

GRANITE

Rock



Colour	Pink, white, grey, black (varies)
Texture	Coarse-grained, interlocking crystals
Grain/Crystal Size	Large (2–10 mm)
Lustre	Non-metallic, slightly glassy
Hardness	6–7

SANDSTONE

Rock



Colour	Tan, brown, red, yellow, white (varies)
Texture	Grainy
Grain/Crystal Size	Medium (0.1–2 mm)
Lustre	Non-metallic, dull
Hardness	6–7

MARBLE

Rock



Colour	White, grey, pink, green (varies)
Texture	Crystalline, non-granular (interlocking calcite crystals)
Grain/Crystal Size	Medium to large (0.5–5 mm)
Lustre	Non-metallic, slightly glassy
Hardness	3

QUARTZ

Mineral



Colour	Colourless, white, pink, purple, brown (varies)
Texture	Crystalline
Grain/Crystal Size	Medium to large (1–10 mm)
Lustre	Vitreous (glassy)
Hardness	7

PUMICE

Rock



Colour	Light grey, white, tan (varies)
Texture	Very porous, vesicular
Grain/Crystal Size	Fine (less than 1 mm)
Lustre	Non-metallic, dull
Hardness	5–6

MICA

Mineral



Colour	Silver, gold, brown, black (varies)
Texture	Sheet-like, flaky
Grain/Crystal Size	Large sheets (1–10 mm)
Lustre	Pearly to vitreous (shiny)
Hardness	2–2.5

MATERIAL	KEY PROPERTY/PROPERTIES	COMMON USES	WHY IT IS IMPORTANT AS A RESOURCE
GRANITE 	• Very hard • Durable (long lasting) • Coarse-grained • Made of interlocking crystals	 Benchtops Buildings	• Strong and long lasting. • Used in homes, buildings and infrastructure. • A natural resource that provides materials for construction and keeps places safe and durable.
MATERIAL	KEY PROPERTY/PROPERTIES	COMMON USES	WHY IT IS IMPORTANT AS A RESOURCE
QUARTZ 	• Hard • Crystalline • Often clear or white (but comes in many colours) • Shiny (vitreous lustre)	 Glass Electronics	• Used to make glass and electronics (silicon). • Important for modern technology and communication. • A valuable natural resource used in many everyday products.
MATERIAL	KEY PROPERTY/PROPERTIES	COMMON USES	WHY IT IS IMPORTANT AS A RESOURCE
GRAPHITE 	• Soft • Leaves a mark • Slippery and shiny • Made of thin layers	 Pencils	• Used in pencils and many industrial products (e.g. lubricants, batteries). • Helps with writing, technology and manufacturing. • A natural resource that supports education, industry and daily life.

MATERIAL	KEY PROPERTY/PROPERTIES	COMMON USES	WHY IT IS IMPORTANT AS A RESOURCE
SALT 	• Soluble in water • Soft and brittle • Usually white or clear • Crystalline	 Food (table salt)  Food seasoning	• Essential for human and animal health. • Used to preserve food and keep it safe. • A natural resource that supports food security and everyday life.
MARBLE 	• Hard (but workable) • Crystalline • Smooth • Often white or light-coloured (with patterns)	 Sculptures  Buildings and flooring	• Used in buildings, sculptures and decorative features. • Valued for its beauty and can be shaped and polished. • A natural resource that supports art, culture, architecture and industry.
BASALT 	• Hard • Very durable • Fine-grained • Often dark grey or black • Formed from cooled lava	 Roads  Concrete and construction	• Used in roads, concrete and buildings. • Strong and able to withstand weathering. • A natural resource that helps build infrastructure and supports communities.

MATERIALS SORTING SHEET

MATERIAL	PROPERTY	USE	IMPORTANCE AS A RESOURCE

SAND		CLAY		LOAM		GARDEN SOIL	
							
Colour	Light brown, yellow, beige or white	Colour	Red, brown, grey or sometimes white	Colour	Dark brown	Colour	Dark brown or black
Texture	Gritty and rough	Texture	Smooth and sticky (when wet)	Texture	Soft, crumbly and smooth	Texture	Crumbly and varied
Particle size	Large particles (can be seen easily)	Particle size	Very small particles (cannot be seen easily)	Particle size	Mixture of small and large particles	Particle size	Mixture of small and large particles
Visible organic matter	Very little or none	Visible organic matter	Very little or none	Visible organic matter	Some organic matter (small bits of plant material)	Visible organic matter	Lots of organic matter (e.g. leaf bits, roots, wood)
Water behaviour	Drains quickly. Does not hold water well.	Water behaviour	Holds water well. Drains slowly.	Water behaviour	Holds water well but also drains well (balanced).	Water behaviour	Holds moisture well but still allows drainage.

PROBLEM CARDS



Dry sandy soil

Soil is very sandy, loose and does not hold water or nutrients well.



Waterlogged clay soil

Soil is heavy and compacted. Holds too much water and can become soggy.



Low nutrients

Plants are yellow and not growing well. Soil lacks important nutrients for healthy plants.



Soil dries too quickly

Soil loses moisture very fast, especially in hot or windy conditions.



Poor soil structure

Soil is compacted, hard or clumpy. Roots cannot grow easily and air and water do not move through well.

SOLUTION CARDS



Compost

Adds nutrients, improves soil structure and helps soil hold water.



Mulch

Covers the soil, reduces evaporation and keeps moisture in the soil.



Worms

Break down organic matter, improve soil structure and help nutrients mix through the soil.



Organic matter

Adds nutrients, helps soil hold water and improves soil structure.



Water

Helps plants grow and keeps soil moist (especially when it is too dry).



Mixing soils

Combines different types of soil (e.g. sand, clay and organic matter) to improve structure, drainage and water-holding capacity.