Introduction to the Design Process

E-safety

Protection against cybersecurity issues

Part A.

It's important to make sure your password is strong.

- A strong password has:
- 6 characters or more.
- letters.
- numbers.
- 1 capital letter or more.
- symbols (@, _, #, $, %, -, /).

Look at the passwords below.

Which ones are strong? Which ones are weak?

Passwords	Strong	Weak
Cats%run8912		
Pretty20		
Flowers		
pink-Rabit75		
spiderman		

Part B.

Using what you've learnt, create a strong password. _____

What is design?

Design improved the TV. How did it?

1950s TV	Current TV
Small screen	Big screen

~~Small screen~~	Less expensive	Uses a lot of space	Lightweight	~~Big screen~~
Expensive	Heavy	Nice to look at	Uses less space	Not nice to look at

Activity 3

Interactive

Look at the pictures. They changed after new designs were created. Draw a line from the picture before, to how it changed.

Before	Now
	
	
	
	
	

STREAM

Design evolution

You are a young designer. What do you think design will look like in the future?

Draw a future car. What features will it have? Write some sentences about it.

My future car is called: _____.

The car has the features below:

1. _____

2. _____

3. _____

How are designs created?

Put the steps below into the correct order. The first one is done. you.

The table is built in the factory.

Sketches of the table are created.

A customer buys the table from the store.

1

Designer thinks of an idea – a table.

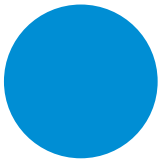
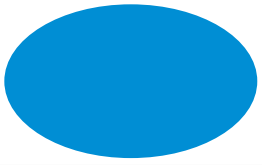
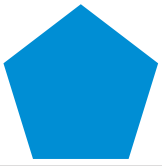
A 3D model of the table is created on the computer.

What is the difference between 2D and 3D?

Activity 6

Interactive

Identify the 2D shapes? Draw a line from the shape to its name.

Shape	Name
	Triangle
	Ellipse
	Circle
	Pentagon
	Square
	Rectangle

Activity 7

Interactive

Draw a line from the 2D shape to its 3D shape.

2D shape		3D shape	
Triangle		Cuboid	
Circle		Diamond	
Square		Pyramid	
Rectangle		Sphere	
Rhombus		Cube	

DID YOU KNOW?

Shapes are used in Maths, Art and Engineering.

Introduction to sketching

Create 2D (orthographic) designs for an object (e.g. car, shape, table). Use the 2D car sketches from the student book as an example.

Top view

Front view	End view

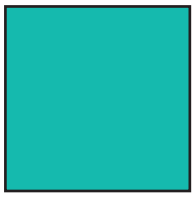
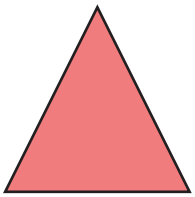
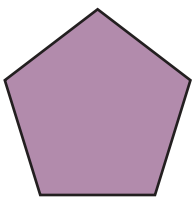
DID YOU KNOW?

Sketching is a very important skill in Art and Engineering.

Activity 9

Theory

Change the 2D shapes into 3D shapes. Use one-point perspective.

