

Appendices

Appendix 1: Consent Letter and Form

Appendix 2: Energy Source Cards

Appendix 3: Diamond Ranking Format – Lesson Study 1

Appendix 4: Lesson Plan – Lesson Study 1

Appendix 5: Observation Schedule – Lesson Study 1

Appendix 6: Reflections Model – Lesson Study 1

Appendix 7: Focus Group – Lesson Study 1

Appendix 8: Role Cards – Lesson Study 2

Appendix 9: Diamond Ranking Format – Lesson Study 2

Appendix 10: Lesson Plan – Lesson Study 2

Appendix 11: Observation Schedule – Lesson Study 2

Appendix 12: Focus Group – Lesson Study 2

Appendix 13: Reflection Model – Lesson Study 2

Appendix 1: Consent Letter and Form**INFORMATION SHEET****PROJECT TITLE:** How to improve discussions in primary schools to enhance learning.27th January 2020

Dear Parent / Guardian,

My name is Mrs Perkins and I am studying for a PGCE qualification at Yr Athrofa, University of Wales Trinity Saint David. I am currently a student teacher within Cadle Primary School and will be teaching in your child's class.

I would like to invite your child to participate in my research project. The title of the project is **How to improve discussions in primary schools to enhance learning** and I aim to teach a lesson and observe it along with my research partner. Following the lesson, I will interview a few children on their thoughts around this topic with my research partner also present. Through your child's participation, I hope to ascertain whether certain teaching methods increase and enhance your child's learning within the classroom.

The research will be conducted through observing a group of children undertaking an activity within a lesson. Notes will be taken on their engagement with the activity and then six children will be chosen at random to take part in an informal group interview in order to understand their thoughts and feelings towards their learning in that lesson. The children's responses will be transcribed anonymously by myself and my research partner.

All names will be kept strictly confidential and will only be known by myself and my research partner. Your child's participation in this study is completely voluntary so you or your child can withdraw from the study at any stage. Your child will also be asked to give their assent before the beginning of the study.

After careful and precise analysis of the data obtained from the lesson observation and group interview, I would be happy to provide you with a copy of the findings at your request. The results of the research will be discussed in a university assignment that will contribute to my PGCE course. The results of this study will be stored on a password protected document and all raw data on paper will be stored securely in a locked cupboard and destroyed once the assessment has been marked.

I thank you in advance for your time. If any questions do arise, feel free to contact me at your convenience.

Yours sincerely,

Mrs Perkins

Appendix 1: Consent Letter and Form**PARENTAL CONSENT FORM****PROJECT TITLE:** How to improve discussions in primary schools to enhance learning.

Name of Researcher: Mrs Perkins

Please tick the box:

