SEFSS:
SCHOOL EVALUATION FRAMEWORK SCIENCE SPECIFIC

School subject reviews will have many aspects of information gathering. The following framework was developed through OA funding in Stoke-on-Trent (2021) and was used during primary science subject reviews carried out by senior reviewers and new subject reviewing coaches. The design was on experience gathered over many years including perspectives from school leaders, systems leaders and primary science consultants. Subject coaches engaged in school improvement scenarios, and headteachers and subject leaders participating in reviews, reported that the framework enabled consistency and rigour. The team that developed the tools have been asked by those experiencing the process to share the framework. This pack is a collation of the tools that have been developed.

Pre-Review

1. **Preparing a timetable/schedule for a subject review**

During Review

2. **Subject leader Conversation**
3. **Teacher Conversation**
4. **Pupil Conversation (Curriculum**
5. **Pupil led tour**
6. **Book Review (Unguided)**

Post review (Collaborative teacher to teacher professional dialogue)

7. **A conversation about data - Is it helpful?**
8. **A conversation about the action plan - Is it helpful?**

Full set avaiable at www.scienceacrossthecity.co.uk/usefultools

Summary of useful information for the review day.

Before : Communication & Preparation

- Introduction email, linking the school Headteacher and subject leader to the SATC science coaches for the review.
- Review team will access information about your school from your website & Ofsted reports. Please send any recent or relevant external review reports that you feel would be helpful.
- School to finalise the timetable below for the day to work around the school breaks etc (including the elements listed below that have approximate times) and forward to to the team few days before the review. Reviewers to arrive 8.30am – leave no later than 4pm.
- Copy class lists for use on the day.
- Collate 6 pupils' workbooks from each class (labelled via ability 2 x higher, lower, middle including SEN and PP)
- Have a plan B in the event of a Covid outbreak to complete the subject leader, pupil and teacher voice virtually with a follow up date for lesson drop ins.

During : Activity order (approximate time)

- 8.30am Meet Senior leaders & subject leader – share overview of the day (10 mins)
- 8.40 am Pupil tour of the school (20 mins)
- 9.00 am Meet Subject Leader (1 hr)
- 10.00 – 12.00 Every classroom to be teaching science through the morning for coaches, SLt & Subject leader to drop in and out of any year group lessons including EYFS. (2 hours max – at least 20 mins in EYFS, at least one ks1 & ks2 class for 20mins)
- 12.00 – 12.30 lunch
- 12.30 – 2.00 Pupil voice & book view chosen from lessons or books on the day. (3 consecutive year groups 2.5 hours)
- 2.00 – 2.30 Meet Class Teachers from lesson visits (2 or 3 teachers in 1 group 45 mins)
- 2:30-3pm Reviewers reflect and agree focus next steps
- 3.00 – 3:30 Feedback and discussion of key priorities for next steps (coaches, SLT & subject leader) –(no individual feedback or judgements on teaching)

After : Intervention & evaluation

- Reviewers will provide leaders with a summary report outlining the key priorities within 4 days of the review.
- School to reflect and review the outcomes of the review against the SDP.
- Meet with science coaches within 3 weeks to share action plan for 2021 – 2022
- Identify further support, links, CPD available, provide ongoing coaching through the term.
- Mini review on progress milestone Spring 2022
- Final progress milestone Summer 2022.

Subject leader Conversation

Focus	Prompt	Notes
Management	How long have you been subject leader and what are your main roles & responsibilities?	
Curriculum leadership/ NC compliance	As a leader how have you been involved in planning the curriculum? How do you know that learning in the subject is sequenced to ensure pupils build on their knowledge?(including readiness for next key stage) How and by whom are lessons planned and how do you know the coverage is as expected?	
Subject vision	What are the priorities and principles of science teaching in school?	
Consistency of ethos	What would you want us to see in lessons today? 3-5 principles to audit against and give feedback	
Inclusion	How do you know that the curriculum meets the needs of all learners? (disadvantage, gender, HA and SEND)	
Strategic value	How does timetabling support the implementation of the curriculum? Is Science on the SDP or discussed regularly with SMT? How do governors know about science?	
Standards	How do you know that children know more and remember more in science? How confident are you that standards are at least as expected?	
SL CPD	How do you keep up to date with the curriculum/subject? What other STEM agencies do you utilise regularly? What other STEM agencies do you utilise regularly?	
Teacher CPD	What are the CPD needs of staff and how is this supported/provided?	
Enrichment	How is the curriculum enriched, and links with parents, carers and home encouraged and supported?	

