

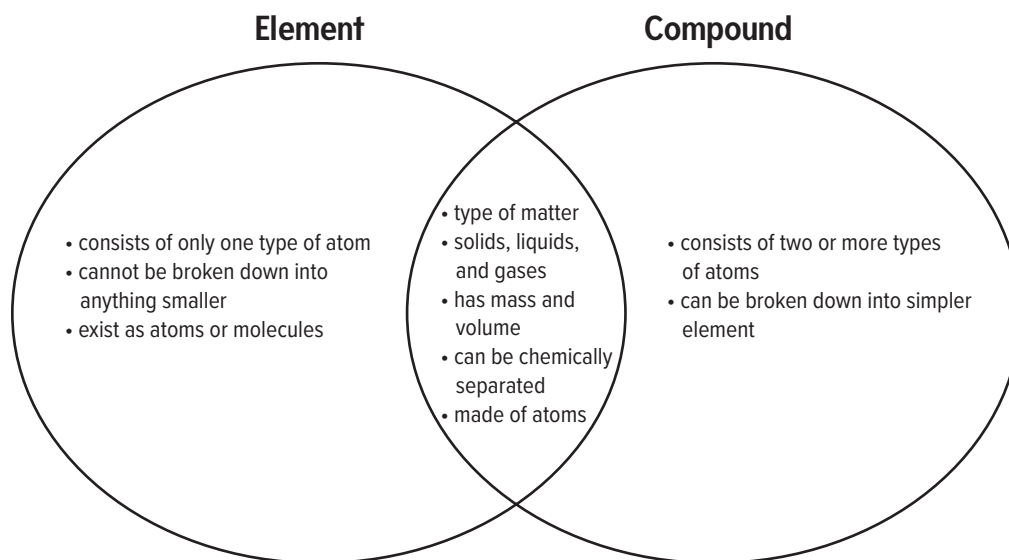
## Topic 2.1 How and why do we study matter?

### Pure Substances and Mixtures, pages 45–46

1. Pure substances: copper, table salt, water, baking soda, silver, gold, carbon dioxide

Mixtures: orange juice, granola cereal, milk, toothpaste, mouthwash, soap, pepperoni pizza, fruit salad, pop, air

2.



3.

	Sample	Type of Matter	Substances in Mixture
a)	pulpy orange juice	heterogeneous mixture	water, sugar, orange
b)	granola cereal	heterogeneous mixture	cereal, nuts, fruits
c)	milk	homogeneous mixture	water, sugar, fat
d)	copper	element	
e)	table salt	compound	
f)	baking soda	compound	
g)	water	compound	
h)	toothpaste	homogeneous mixture	baking soda, fluoride, gels
i)	mouthwash	homogeneous mixture	alcohol, water
j)	soap	homogeneous mixture	oils, lye
k)	silver	element	
l)	gold	element	
m)	pepperoni pizza	heterogeneous mixture	flour, cheese, pepperoni
n)	fruit salad	heterogeneous mixture	different fruits
o)	pop	homogeneous mixture	water, carbon dioxide
p)	air	homogeneous mixture	oxygen, nitrogen
q)	carbon dioxide	compound	







***Physical and Chemical Properties, page 47***

1. solubility
2. colour
3. melting point
4. texture
5. combustibility
6. ability to conduct heat and electricity
7. boiling point
8. viscosity
9. malleability and hardness
10. reactivity with acids
11. reactivity with oxygen
12. state of matter
13. lack of reactivity

***Observing Chemical Reactions, page 48***

1. release of heat and light
2. change in odour
3. release of heat and light
4. release of heat and light
5. release of heat and light, formation of a new substance
6. change in colour
7. formation of gas bubbles
8. change in colour
9. formation of a new substance
10. formation of a precipitate