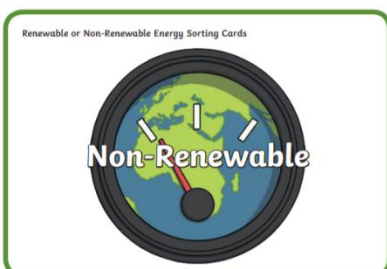
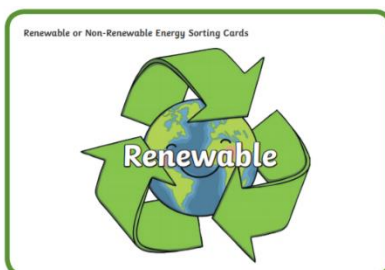
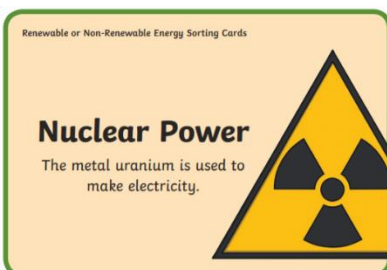
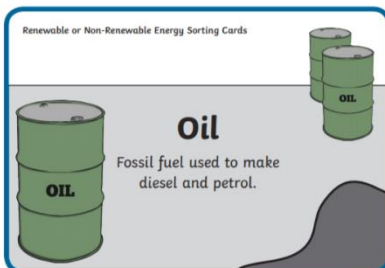
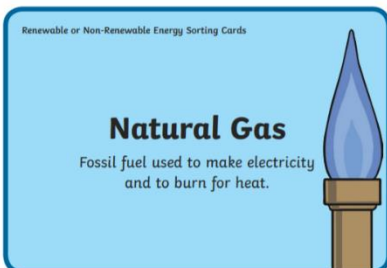
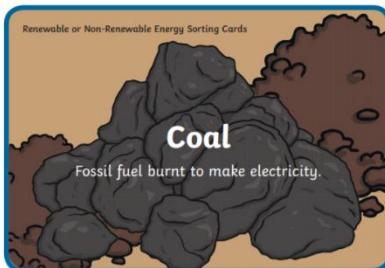
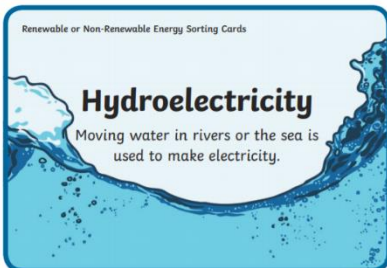
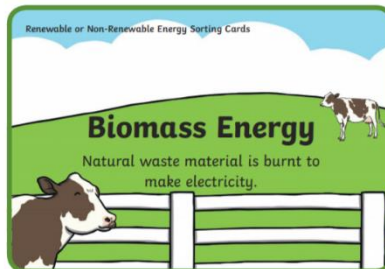
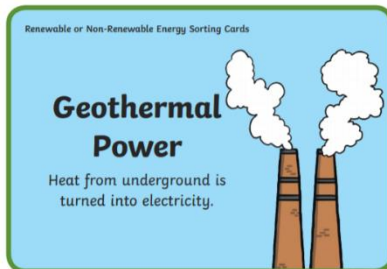
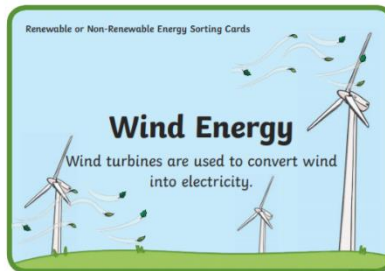
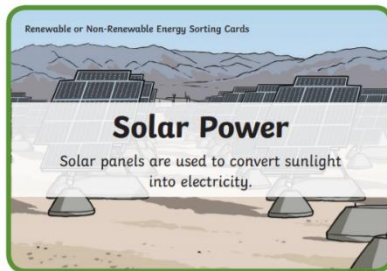
1. I confirm that I have read and understand the information sheet dated 27th January 2020 for the above study. ☐
2. I understand that my child's participation is voluntary and that I am free to withdraw my child from the study at any time, without giving any reason. ☐
3. I understand that my child can choose to withdraw at any time, without giving a reason. ☐
4. I understand that the information given by my child will be used in a university assignment. ☐
5. I understand that my child's name will not appear at any time. ☐
6. I agree for my child to take part in the above study. ☐

Child's name_____
Parent signature_____
Date

When completed, please return in the envelope provided to Mrs Perkins by **Thursday, 30th January 2020**

Thank you.

Appendix 2: Energy Source Cards



Appendix 3: Diamond Ranking Format – Lesson Study 1

Renewable & Non-Renewable Energy Diamond Nine

			Most Important
			Least Important

Appendix 4: Lesson Plan – Lesson Study 1

Lesson Plan: Diamond Ranking – Lesson Study 1

Time	Activities/Methodology/Key Concepts (Teacher's Role – including key teaching points, differentiation strategies and key questions)	Pupil Tasks (Pupils' role –including differentiation, engagement in formative assessment and homework)	Resources (Including Health and Safety requirement)
Opening Phase (with links to prior learning) <u>15 MINS</u>	➤ Brief overview/quiz of renewable and non-renewable energy sources. ➤ Explain diamond ranking. Teacher to model using numbers from biggest to smallest as an example. ➤ Draw groups using the lollipop sticks. Explain new mixed ability groups.	➤ Using lollipop sticks children to answer whether an energy source is renewable or non-renewable. Children to place source under the correct heading on the whiteboard. ➤ Children to listen to explanation and see visual modelled by teacher. ➤ Children to listen out for their names.	➤ Lollipop Sticks, Record ideas on the whiteboard. ➤ Visual – Diamond Ranking Resource.
Teaching & Core Learning <u>25 MINS</u>	➤ Send children to tables with: • Diamond Ranking Renewable & Non-Renewable sheets and cards. ➤ Whole class discussion on their ranking and why.	➤ Children to discuss and then rank cards from 1 to 9 in importance and write down their agreed ranking on the piece of paper. ➤ Children to return to the carpet with their paper and explain the reasons behind their rankings.	➤ Diamond Ranking Resource sheet. Energy source cards.
Plenary <u>5 MINS</u>	➤ Think, Pair, Share: • Think of one thing you have learnt today, one thing you enjoyed and one thing you think you could improve on.	➤ Children to reflect on the lesson and their input and share with their partner.	

