SC6 Covalent Bonding
Topic Progression Checklist

I know this → colour green	I'm not sure → colour yellow	I don't know this → colour red

Subtopics and Learning Objectives	Start	End
CC6a Covalent Bonds		
Explain how covalent bonds are formed.		
Recall the names of some common molecular elements.		
Recall the names of some common molecular compounds.		
State the bonding that is found in molecules.		
State the approximate size (order or magnitude) of atoms and small molecules.		
Explain the formation of covalent bonds using dot and cross diagrams.		

SC7 Types of Substance
Topic Progression Checklist

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Subtopics and Learning Objectives	Start	End
CC7a Molecular Compounds		
Recall examples of common covalent, simple molecular compounds.		
Describe the general properties of covalent, simple molecular compounds.		
Explain why covalent, simple molecular compounds have low melting and boiling points.		
Explain why covalent, simple molecular compounds are poor conductors of electricity.		
Describe the structure of a polymer.		
CC7b Allotropes of Carbon		
Recall some allotropes of carbon.		
Describe the basic differences between covalent, simple molecules and giant covalent structures.		
Describe the structures of diamond, graphite, fullerenes and graphene.		
Describe the properties of diamond, graphite, fullerenes and graphene.		
Explain the properties and uses of diamond and graphite in terms of their structure and bonding.		
Explain the properties of fullerenes and graphene in terms of their structure		

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Subtopics and Learning Objectives	Start	End
and bonding.		
CC7c Properties of metals		
Describe the particles and how they are arranged in metals.		
Explain why metals are malleable.		
Explain why metals conduct electricity.		
Describe the typical properties of metals.		
Describe the typical properties of non-metals.		
CC7d Bonding Metals		
Give examples of ionic; covalent, simple molecular; covalent, giant molecular; and metallic substances.		
Describe how the different types of bonds and structures are formed.		
Explain how the structure and bonding of a substance is linked to its physical properties. (Relative melting point and boiling point, relative solubility in water and ability to conduct electricity, as solids and in solution.)		
Explain why we use models to represent structure and bonding.		
Represent structures and bonding using a variety of different models (dot and cross, ball and stick, 2D, 3D).		
Describe the limitations of the different models used to represent structure and bonding (dot and cross, ball and stick, 2D, 3D).		