

● Use appropriate classroom strategies

Create opportunities for pupils to show their scientific knowledge and understanding through a variety of writing styles

- ‡ Include both personal and imaginative styles

Model and explain the writing process to pupils

- ‡ Include explanation, conclusion or evaluation

Scaffold the development

- ‡ Compose the writing together initially
- ‡ Guide and scaffold early attempts
- ‡ Wean pupils towards independence

Give examples of others' work

- ‡ Examine, evaluate and improve these

Teach pupils to write explanations

- ‡ Use scientific vocabulary accurately
- ‡ Link cause with effect
- ‡ Use connectives, especially because
- ‡ Use comparative statements: the '...er ...er rule'

● Make writing purposeful

Don't ask pupils to copy notes or other work

- ‡ Copying involves very little thinking and learning
- ‡ Use the time saved for more productive work
- ‡ Monitor the amount of routine copying, recording or written work done. Review one term of pupils' written work. Judge the impact on pupils' learning

Use writing activities that require active engagement, decision making and thinking by pupils

- ‡ Some Directed Activities Related to Text (DARTs) are good for this

Make sure the writing helps pupils to show what they have learned

- ‡ Ask pupils what they think of the amount of writing they do in your lessons
- ‡ Ask pupils what sort of writing helps them learn best

Better writing in science
think → talk → write

● Teach scientific vocabulary systematically

Sound out the words

Use the words explicitly and often

Rehearse spelling, pronunciation and meaning

Be rigorous but sensitive in correcting pupils' use of scientific words

- ‡ Allowing inaccurate use will hinder pupils' progress

● Be clear about audience and purpose

Purposeful talk in science lessons is an essential prerequisite for good writing

- ‡ Pupil–pupil
- ‡ Teacher–pupil

Decide the purpose of pupils' writing

- ‡ Match this to the objective
- ‡ Use the science examples in *Literacy and learning: Guidance for senior leaders*

Emphasise the different target audiences

- ‡ Explore the kinds of language they need to use for each

Ask pupils to write for a variety of audiences

- ‡ Younger pupils, adults
- ‡ A television viewer
- ‡ Teen magazine readers

Useful resources If these are not already in your department see your Key Stage 3 science consultant

- *Literacy in science* Session 3: Writing in Science (DfES 0653/2002). Additional handouts available from science consultant
- *Science intervention materials: Teachers' notes* (DfES 0355-2004) and materials (DfES 0078-2004 CD)
- *Literacy and learning: Guidance for senior leaders* (DfES 0652-2004) and *Literacy and learning in science* (DfES 0656-2004 G)
- *Effective teaching and learning in science* Session 3: Developing pupils' writing in science (DfES 0239/2003)
- *Strengthening teaching and learning in science through using different pedagogies* Unit 4: Using models and modelling techniques (DfES 0700-2004 G)
- *Pedagogy and Practice: Teaching and learning in secondary schools* Unit 14: Developing writing (DfES 0437-2004 G)
- *Getting more pupils to Level 5: Participants pack* (DfES 0349-2004 G, DfES 0974-2004 G)