Write *Check, Link, Connect* questions

2C – Write comprehension and inference questions to check/build understanding

Check Link Connect questioning is a method of scaffolding pupils' comprehension during reading. They support pupils to identify key information, make local and global inferences, and build a mental model of the text. More details on how these are delivered *during* reading can be found in 6A, 6B and 6C.

Why script questions?

Writing questions ahead of a lesson is an important part of supporting reading. By scripting 'Check Link Questions', teachers can ensure clarity and judiciousness, in order to maintain flow and fluency during reading while also supporting comprehension.

Asking badly worded questions, which may happen when not scripted or even thought of before reading, may cause confusion for pupils, or disruption to the reading and to the lesson. It will also make it more difficult to assess pupil comprehension if the teacher is unclear on the answer they expect.

Choosing the right balance

The example questions on the following Magnetism article demonstrate how a teacher would plan to ask certain questions during reading – how many and when. The total number of questions here seems appropriate for the reading purpose (comprehension and knowledge building). Some teachers might not ask one or two of the 'Check' or 'Link' questions when reading, depending on the class.

As a general rule, when reading to support comprehension, 'Check' questions should outweigh 'Connect' questions. In the example, the questions for lines 1-22 demonstrate how 'Check' and 'Link' dominate at this early stage for the teacher to be confident in pupil understanding before continuing.

Questions can be tapered away for the rest of the article, so as not to affect fluency. For an article of this type, it is also sensible to pause at the end of a paragraph to ask questions, rather than stopping after every sentence. Seemingly small choices like these serve to illustrate the amount of thought required to support pupil reading.

⟶ For more details on *Check, Link, Connect* questioning, see 6A.

Write *Check, Link, Connect* questions

Check, Link, Connect exemplar

Magnetism

Key
- Check
- Link
- Connect

Background

Our story begins with a spot of mining. Magnetic materials were not invented but have always existed in natural forms such as the elements iron, nickel, and cobalt. Magnetic materials were initially mined from the ground with the most common naturally occurring magnetic material being magnetite (a combination of iron and oxygen in the combination Fe3O4). When mining magnetite, miners would have noticed that two pieces of magnetite would be attracted to one another when placed in one **orientation**, whilst they would repel when one of the pieces was flipped around. For a long time in human history, though, magnets had no significant practical use.

Prior to 1000 BC, finding your way across land or sea required using the position of the sun or stars in the sky, but these methods require good weather conditions. A **revolution** occurred in China, when people took pieces of magnetite and floated them on water so they were free to move. They realised that no matter what time of day or the weather conditions, the piece of magnetite would move in the water to point northwards. The first compass needle had been invented and the end that pointed northwards was called the 'north pole' of the magnet.

In the 15th century, William Gilbert was the first person to explain why compasses all pointed north. His experiments showed that the Earth has its own **magnetic field**, with the magnetic poles being located close to the geographical north and south pole. His explanation meant that the north pole of a compass needle must point towards the south pole of the Earth's magnetic field for them to be attracted to one another. This meant that the magnetic poles of the earth must be the opposite way around to the geographic poles. The geographic north pole hosts the south pole of the earth's magnetic field.

Compasses also lead to the next revolution in our understanding of magnetism. Hans Christian Ørsted was giving a lecture in 1820 when he noticed that the needle of a compass was deflected from pointing north when he turned on an **electric current**. Prior to this, people had only ever seen magnets move due to the presence of other magnetic fields. Realising this, Ørsted concluded that the electric current must be producing a magnetic field of its own, and that the compass was interacting with this. This realisation has paved the way for scientists to create giant magnetic fields using coils of current-carrying wire, these devices are called **electromagnets.**

Name 2 magnetic materials.

Why is magnetite considered a compound?

What would miners have noticed about the magnetite?

How was magnetite used?

Why was one end of the magnet called the north pole?

What did Gilbert discover about the Earth?

Why must the magnetic poles be the opposite of the geographical poles?

What happened when Orsted turned on electric current?

What did Orsted conclude from this?

Why do scientists create electromagnets?

What are the advantages of electromagnates compared to a permanent magnet?

Vocabulary

Line 6. **Orientation** – positioning something in relation to the points of a compass
Line 10. **Revolution** – a dramatic and wide-reaching change in conditions, attitudes, or operation
Line 17. **Magnetic field** – the region in which a non-contact magnetic force is exerted on a magnetic material
Line 25. **Electric current** – a flow of electricity which results from the ordered directional movement of charged particles
Line 30. **Electromagnet** – an iron core made into a magnet by the passage of electric current through a coil surrounding it