacher to	mark		
the project.									
Assessme	ent	Review Activity	8 and 2	award marks accord	linaly	Teacher to finalise	the		
focus	<u></u>	marks and add marks given for each section							
		Self-Reflection							
		How did you	find A	ward 1 mark if their	r answe	er refers to the too	ols		
		the planning a	and a	nd skills used in pre	vious	units as well as			
		sketching sec	tion a	ddressing any areas	s that r	nay have been			
		of the project	? la	acking.					

	Did you find it easy to design your probe using Fusion 360? Why or why not?	Award 1 mark if their answer refers to the F360 tools and skills used in previous units as well as addressing any areas that may have been lacking.	
	Did your final probe meet the project brief? Explain why or why not?	Award 1 mark sufficient expla point from the	if their answer presents a anation that utilises at least 1 key e project brief.
	What wer	t well	What can be improved
	1 mark for identify areas of the projec well.	ing at least 2 t that went	1 mark for identifying at least 2 areas of the project that could be improved in the future.
<u>Learning</u> <u>curve</u>	The entire course plus specific instructional videos are available on Learning curve via this link. Click here to open the link.		