Appendix 5: Observation Schedule – Lesson Study 1

Observation Schedule – Lesson Study 1

How engaged are the children? Is discussion taking place? Is there a level of ongoing reasoning/debate? Are all members taking part? Is there an acknowledgement of others opinions? Who is making an effort to seek collaboration?

Pupil 1 TALLY Total = 4 Playing with ruler on table and around the neck. Left group to go to the toilet. "Look at ~~this guys~~" – Moving cards with the ruler. Took on writing role when prompted.	Pupil 2 TALLY Total = 0 Leaning over table looking at the diamond. Didn't touch a card or speak at all.
Pupil 3 TALLY Total = 4 Tried to re-arrange the cards once the diamond was completed. Observed the diamond a lot. Talked with Pupil 6 about the subject and tried to feedback to the rest of the group but Pupil 6 took over discussion.	Pupil 4 TALLY ++++ Total = 7 Talking over boxes in the centre of the table. Gets up to talk to Pupil 7 about what they are doing on the weekend. Shouting over others. Really distracted. Talked about dead animals – biomass. Made jokes about others comments.
Pupil 5 TALLY ++++ Total = 8 Observes discussion and tries to get involved. Tried to re-focus the group when others became distracted. "Which one do you think is the best?" Tried to lead "What do you think?" Organised the group into writer etc. at the end.	Pupil 6 TALLY ++++ Total = 8 Straight into leader role. Gave good explanations. Exclaimed "We are done!" as soon as she completed the diamond. Didn't take any other opinions into consideration. Played with her hair once she'd completed it. Took over feedback when Pupil 3 tried to.
Pupil 7 TALLY ++++ Total = 5 Let Pupil 4 talk to him. Holding ruler in hand. Shouting out. Shouted "Anyone listening here?" when he decided to join in the group discussion. Concerned with the time on the timer – "Guys we have 1 minute." Making noises and playing with the pens.	

Appendix 6: Reflections Model – Lesson Study 1

Brookfield's Four Lenses Reflection Model – Lesson Study 1

SELF How well do you feel the lesson and the use of the diamond nine were engaged with? Were there any surprises? What aspect of the teaching technique could be improved for next time? • The boxes, pencil pots etc that are usually based on the classroom tables were a big distraction for some namely pupils 1,4 and 7. Maybe we need to tell the children that they can move things around/furniture/seats to enable them to engage in discussion more freely. • Pupil 5 taking on a leader's role when away from usual peer group was a surprise. • Children did seem to enjoy using the diamond nine.	STUDENT What progress did each pupil make? Was it enough or limited? What are the children's thoughts and feelings towards the lesson and the use of the diamond nine? Do they suggest any improvements for the next lesson? • Some pupils felt they did all the work and no-body was listening to them. • Some children engaged in discussion whilst others were disruptive. • See focus group interview notes for in depth details.
PEER How did your peer observer feel the use of the diamond nine was implemented within the group? We're all children engaged? What improvements could be made for the next lesson? Did the diamond nine help or hinder the discussion? Were there any surprises? • Children seemed familiar with the concept of diamond ranking. • All children were familiar with the key aspects of renewable and non-renewable energy sources. • Some children were fully engaged in discussions about the topic, others were distancing themselves, chatting or writing on bits of paper, purposefully distracting others. • Diamond nine did help discussion for those willing to get involved. • Discussion rules could be set and agreed upon for the next lesson.	LITERATURE What points do literature raise on the topic of Diamond Nine? Are there areas familiar to your experience? • Group roles/Discussion Roles • Democratic Discussion Rules – Brookfield & Preskill (1999) ◦ Hospitality ◦ Participation ◦ Mindfulness ◦ Humility ◦ Mutuality ◦ Deliberation ◦ Appreciation ◦ Hope ◦ Autonomy

Appendix 7: Focus Group – Lesson Study 1

Focus Goup 1			
	Pupil 1	Pupil 3	Pupil 7
Did you understand the activity?	Yes	Yes	My jumpers chewy. Hmm Yeh.
Have you sorted statements into a diamond shape like this before?		Yes, in year 3 we did it about Christmas. What was the most important, Jesus, presents or Santa.	We did it about Easter.
Did you enjoy the activity?	Yes. You were talking though. You could have asked Ellie to pass you one.	Yes. You were talking though.	No, yes it was ok. I didn't enjoy because our group didn't let me speak. You were all taking the sheets from me. That's why we didn't get anything done.
What did you like best about using the diamond nine strategy?	I liked that you had to work in a team.	I think that it was fun because we were all working together and discussing things.	It felt bad, kind of board because no one let me write anything.
Do you feel the activity helped you to talk to each other more?	Yes, deffinitely.	Yes	Yes
How did you feel about discussing in a group?	People were talking about games.	It really depends because some people were talking over each other and ther people were just talking to each other.	People didn't let me join in. You took the paper.
Do you think everyone in your group had a fair chance to contribute to the discussion?	Yes	Yes	No
Would you have preffered to talk about the topic without any sorting?	No, I wanted to sort. It made it easier with pictures, without it would be harder.	We all worked sorting except Luke.	
How do you think ranking the statements helped your discussion?	Because when you put them in order you could see it better.	Because you could see where was important.	
Do you feel that ranking the statements made you think more about it?	Yes, definitely.	Yes	Yes, definitely as well.
Do you think you are more aware of others opinions now?	Yes because I agreed with all of them.		Yes I respected others opinions more.
What do you think would happen if we didn't use the diamond ranking?	If we didn't have it everyone would find it harder.	They would get muddled up and everyone would be moving it around. It was nice to have squares to help us know where to put them.	It would be harder and we wouldn't be able to do it.
Would you like to use the diamond ranking again in your lessons and why?	Yes I would because it makes the work easier.	Yes because its easier and harder without it. When you're sorting things again you can use it like a tip or something.	No because it was way too hard for me and I didn't understand it.
What do you think we could do differently if we used the diamond ranking again to improve on the last lesson?	Keep everything like it was.	Stop talking over each other and stop arguing and all take part because some people were sitting out.	We could have made it easier if people chatted properly and work as a team and people not snatch.

Appendix 8: Role Cards – Lesson Study 2

Encourager

This person encourages everyone to have the opportunity to talk and supports everyone's ideas. If you are the Encourager, you might say:

- It's your turn to share now.
- Please can you speak up a little bit/a little more slowly, so we can hear you?
- That is a great idea!
- Thank you for sharing your ideas.



Scribe

This person writes down the important points that each group discusses. They do not need to write down everything, just the things that a group finds most interesting. If you are the Scribe, you might say:



- Is this something I should write down on our page?
- Would we like to share this with the whole class?
- How would you like me to write that important point?

Manager

This person leads the discussion and introduces the topic to be discussed. If you are the Manager, you might say:

- Welcome to the group.
Today, we are going to be discussing ...
- Does anyone have an opinion or question about ... ?
- Would anyone else like to share his or her thoughts about this?



Voice Monitor

This person ensures that all group discussions can take place at the same time by making sure appropriate volume is used. The teacher may ask voice monitors to check in with their group about noise levels. If you are the Voice Monitor, you might say:

- I think we need to quiet down.
- Please can you lower your voice a little?
- The teacher has asked that we bring down our volume.



Presenter

After the discussion, this person will present the main points that their group has discussed. They will work with the scribe to make sure the points are recorded and use the notes to share. If you are the Presenter, you might say:

- Would we like to share this with the whole class?
- In our group, we talked about...
- One thing we thought was important was....



Appendix 9: Diamond Ranking Format – Lesson Study 2

Renewable Energy

Diamond Five

The government has £25million worth of funding to be allocated to renewable energy sources.

How much would you give each source and why?

