WORKSHEET 01 · TOPIC 1

Light, *tone* & materials

Every rendering starts with light. In this worksheet you will name what light does to an object, build a tonal scale and use tone to make flat outlines look solid.

⏱ 50 MIN · HB + 2B PENCIL · RUBBER · BOOKLET PAGES 3–9

Name _____

Class _____ Date _____

LEARNING INTENTION

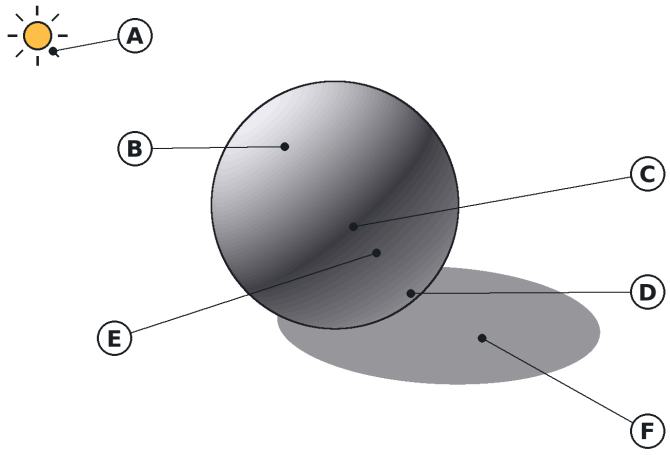
To understand how light, tone and shadow make an object look three-dimensional and show what it is made of.

SUCCESS CRITERIA — I CAN…

- name the parts of a rendering using the correct terms
- build a five-step tonal scale
- render geometric forms with one consistent light source
- describe how different materials are rendered

TASK 1 Spot the light

6 marks



A ball lit from the top left. Name each labelled part.

A _____

B _____

C _____

D _____

E _____

F _____

Word bank: highlight · shade · cast shadow · light source · reflected light · core shadow

TASK 2 Build a tonal scale

Use **one HB pencil**. Change only the pressure. Box 1 stays white paper (highlight); box 5 is as dark as you can make it.

1	2	3	4	5

CHECK

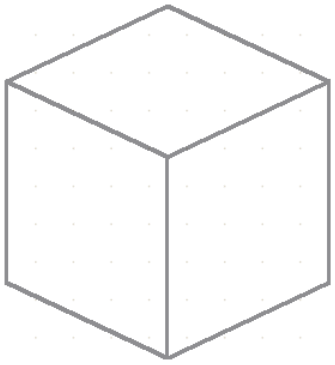
Hold your scale at arm's length and squint. Can you see five **different** steps? If two boxes look the same, adjust one.

TASK 3

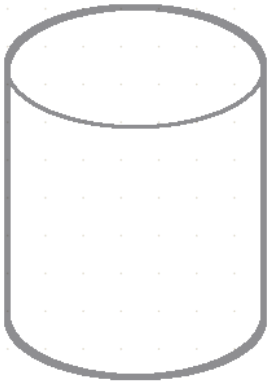
Tone builds form

Render each form in pencil. The light comes from the **top left** (see the sun). Use your tonal scale: lightest faces towards the light, darkest away from it, then add a **cast shadow** on the ground to the right.

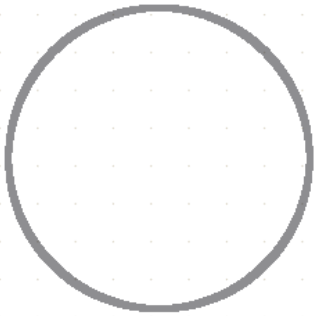
CUBE — THREE FACES, THREE TONES



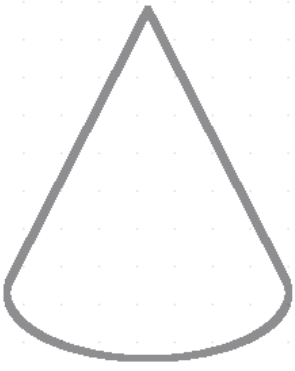
CYLINDER — VERTICAL BANDS



SPHERE — SMOOTH GRADIENT



CONE — BANDS TO A POINT



Type-in version: print this box, or render digitally and hand it in with this sheet.

