

GCSE SCIENCE

Virtual communities

Facilitation pack

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About this resource

We know that your time is limited, so we've designed this resource to make it easy for you to share what you've learned from our virtual community event.

This resource will enable you to deliver your own CPD session for your colleagues and it includes activities and resources linked to the virtual community topics to:

- remind you of the topics covered during the event so you can brief colleagues or run a similar session with your team
- provide follow on activities and discussion areas for you and your team so the content can be taken further and applied or embedded in your school or college.

Resources available

- A copy of the PowerPoint from the meeting with notes for the presenter
- Follow on pathways showing the topics covered during the meeting and ways to develop them
- A pre and post meeting confidence check questionnaire to benchmark confidence of colleagues around the topic of your session.

We hope this gives you the opportunity to make the most of the time you invested in attending the event.

Follow-on pathways

This section takes topics, discussion or activities from the virtual communities meeting and provides suggestions of areas for development and follow-on activities you can do with your colleagues.

Activity 1

The grid presented in the session has some ideas for generic questions you could ask with unfamiliar methods to help students apply these skills in exam questions.

Below is a list of further examples of methods/investigations in our GCSE science exam papers, covering both familiar and unfamiliar contexts.

Use some of these examples to help develop a comprehensive set of generic questions you could use across the sciences.

Discuss how you could incorporate such examples into your teaching/homeworks.

Investigations based on/related to Required practical activities

Antibiotics (Biology RPA2)	2018 Biology 1F Question 7 2018 Trilogy Biology 1F Question 1 2019 Biology 1F Question 5
Osmosis (Biology RPA3)	2018 Trilogy Biology 1F Question 3 2018 Trilogy Biology 1H Question 4 2019 Trilogy Biology 1F Question 7 2019 Synergy 2F Question 4
Effect of pH on enzyme activity (Biology RPA5)	2018 Biology 1H Question 7 2019 Synergy 2H Question 3
Factors affecting rate of photosynthesis (Biology RPA6)	2018 Trilogy Biology 1F Question 2 2018 Trilogy Biology 1H Question 3 2019 Trilogy Biology 1F Question 1
Temperature changes in reactions (Chemistry RPA4)	2018 Chemistry 1F Question 6 2018 Synergy 3F Question 6 2019 Chemistry 1F Question 7 2019 Chemistry 1H Question 9 2019 Synergy 3H Question 7 2019 Synergy 4F Question 3 2019 Synergy 4H Question 5
Rates of reaction (Chemistry RPA5)	2018 Chemistry 2F Question 7 2018 Chemistry 2H Question 8 2018 Chemistry 2H Question 7 2018 Trilogy Chemistry 2H Question 5 2019 Chemistry 1F Question 5 2019 Chemistry 2F Question 7
Chromatography (Chemistry RPA6)	2018 Chemistry 2F Question 5 2018 Chemistry 2H Question 4

Infrared emission and absorption (Physics RPA10)	2018 Physics 2F Question 5 2019 Physics 2H Question 8
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Investigations in unfamiliar contexts

Subject	Exam series/year	Paper and question
Biology	June 2018	Biology 1H Question 4
	June 2019	Biology 1F Question 4
	June 2019	Biology 2H Question 8
	June 2019	Trilogy Biology 1F Question 4
	June 2019	Trilogy Biology 1H Question 3
	June 2019	Trilogy Biology 1H Question 5
	June 2019	Synergy 2H Question 4
Chemistry	June 2019	Synergy 4F Question 6
	June 2019	Chemistry 1H Question 8
	June 2019	Chemistry 2H Question 4
	June 2019	Synergy 3F Question 4
	June 2019	Trilogy Chemistry 2F Question 2
	June 2019	Synergy 4F Question 6
Physics	June 2018	Synergy 4F Question 6
	June 2019	Synergy 4F Question 2
	June 2019	Synergy 4H Question 6
	June 2019	Physics 2H Question 4
	June 2019	Synergy 3F Question 8

Activity 2

How could you format questions in your bank so you could use the same source material with students of different levels of ability? For example, questions aimed at low demand are often structured and clearly cued, such as

- multiple-choice
- sentence completion, with a list of suitable words to use
- link-box questions.

As the level of demand increases the amount of structuring and cueing decreases.

Activity 3

As a group, consider how you might use Brandon's Matrix to inform your practical science teaching.

- What type of practicals do you do?
- Do they address the different quadrants of this matrix or do they focus on 'scientific method'?
- How might you adapt your teaching to extend student thinking about practical investigations?

Health checks

Rate the area of development statements according to your confidence where 0 is not confident at all and 5 is very confident.

Before the meeting

Objective	Rating	Reasons/notes
Objective 1: I understand the difference between 'hands-on' and 'minds-on'.		
Objective 2: I understand the advantages to students of developing a 'minds-on' approach.		
Objective 3: I understand how I can use practical questions in class to help students engage with 'minds-on' in familiar contexts.		
Objective 4: I understand how I can use practical questions in class to help students engage with 'minds-on' in unfamiliar contexts.		

After the meeting:

Objective	Rating	Reasons/notes
Objective 1: I understand the difference between 'hands-on' and 'minds-on'.		
Objective 2: I understand the advantages to students of developing a 'minds-on' approach.		
Objective 3: I understand how I can use practical questions in class to help students engage with 'minds-on' in familiar contexts.		
Objective 4: I understand how I can use practical questions in class to help students engage with 'minds-on' in unfamiliar contexts.		

Planning for the future

Questions for consideration

- What areas have you identified as strengths using the confidence check?
- How might you develop these further?
- What areas have you identified as areas for development?
- How might you build confidence in these areas?
- How might some of the learning from the Virtual communities/CPD session impact your department?
- What changes could you make based on outcomes of the CPD session?

Contact us

Our friendly team will be happy to support you between 8am and 5pm, Monday to Friday.

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