		Most Funding
		Least Funding

Appendix 10: Lesson Plan – Lesson Study 2

Lesson Plan: Diamond Ranking – Lesson Study 2

Time	Activities/Methodology/Key Concepts (Teacher's Role – including key teaching points, differentiation strategies and key questions)	Pupil Tasks (Pupils' role –including differentiation, engagement in formative assessment and homework)	Resources (Including Health and Safety requirement)
Opening Phase (with links to prior learning) <u>15 MINS</u>	➤ Brief overview on renewable energy sources. ➤ Discussion Rules • Explored what makes a good discussion. • What do we need to do this afternoon to make sure we all have a good discussion? • Record rules on the whiteboard. • Set instructions. ➤ Explain role cards – Encourager, Manager, Presenter, Scribe and Voice Monitor. ➤ Hand out role cards and renewable energy cards.	➤ Children to listen to explanation and see visual modelled by teacher. ➤ Discussion as a group and in pairs how we can improve the discussion from the last session. Children to agree to the rules.	➤ Lollipop Sticks, Record ideas on the whiteboard. ➤ Role cards. ➤ Renewable Energy Cards.
Teaching & Core Learning <u>25 MINS</u>	➤ Send children to tables in their previous groups with: • Diamond Ranking Non-Renewable sheet and cards. • Explain task of government funding - £25million to be allocated to renewable energy sources. ➤ Whole class discussion on their ranking and why.	➤ Children to discuss and then rank cards from 1 to 5 in importance and write down their agreed ranking on the piece of paper. ➤ Children to discuss their funding ideas, amount and reasons why. ➤ Children to return to the carpet with their paper and explain the reasons behind their rankings. ➤ Reflect on the session and think, pair share.	➤ Diamond Ranking Resource sheet. Energy source cards.
Plenary <u>5 MINS</u>	➤ Which role did you have? Did you think you were a good ^{one} (insert role)? What role would you like to have next time?		

Appendix 11: Observation Schedule – Lesson Study 2

Observation Schedule – Lesson Study 2

How engaged are the children? Is discussion taking place? Is there a level of ongoing reasoning/debate? Are all members taking part? Is there an acknowledgement of others opinions? Who is making an effort to seek collaboration?

Pupil 1 – Manager TALLY ++++ Total = 5 Repeatedly talking about firing people. "I'm the Manager, you're fired!" pointing at different people. No contribution to the discussion topic at all. Entirely focused on his role as the 'Manager' in name only. Arguing with Pupil 7 throughout about him firing him. Stops engaging with the group and in discussion.	Pupil 2 – Presenter TALLY Total = 1 Responds with "No that's not right" to Pupil 5 asking "Which one do you think goes next? Does everyone agree?"
Pupil 3 – Scribe TALLY ++++ Total = 8 Spoke to Pupil 1 saying "Oh come on" quietly numerous times. Responded "I agree" to Pupil 5. Tried to create a system with the second scribe – "I do one and then you do one." Checks that Pupil 1 is ok "Are you ok?"	Pupil 4 – Voice Monitor TALLY ++++ Total = 8 Silly actions towards Pupil 1. Tries to mediate between Pupil 1 and Pupil 7 "Stop arguing and get on with it." When discussing how much money to allocate repeatedly says £1, £1, £1, £1 etc. Starts talking about Elephants. Shouts out "£20million!" when Pupil 6 asks directly "How much for hydro?"
Pupil 5 – Presenter TALLY ++++ ++++ Total = 13 Took the roles seriously - trying to set an example to the group. Clearly understood the discussion rules and was refer to them to encourage discussion. Took on the role of the encourager naturally after the Manager quit and tried to engage everyone in the discussion again - "So are we going to do this?" Declares "I'm going to get a pen." Proceeds to find a pen. First person to give some sensible input into the discussion "£10million for Solar energy." Tells Pupil 3 what to write down and asks them "do you agree?" Responds "Yes" and "I agree" to others giving reasons why they are in agreement. Keeps trying to encourage people to participate by asking individuals questions. Asks Pupil 2 "Which one do you think goes next? Does everyone agree?"	Pupil 6 – Encourager TALLY ++++ ++++ Total = 10 Taking role seriously, showing the cards and reading them out. Trying to set an example to the group. Shouts at Pupil 1 to "Sort it out!" Announces they will take on manager role "fine I'll be the manager". Directly asks Pupil 4 "How much for hydro?" and responds "we don't have that much" when Pupil 4 shouts out "£20million!" Specifically asking Pupil 7 questions. Continually asking the group "does anyone have any ideas?" Commands Pupil 3 "Just write them."
Pupil 7 – Scribe TALLY ++++ Total = 7 Being silly and not contributing to discussion at all. Starts to speak in silly voices and shouts out £1.50 guys when group is discussing the allocation of funding. Left the table to change pens. Concentrated when guided to write something down but distracted and playing with the pen making silly noises as soon as they stopped writing.	