TASK 4 Materials and why we render

12 marks

1 Describe how an illustrator makes a cylinder look like **polished metal**. 2 marks

2 Describe how a **matt rubber** part is rendered differently from a **gloss plastic** part. 2 marks

3 State the difference between a **material** and a **texture**. 1 mark

4 Explain two reasons why a rendered illustration is used to promote a new product. 2 marks

5 A company has to choose between a **rendered illustration** and an **exploded isometric drawing** for its instruction leaflet. Explain one advantage and one disadvantage of the rendered illustration. 2 marks

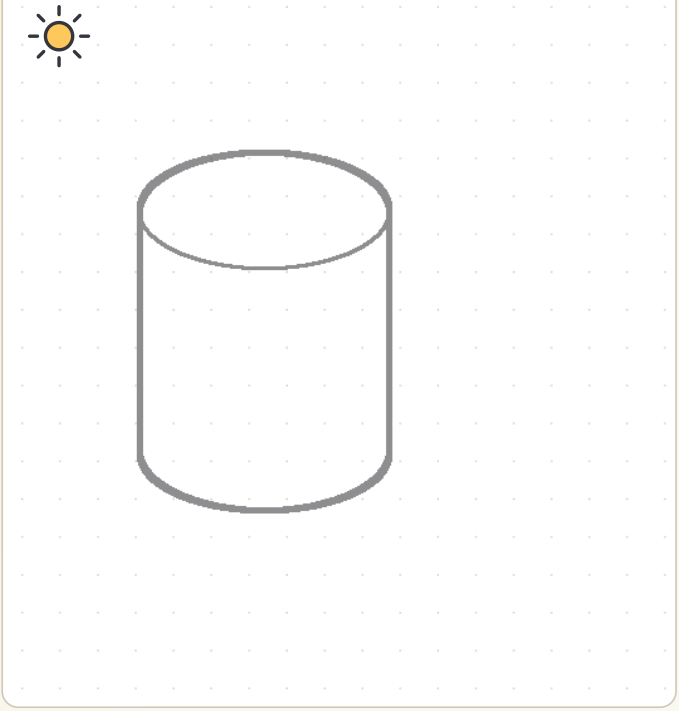
6 State why the shaded side of a rendered object should not be coloured solid black. 1 mark

7 A pupil has drawn the highlight on the left of a cylinder and the cast shadow also on the left. Explain what is wrong. 2 marks

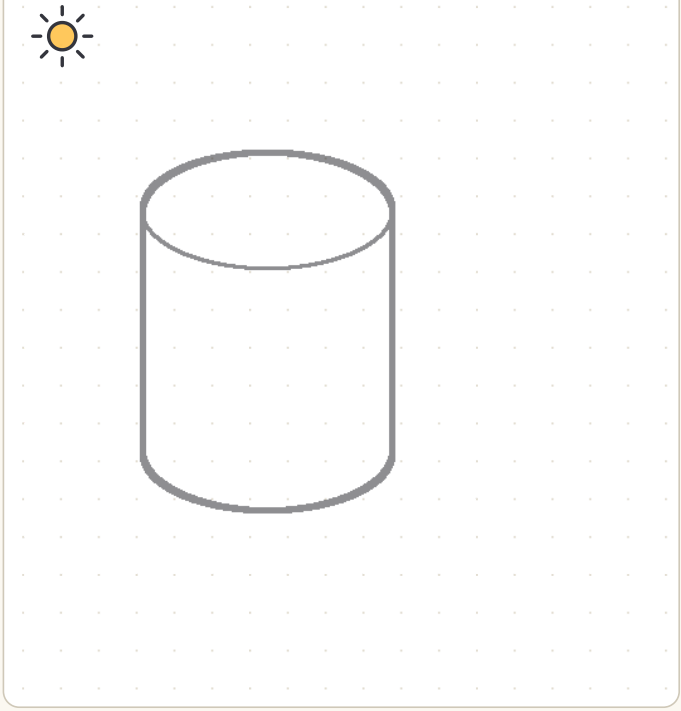
TASK 5 One form, two materials

Render the same cylinder twice. Make the first look like **stainless steel** (high contrast, sharp bands, white strips). Make the second look like **wood** (warm base tone, darker grain lines along the length, end grain rings on top). Keep the light top left.

STAINLESS STEEL



WOOD



Type-in version: print this box, or render digitally and hand it in with this sheet.

Total for knowledge questions _____ / 18

SELF-ASSESSMENT — TICK ONE BOX PER LINE (✓)

I CAN…	NOT YET	NEARLY	GOT IT
name the parts of a rendering (highlight, shade, shadow…)	☐	☐	☐
build a five-step tonal scale	☐	☐	☐
keep one light source across a whole drawing	☐	☐	☐
show metal and wood with tone and texture	☐	☐	☐

One thing I will do to improve: