Grade 3 - Matter
How can materials change?

U4: **Solids, liquids, and gases** have distinct properties.

K6: **States of matter** include **solid, liquid, and gas**.

K5: **Matter** is anything that takes up space and has weight.

K16: **Volume** is the amount of space a solid, liquid, or gas takes up.

S5: **Describe** solid, liquid, and gas states of matter in terms of the properties of shape and volume.

S6: **Conduct an investigation** to demonstrate the properties of the state of matter.

K11: A **solid** is a state of matter that has a definite shape and volume.

K12: A **liquid** is a state of matter that has a definite volume but no definite shape.

K13: A **liquid** flows and takes the shape of the container it is in.

K14: A **gas** is a state of matter that has neither definite shape nor definite volume.

K15: A **gas** flows easily and expands to the size of the container it is in.

U3: **Matter can change state** if heated or cooled.

K7: **Melting** is a change of state from solid to liquid.

K8: **Freezing** is a change of state from liquid to solid.

K9: **Evaporation** is a change of state from liquid to gas.

K10: **Condensation** is a change of state from gas to liquid.

S3: **Conduct an investigation** to demonstrate changes of state.

S4: **Discuss examples** of daily activities that include heating and cooling.

U5: Substances change state based on **melting/freezing and boiling points.**

K17: **Substances** are made of matter that has not been mixed with other matter, including water.

K18: The temperature at which a substance changes from solid to liquid is called the **melting point**.

K19: The temperature at which a substance changes from liquid to solid is called the **freezing point**.

S8: **Compare** the melting/freezing and boiling points of various substances, including water.

S7: **Safely explore** the melting/freezing points of various substances.

K20: The **melting and freezing points** of a substance are the same temperature.

K22: The **melting/freezing point of water** is 0ºC.

K21: The temperature at which a substance changes from liquid to gas is called the **boiling point**.

K23: The **boiling point of water** is 100ºC.

U1: **Materials** can be used in their **natural form or processed** to create new materials.

K1: **Processed materials** are modified from natural materials and do not occur in nature.

K2: **Processed materials** are designed and manufactured for a specific purpose.

S1: **Relate** a processed material to the natural material from which it originated.

U2: Interaction with natural materials by First Nations, Métis, and Inuit is guided through living in **harmony and balance with the land.**

K3: First Nations, Métis, and Inuit communities **respectfully interact** with natural materials, such as trees, rocks, ice, shells, plants, and animals.

K4: First Nations, Métis, and Inuit communities interact with natural materials for **specific purposes**, such as teepees, igloos, medicines, clothing, transportation, and ceremonies.

S2: **Discuss** how interaction with natural materials is guided by relationships with the land for First Nations, Métis, and Inuit communities.

U6: The **water** on Earth moves continuously in a **cycle**.

K24: The **water cycle** is a process in which water on Earth moves continuously between bodies of water, land, and the atmosphere.

K25: In the water cycle, **water changes state** from a liquid to a gas through evaporation, forms clouds through condensation, then falls back to Earth in a liquid or solid state (precipitation).

K26: Water can change state from **solid to liquid and back again**.

K27: Water can change state from **liquid to gas and back again**.

S9: **Describe and diagram** the changes of state of water using the water cycle.

S11: **Identify examples** of changes in the state of water in local environments.

S12: **Discuss the importance of safety** around bodies of water that have a surface of ice.

S13: **Discuss the importance of safety** around bodies of water in different seasons.

K28: In **Alberta**, the surfaces of many bodies of water change from liquid in the summer to solid in the winter.

S10: **Discuss ways to respect water** in local environments.

U7: **Changes** to materials or substances can be **permanent or reversible**, depending on the properties of the given materials or substances.

K29: A **reversible change** is a change that can be undone, such as melting or freezing.

K30: A **permanent change** is a change that cannot be undone, such as cooking an egg or baking a cake.

S14: **Discuss examples** of changes to materials or substances that are permanent and examples of changes to materials or substances that are reversible.

S15: **Safely perform experiments** on various materials and substances and classify changes as permanent or reversible.

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Centre for Mathematics, Science, & Technology Education (CMASTE)

Alberta Science Curriculum Map

Additional maps and resources available at: https://www.sciencecurriculumwayfinder.ca

Outcomes from Alberta K-6 science curriculum, March 2023 version

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