Class Teacher Conversation

Prompt	Notes
Where does this lesson fit into a sequence of science lessons? How do you know what went before and what comes next?	
How well are pupils doing in your classes? What data is available? How do you use this data? What does the data tell you? *(Example: Are there any topics/enquiry types in which children do particularly well or not so well?* *Are there any groups of pupils who do better or worse than the majority? e.g. PP, SEN, EAL pupils etc.)*	
How do you ensure that children learn both the substantive knowledge (the stuff) of science and the disciplinary skills (the how) to do science? *(Note: Five enquiry types – frequency and challenge, progressive enquiry cycle expectations)*	
How do you know that the children know what you think they know in science? Summative assessment approaches?	
What CPD have you received in the last two years and how has this helped? What sort of support in school can you / have you accessed to improve science teaching and learning? *(Note broad definition of CPD. Professional development is not the same as going on a course!)*	
Are the resources adequate in school? What are your favourite resources to use? How easy are they to find? Do you put out all the resources or are children involved in collecting and selecting resources? How do you feedback to the SL if you identify resources that would help to improve the topic you have taught?	

Pupil Conversation (Curriculum)

Suggested approach: A guided work look. Encourage children to bring their books/ floor books/ ipads/ etc and ask them to 'show you' as you ask the questions. It helps to focus the conversations and avoid answers that children give simply to please their teacher.

Prompt	Notes
Turn to a page in your book and show me a piece of work that you are particularly proud of. Why did you choose this page? What did you learn?	
What have you learnt about before this in Science? (Have a copy of the NC handy to check previous year group teaching.)	
Do you think that you are good at science? How do you know? Where in your book did you do good science?	
Do you ask your own questions in science? Who decides how you will find answers to your questions/enquiries? Find a question your teacher asked. Find a question you asked.	
Why is learning about Science important? Do you know any scientists? Is there a link to a scientist in your work? Show me a piece of work that you might talk to someone at home about? Why that topic?	
What do you do if you don't understand something?	
What do you find hardest in Science? What helps?	
Do you learn about or do or read about or watch programmes about science outside of lessons? Clubs or home	

Pupil Conversation (Attitudes and values)

Prompt	Notes
Please take me to somewhere in the school that we can see some science! (Are there displays that children notice? What do they learn from the displays? What is their view on what science is?)	
Please take me to the library. Create a timed challenge: ask the children to find a science book that they would want to read and think might be interesting. (Are children used to accessing texts? Are the texts of high quality/current/relevant? Keep the books that they choose, then return to SL later in the day)	
Please take me to somewhere outside where you have done science! Ask children if they have ideas on ways that more could be made of the outdoors?	
Is there regular or occasional use? Some year groups or all year groups, links with Forest or Eco schools)	
Can you tell me where the science equipment is stored? If it is safe, can you take me to the stored equipment or to a sample of the equipment? (Are children able to name scientific equipment? Who decides equipment in lessons? Who manages the equipment? Who decides what equipment to buy?)	
Can you tell me if you have a school council? Are you on it? Do you know who is? What sort of things do they talk about? Is science discussed or surveyed between children and teachers? (Are children listened to or involved in feedback and decision-making about science?)	
Can you remember any science trips, or visitors to the school? When, who or what? Is there a science club? If there is would you want to go? (Are children enthused to do science beyond lessons? Do they have positive attitudes and aspirations that include STEM	

Pupil Work Review Unguided (See guided within the pupil conversation prompts)

Prompt	Notes
Is there evidence of THE FULL ENQUIRY CYCLE? For each year group: Skim for evidence of the full enquiry cycle; Planning, Doing and reviewing *(Post it note - predictions, tables of data, graphs, conclusions and evaluations)* Tag also different enquiry types	
Is there evidence of progression in learning over time? Select one aspect of enquiry. Look at all examples of that enquiry across all year groups and note progress. Now take time to read pupils' extended responses to deep or open questions? Do child based explanations improve over time?	
Is there evidence of recap and recall to previous learning? Select a topic - plants, animals are often easier to do. Take a book from each year group and look at the build from and build towards. Are a range of approaches used for AfL? Is the teaching responsive to findings? Are there any metacognition tools to connect to future learning?	
Is there evidence of independent work? Select a date. Look at all the books in one year group for that date. Is the work for different members of the class identical or varied? Now look at three different ability groups. Is there stretch and challenge for all? Are some pupils limited by the type of 'sheet' of support? Is it scaffolding up or differentiating down?	
Is subject knowledge secure? Skim for common errors in science. Are these corrected? Are the errors teacher related or pupil related? Examples to look out for: Gravity, Dissolving, Germination,	

Data:

Generic Statements (Agree/ Disagree/ Ponder before considering your own school data and how it helps)

- Quantitative data allows an evidence base from which interesting questions can be asked.

- Data generates quality questions worthy of exploration.

- Data shows where intervention is not needed, as well as where it is needed, or may be where something different is needed.

- Data is readily available but often not planned for.

- Data often exists, is often collated in spreadsheets, but not utilised for a purpose.

- Reflecting on data is not to increase workload, but is to focus priorities and decision making on not what to do but why something needs to be done.

A reviewer does not ask to see the data but would expect that a subject leader could justify a response to questions as indicated in the prompt column.

Prompt	Notes
How is science at the school doing over time? Is science improving? What are the trends over the last few years? • **How do you know what you think you know?**	
How is science doing at your school compared to English and Maths? Do children attain better in science? What are the relative data sets? • **How do you know what you think you know?**	
Are there any gender gaps? Which way? Boys v Girls Is this a concern to science specifically? What are the comparative data sets? Including English • **How do you know what you think you know?**	
Are all children making expected progress? How do you decide which children need additional support? Are you leading an inclusive curriculum? (SEND, PP, EAL) Which data sets do you focus on? • **How do you know what you think you know?**	
Which topics are causing concern? Which ideas have children not grasped or where are the learning gaps? • **How do you know what you think you know?**	

Top Tips

- Understand the different terms: Summative Data, Diagnostic Data, Assessment for learning data

- Be aware that KS2 data is reportable and is held centrally in data systems- check with your data manager. Just because it wasn't a test does not make this data less useful than a formal test.

- Know that tracking grids are tools for data capture- they are not data in themselves.

Towards a reflective critique of the subject action plan

Prompt for reflection	Yes /No Tweak the action plan directly
Identify the rows or columns where it details what will be improved for the children in their education. (Sometimes this is the success criteria, but many different terms are used. The term is not important, but knowing what will be different for children as a result of the plan is essential.) Has your action plan got a 'so what'? If not, then why not? Lovely and nice are not useful enablers of change for improvement in a cycle of continuous improvement.	
Identify the row or column of priorities. (Sometimes called Aims, Objectives, key identified needs etc., but the name doesn't matter. Knowing how these are different to actions is important). Are they clearly different to the actions? How many priorities or key identified needs? How do these relate to school priorities? How were these priorities decided? Eg linked to research or subject review? Rank the priorities as short term, over 6 months, medium 12 months, long term over two years. Suggest no more than 3 priorities. Check that there is an active verb in the priority text as active verbs drive change.	
Identify two or three of your actions and check for the following features. • The presence of a milestone (might not be called a milestone!) A way of knowing if you have planned progress along the way and by when. Expect to come back to your action plan regularly. It is not a start and end document. Good use of an action plan includes annotation, scribbles, and even red pen. A printed copy immediately to hand is often a preference for many. Cross check the plan regularly. It feels good when you tick things off! Enjoy the successes along the way. • Clear responsibility- Who is doing the actions? Be careful not to create a busy 'to do' list! • Defined Impact (outcome) expected from the action on learning (see also the SEFSS for Data gathering) • Is a budget needed? Do you have a budget? Do you need to find a budget? (Finding a budget is an action line) These features are often described as SMART. Is the plan SMART?	
Are the actions chosen known to be reliable interventions? How were they chosen? Are the interventions (sometimes called active ingredients) from evidence based, trusted sources or are your actions innovative and trial blazing? Don't re-invent the wheel if you don't need to. How close to the suggested approach of others, or compared to research findings, are your actions? (Sometimes called the fidelity of the action.) Be careful not to have lovely ideas that are just lovely without reason or without rigour.	
Are there scheduled times to liaise with SMT? Who in SMT has the action plan been shared with? What support will the action plan need from SMT? Having SMT involved in monitoring gives credibility and depth. It is good to celebrate progress with senior teams. SL should not be working in isolation. How and when will the action plan be reflected upon and reported to SMT and governors? A short paragraph to describe, reflect and show next step thinking sets the scene for the next phase as the action plan rolls towards the next year.	