Appendix 12: Focus Group – Lesson Study 2

Focus Group 2			
	Pupil 5	Pupil 6	Pupil 8
Did you understand the activity?	Yes, it was explained better the second time.	Yes	Yes
Have you sorted statements into a diamond shape like this before?	Yes	Yes	Yes
Did you enjoy the activity?	Yes, we understood it more.	Yes, but there was a little bit of arguing.	Yes
What did you like best about using the diamond nine strategy?	It was fun because we weren't with the same people we are usually with everyday.	Making sure everyone had a turn with the role cards.	You could sort it out in order and it really makes you think.
Do you feel the activity helped you to talk to each other more?	Yes, because me and pupil F never used to talk to each other.	Yes, even though there was a little bit of arguing we got things done.	Yes, definitely. Everyone was more confident.
How did you feel about discussing in a group?	I felt more excited but I got annoyed when everyone started arguing.	Same with me, it got me really annoyed because everyone was arguing.	For me it felt more confident I could say something more confidently because people let me speak.
Do you think everyone in your group had a fair chance to contribute to the discussion?	Yes but there was still arguing and people getting upset. Too many things going on at once.	They did have a fair chance but they were too busy arguing.	Yes
Would you have preferred to talk about the topic without any sorting?	Probably not, I prefer the sorting.	I don't know, sorting comes with arguments.	It would be harder because you would have to write it all down in your books and you don't know how to draw the diamond ranking. And Miss could see that we'd put it in that place.
How do you think ranking the statements helped your discussion?	I liked learning about it and it was interesting but pretty tricky to work out how much money should be given to what.	It was hard but it did help to show how much you know and think it is.	Way better because when somebody looks at it it makes them definitely know it is in the right place.
Do you feel that ranking the statements made you think more about it?	Yes.	Yes I do because you got to think are we putting this in the right place. The writing down was so hard in our group wasn't it Maisie, because people were arguing.	Yes, definitely.
Do you think you are more aware of others opinions now?	It gave them a role to get them to talk but it was difficult to get those people to actually talk.	Yes because you have the right to hear everyone's opinions.	Yes because everyone listened and mixed one idea with all the ideas.
What do you think would happen if we didn't use the diamond ranking?	Nothing - it was easier because you knew where you were putting the good and the bad. There would probably be even more arguing too.	You won't learn how you think and yes there would be lots of arguing.	If we didn't use the diamond rank it would all be muddled up and nobody would know where it is. It would be really hard.
Would you like to use the diamond ranking again in your lessons and why?	Yes because it helps more, it was just easier.	Yes people listen to other people's ideas and you get to chat about it and it helped the lesson flow.	Yes for sure. People were listening more to you.
What do you think we could do differently if we used the diamond ranking again to improve on the last lesson?	Move some people's seats away from each other. I think if you were to do it with younger ones they would need more help.	Keep the discussion cards and role cards but sit by someone you won't agree with.	Maybe change it a little bit more and use different cards. Maybe people would listen more and they could have different roles.

Appendix 13: Reflection Model – Lesson Study 2

Brookfield's Four Lenses Reflection Model – Lesson Study 2

SELF How well do you feel the lesson and the use of the diamond nine were engaged with? Were there any surprises? What aspect of the teaching technique could be improved for next time? • People who actually took on the roles did take them seriously and endeavoured to fulfil their role. Some children even tried to promote the roles of others in the group who weren't contributing as their role required. • Everyone seemed more involved in discussing the energy sources than previously but the observed group still didn't finish the task. • Pupil 1 needs to understand the concept of what being a leader actually means – more of an explanation of the roles and success criteria for each role given to the children may be needed. • Role cards encouraged people to speak who didn't speak previously.	STUDENT What progress did each pupil make? Was it enough or limited? What are the children's thoughts and feelings towards the lesson and the use of the diamond nine? Do they suggest any improvements for the next lesson? • Each pupil engaged to some degree. • Task wasn't completed but reasoning did occur. • See focus group interview notes for in depth details.
PEER How did your peer observer feel the use of the diamond nine was implemented within the group? We're all children engaged? What improvements could be made for the next lesson? Did the diamond nine help or hinder the discussion? Were there any surprises? • All groups seemed more engaged in the activity with more of an even spread of people speaking. • Noise level wasn't as loud – more structured approach around the discussion with the roles in place but discussion seemed to flow more freely without role cards. • Would probably work better just as a starter rather than the main focus of a lesson. • Split groups up more carefully in the future. • Every group moved the boxes from their tables and three tables moved their seats and/or a table.	LITERATURE What points do literature raise on the topic of Diamond Nine? Are there areas familiar to your experience? • Choose groupings carefully to ensure people can work together well and minimise dominance. • (Beebe and Masterson, 2003, cited in Burke, 2011) • Explain the concept of government funding more clearly so all children can take part in discussion. • (Bailey and Bridges, 2017)