Q: How did Mendeleev organise his Periodic Table in 1869?	Q: How are elements divided between metals and non-metals within the Periodic Table?
Q: Describe the structure of the atom.	Q: What does the nucleus of an atom consist of?
Q: Describe the relationship between the number of protons in an atom and the number of electrons.	Q: Where are the electrons found in the atom?
Q: How does the size of the nucleus compare with the size of the atom?	Q: Describe atoms of an element in terms of number of protons.

A: There is a “staircase line” starting at boron and finishing at polonium, with metals to the left of the line and non-metals to the right of the line.	A: He arranged the elements in order of increasing atomic weight (later replaced by atomic number); he arranged elements with similar chemical properties in the same group; he left gaps for undiscovered elements and predicted their properties.
A: The nucleus is made up of protons that have a positive charge, and neutrons that have no charge.	A: Atoms are composed of a central core called the nucleus, with negatively charged particles called electrons, surrounding the nucleus.
A: Electrons can only have certain energies when they surround the nucleus. We sometimes say that electrons that have the same energy are found in the same shell of an atom.	A: Atoms have no overall charge. This is because each atom contain an equal number of positively charged protons and negatively charged electrons.
A: Any atom of a given element will have the same number of protons in the nucleus, and that number is unique to the element.	A: The nucleus of the atom is very small compared to the overall size of the atom (the nucleus is ~10^{-15} m across, whereas an atom is ~10^{-10} m across).

Q: What are the relative charges of protons, neutrons and electrons?	Q: What are the relative masses of protons, neutrons and electrons?
Q: What is meant by the term ‘atomic number’?	Q: What is meant by the term ‘mass number’?
Q: What is meant by the term ‘relative atomic mass’?	Q: In terms of the Periodic Table, what is meant by a ‘period’?
Q: In terms of the Periodic Table, what is meant by a ‘group’?	Q: What is an isotope?

A: 1, 1 and 1/1836.	A: +1, 0, and -1.
A: The total number of neutrons and protons within the nucleus of an atom (same as the nucleon number).	A: The number of protons inside the nucleus of an atom (same as the proton number).
A: A horizontal row in the Periodic Table, arranged in increasing atomic number.	A: The average atomic mass of an element taking into account the relative abundance of the isotopes of the element.
A: (1) Nuclei of atoms with the same number of protons but a different number of neutrons; (2) Atoms with the same number of protons but different numbers of neutrons.	A: A vertical column in the Periodic Table, consisting of elements with similar chemical properties.

Q: Why do some elements have relative atomic masses that are not whole numbers?	**Q: Carbon exists as 98.93% carbon-12, and 1.07% carbon-13. What is its relative atomic mass?**
Q: Chlorine exists as 75% chlorine-35, and 25% chlorine-37. What is its relative atomic mass?	Q: What is the electronic configuration of carbon (atomic number = 6)?
Q: What is the electronic configuration of sodium (atomic number = 23)?	Q: What is the electronic configuration of argon (atomic number = 18)?
Q: How many outermost electrons are found in atoms of Group 1?	Q: How many outermost electrons are found in atoms of Group 7?

A: (12 x (98.93/100)) + (13 x (1.07/100) = 12.0107 (rounded to 12.01).	**A: Because elements exist in different isotopic forms, which have different mass numbers (owing to different numbers of neutrons in the nucleus).**
A: 2.4.	**A: (35 x (75/100)) + (37 x (25/100)) = 35.5.**
A: 2.8.8.	A: 2.8.1.
A: 7.	A: 1.