

How can BEST help you work towards the recommendations of the **EEF** *Improving Secondary Science* report (2018)?

1

Preconceptions:
Build on the ideas that pupils bring to lessons

How
BEST
Best Evidence Science Teaching
can help:

Research summaries

Research findings on common preconceptions and misunderstandings explained clearly

Diagnostic questions

Quickly identify the preconceptions and misunderstandings students have

Response activities

Adaptive teaching to meet students' learning needs and build understanding

2

Self-regulation:
Help pupils direct their own learning

How
BEST
Best Evidence Science Teaching
can help:

Small-group discussion activities

Engage students in metacognitive dialogue

'Talking heads' activities

Encourage exploratory talk

Building explanations

Help students to link scientific ideas through sequencing activities and explanatory stories

3

Modelling:
Use models to support understanding

How
BEST
Best Evidence Science Teaching
can help:

Building understanding

Explicit use of models help to explain difficult ideas and make predictions

'Critiquing a representation' activities

Help students to think critically about scientific models by identifying their benefits and limitations

4

Memory:
Support pupils to retain and retrieve knowledge

How
BEST
Best Evidence Science Teaching
can help:

The 'big ideas' of science

Developed through key concepts

Key concepts

Focus learning to reduce cognitive load with appropriately-sequenced learning steps

Conceptual progression maps

Focus teaching in students' 'zone of proximal development'

5

Practical Work:
Use practical work purposefully and as part of a learning sequence

How
BEST
Best Evidence Science Teaching
can help:

Purposeful practical work

Practical activities focused on developing understanding and key competencies

'Predict-explain-observe-explain' activities

Challenge students to apply what they know

Cognitive conflict

Practical activities to challenge students' misunderstandings

6

Language of Science: Develop scientific vocabulary and support pupils to read and write about science

How
BEST
Best Evidence Science Teaching
can help:

'Focused cloze' activities

Consolidate understanding of key scientific terms

'Re-phrasing' activities

Students encouraged to express scientific ideas in their own words

'Identifying evidence' activities

Challenge students to identify the key ideas in passages of scientific writing

7

Feedback:
Use structured feedback to move on pupils' thinking

How
BEST
Best Evidence Science Teaching
can help:

Progression toolkits

All that is needed for progression without levels, including:

Progression pathways

Research-informed learning steps for each key concept

Diagnostic questions

Provide feedback from student to teacher, to help you decide what happens next

Response activities

Challenge misunderstandings and build scientific thinking