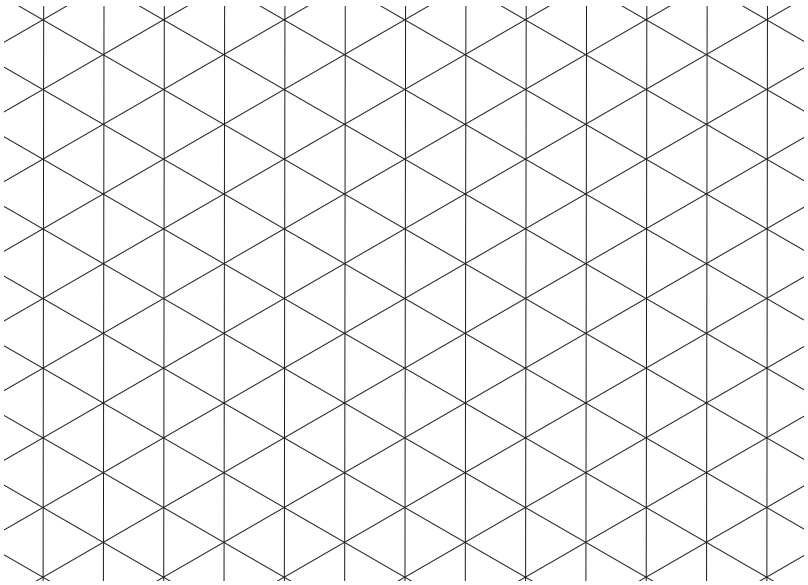
S T R E A M

Advanced 3D sketching – two-point perspective

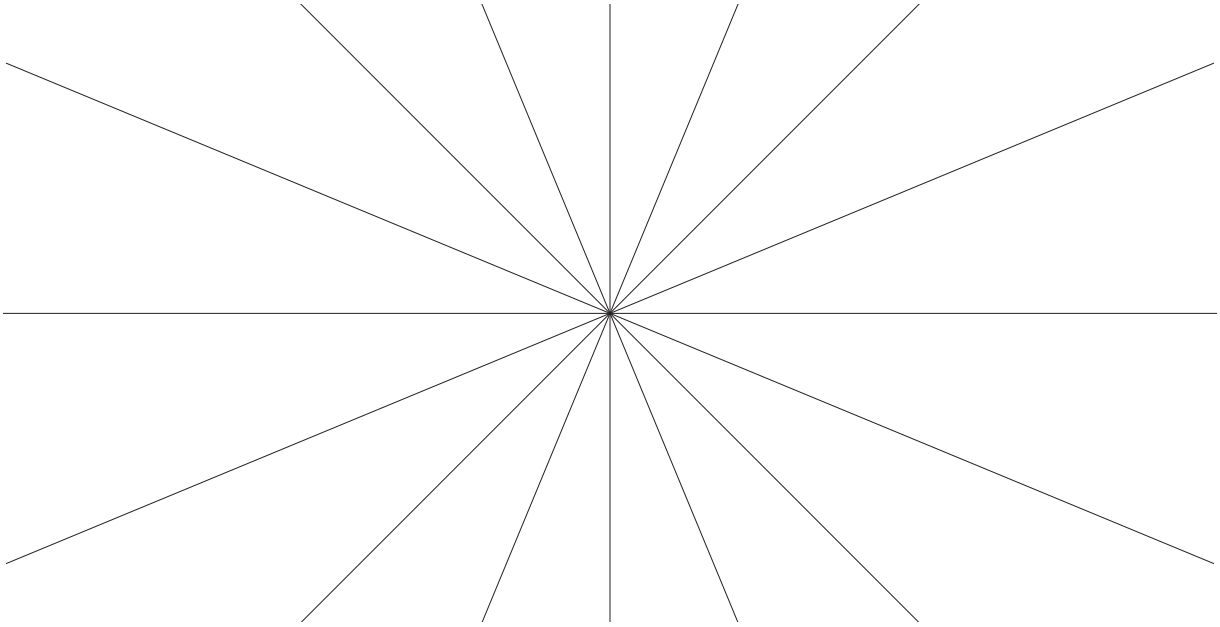
Theory

Activity 10

Create a 3D (isometric) design for a rectangular prism.



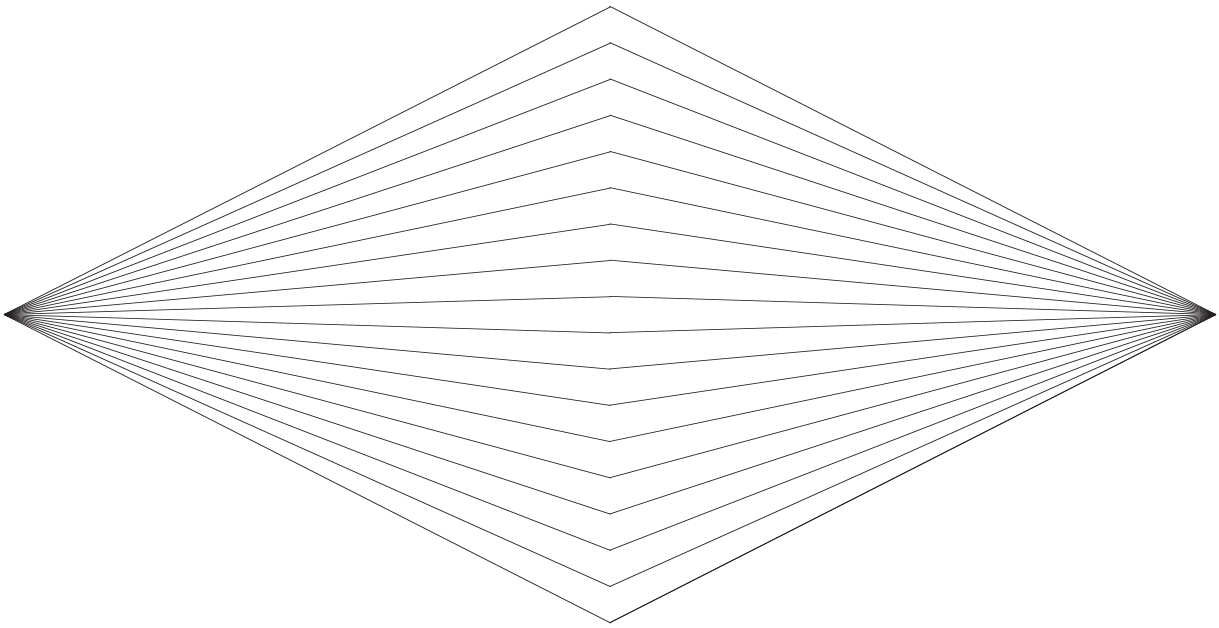
Create a one-point perspective design of a rectangular prism?



Activity 12

Theory

Create a two-point perspective design of a rectangular prism.



Artificial intelligence

Complete the activity below by selecting true or false.

	True	False
Artificial intelligence is made up of 3 main ideas.		
Computers use sensors to learn		
Camera sensors can be used to recognise objects		
Sound sensors are used to measure changes in temperature		
Proximity sensors measure how close something is.		

Student reflection

Write about what you have learned and enjoyed in this unit.

Three things I have learned:

1. ----------

2. ----------

3. ----------

Two things I have enjoyed:

1. ----------

2. ----------

Knowledge and skills reflection

I CAN...			
identify the main differences between 2D and 3D shapes.			
draw shapes in one-point perspective.			
draw shapes in two-point perspective.			
I can name the 5 main ideas that AI is made up of.			
Teacher's comments:			

End of unit quiz

Fill in the blanks.

1. The first car was the _____.

a. the GMC Sierra 1500.

b. the Model T Ford.

c. the Benz Patent Motor Car.

2. What does 2D stand for?

a. One-dimensional

b. Two-dimensional

c. Three-dimensional

3. What is the 3D version of a rhombus?

a. Pyramid

b. Diamond

4. 2D shapes show only one face.

a. True

b. False

5. When sketching, the horizon line is _____.

a. a point where two lines meet and then go away.

b. where the sky meets the ground.

c. a line that is used for drawing.