

Name _____

Date _____

Processing and
Analyzing
Topic 2.1

Physical and Chemical Properties

Use with textbook pages 68-92.

Identify the physical or chemical property that is described in each statement.

1. Salt dissolves in water. _____
2. Copper produces a green flame. _____
3. An ice cube turns into water at 0 °C. _____
4. Sandpaper feels rough and gritty to the touch. _____
5. Dry Christmas trees can catch fire and burn easily. _____
6. The handle of a metal frying pan is too hot to touch. _____
7. Water heated in a kettle will turn to steam at 100 °C. _____
8. A spoonful of honey will pour slower than a spoonful of vegetable oil. _____
9. Gold is very soft and can be hammered into thin sheets to make jewellery. _____
10. Bubbles form and a gas is given off when vinegar is added to baking soda. _____
11. A copper penny becomes dull brown over time and eventually turns to dull light green. _____
12. Most elements can exist as a solid, a liquid, and a gas, depending on the temperature and pressure. _____
13. The strong triple bond between the atoms of a nitrogen molecule is the reason why nitrogen gas is unreactive. _____

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Evaluating
Topic 2.1

Observing Chemical Reactions

Use with textbook pages 88-92.

Identify a visible sign that a chemical reaction has occurred in each description below.

1. A candle burns. _____
2. A leftover sandwich starts to rot and smell. _____
3. Potassium is added to a beaker of water and a flame appears. _____
4. Exploding fireworks produce an array of beautiful colours and loud sounds. _____
5. Wood is placed in a campfire. It starts to burn, and smoke and black ashes form. _____
6. An iron chain left outside in the rain starts to rust, resulting in a reddish-brown colour. _____
7. A piece of calcium metal is placed in a beaker of water. Bubbles of hydrogen gas form in the water. _____
8. Colourless hydrochloric acid is poured into a beaker with a red solution of cobalt(II) nitrate. The solution turns blue. _____
9. Dough is wrapped around a stick and roasted over an open fire. The bannock turns brown and is cooked all the way through. _____
10. A solution of clear reddish-orange sodium dichromate is added to a colourless solution of lead nitrate. A yellow insoluble solid forms. _____

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Literacy Strategies
Topic 2.1

Pure Substances and Mixtures

Use with *Textbook* pages 88-92.

Use the following reading passage to answer questions 1 to 3.

Your alarm goes off at 7:00 a.m. and you roll out of bed. You make your way to the kitchen and pour yourself a glass of pulpy orange juice. The sour taste helps you wake up. You walk over to the cupboard and reach for your favourite granola cereal that has cranberries and nuts in it. You add some milk to your cereal and sit down to eat while trying to remember all the things you need for school. As you get up, you accidentally knock over a copper salt shaker and some table salt spills out. You quickly clean up the mess with a sponge and water.

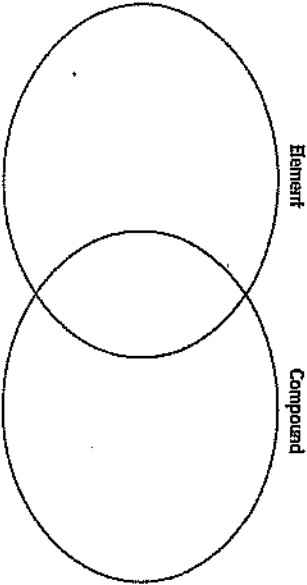
Next, it's off to the bathroom to brush your teeth. You love the feel of a clean mouth—baking soda toothpaste and minty mouthwash does the trick! Then, you jump into the shower and scrub yourself down with a bar of soap. You quickly get dressed and put on your silver necklace and gold earrings. Next, you're off to the kitchen to make your lunch for school. You pack two slices of leftover pepperoni pizza, a fruit salad, and a can of pop. You grab your backpack and head out the door. As you leave your house, you take a deep breath of fresh air and then exhale a cloud of carbon dioxide. Off to school, you go.

1. Marking the Text

Pure substances and mixtures are all around us. Using two different colours, highlight all the pure substances and mixtures mentioned in the reading passage.

2. Comparing and Contrasting—Using Graphic Organizers

Comparing and contrasting helps us understand how two concepts are similar and different. Complete the Venn diagram to visually show the similarities and differences between an element and a compound.



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3. Identifying Concepts

In the table below, compile a list of all the pure substances and mixtures that are mentioned in the reading passage in the order that they appear. Determine whether the sample is an element, a compound, a homogeneous mixture or a heterogeneous mixture. If the sample is a mixture, identify at least two substances that make up that mixture.

Sample	Type of Mixture	Substances in Mixture
a)		
b)		
c)		
d)		
e)		
f)		
g)		
h)		
i)		
j)		
k)		
l)		
m)		
n)		
o)		
p)		
q)		