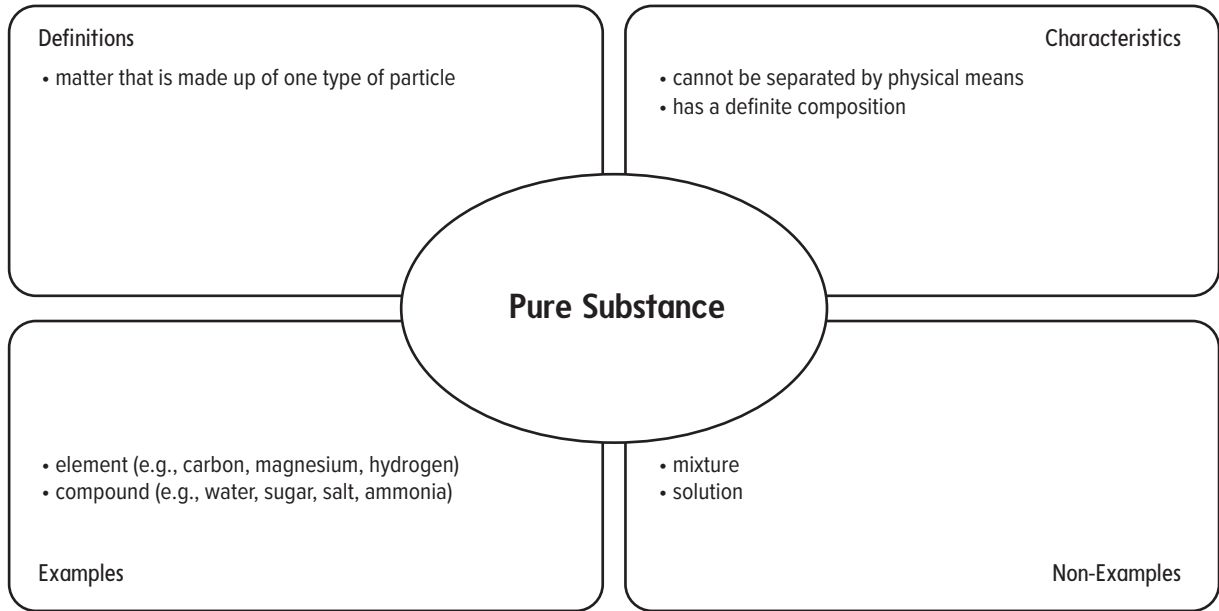
*Safety First, page 49*

	Safety Icon	Safety Hazard	Precaution
a)	Eye Safety 	<ul style="list-style-type: none"> <li>chemicals can splash into eyes</li> <li>glass can shatter and fly into eyes</li> </ul>	Always wear safety goggles when working with chemicals and glassware.
b)	Clothing Protection 	<ul style="list-style-type: none"> <li>spills and splatters from harmful chemicals</li> </ul>	Wear a lab apron to protect his clothes and skin from spills.
c)	Thermal Safety 	<ul style="list-style-type: none"> <li>glassware and equipment can get hot and cause severe burns</li> </ul>	Handle hot objects carefully by wearing protective mitts.
d)	Skin Protection 	<ul style="list-style-type: none"> <li>some chemicals can cause burns or irritation when skin comes into contact with them</li> </ul>	Wear protective gloves to protect himself from chemicals that might burn his skin or cause irritation.
e)	Electrical 	<ul style="list-style-type: none"> <li>electrical equipment can cause electrocution if it comes into contact with water</li> <li>electrical cords could cause people to trip</li> </ul>	<p>Make sure that hands are dry when touching electrical cords, plugs, and sockets.</p> <p>Place electrical cords where they are visible so people do not trip.</p>
f)	Chemical Safety 	<ul style="list-style-type: none"> <li>corrosive chemicals can cause severe burns.</li> <li>chemicals can be toxic</li> </ul>	Be careful when working with corrosive and toxic chemicals. If he spills some chemical he should wash the area thoroughly.

*2.1 Assessment, pages 50–54*

- |       |       |
|-------|-------|
| 1. A  | 14. D |
| 2. E  | 15. A |
| 3. H  | 16. C |
| 4. C  | 17. A |
| 5. B  | 18. A |
| 6. D  | 19. A |
| 7. G  | 20. D |
| 8. F  | 21. A |
| 9. B  | 22. A |
| 10. C | 23. A |
| 11. A | 24. A |
| 12. B | 25. B |
| 13. D | 26. C |

27.



28.

