

Number, Probability & Statistics: outline programme and trainer notes

Notes to trainer:

The overall aim for the day is to introduce participants to active and participative ways of working with students on GCSE Maths Number, Probability and Statistics topics at Foundation level and to help them appreciate why this has more potential for success than simply giving them more practice in the way they were taught previously.

There may be more suggested activities than you can get through in the day and it may be necessary to adjust the session to the needs of the group.

Extension activities for more capable delegates are included. Please ensure that participants have sufficient time to discuss as a group the basic principles even if the more capable ones have moved on. Remind them all that quick is not necessarily correct!!

Source material and how participants might find it will be included in the Participant Handbook

Suggested timings	Session title	Slides	Additional resources required	Support activity for those who are struggling	Extension activity for the high flyers	Notes
09:30 – 10:00	Arrival, refreshments & registration + starter activity	1	Register	Work individually or collaborate with others as arrive	Devise an alternate “would you rather...” question	
10:00-10:15	Introductions & outlines of the day	2–5 6-7	Participant Handbook SWAN 8 Principles handout (NPS1)			Ask table groups to introduce each other. Aims & content of the day (inc: SWAN which will be referred back to throughout day) Brief feedback on starter activity
10:15-10:45	Session 1: Fractions, Decimals Interpreting multiple representations Operations of fractions	8 9–13	Multiple representation cards (NPS2.1-3) Sheet A4 plain	Reduce card set	Could you write fraction cards? Do the same for difference, product etc...	Card matching activity Work through and discuss slides

	Reflection	14				Collective feedback on that learnt, would do differently in future etc.
10:45-11:15	Session 2: Percentages Using percentages to increase quantities	15	Card match sets (NPS3)	It is not necessary to match all sets	Write some of their own (inc a fifth money card)	Card matching activity in groups of 3/4
11:15-11:30	Session 3: Evaluating statements Reflection	16-21 22	Statements A/S/N each on A4 placed on walls around room (NPS4)	Be selective when asking questions		Lead discussion on each statement, pull out reasoning form delegates Collective feedback on that learnt, would do differently in future etc.
11:30-11:45	BREAK					
11:45-12:45	Session 4: Tackling examination questions Introduction into new exam questions Solving questions	23 24-27	Ordered reasoning card set (NPS5) Set of plain cards for writing own ordered reasoning	To be done in groups. Share thoughts/ideas/help with peers	Write mark scheme or own exam question	Delegates complete a "ordered reasoning" card set Carousel - <u>should be fast pace</u> completes Q (pass to next group)

	Reflection	28				Include debate on easiest/hardest part, how to support students with lack of scaffolding questions etc..
12:45-13:00	Session 5: Four 4's problem for 1 to 50	29	Post it's Flip chart with 1 to 50 (post it size numbers)	Suggest they go to flip chart and see what others have done/used	Challenge to finish all remaining numbers. Could they do it with Four 3's ?	Give each table/group a different colour post it, create some competitiveness This can be continued over lunch if desired!!
13.00 – 13.45	LUNCH					
13:45-14:45	Session 6: Probability Number game	31	Number game sheet (NPS6)			Run game once or twice Consider the probabilities Play again if wish
	Spinner bingo	32-33				Slide 32 poses question (don't do) Slide 33 possible result Lead discussion on slides
	Developing an exam question	34-35	Spinner question sheets 1 & 2 (NPS7)	To be done in groups/peer support, keep questions simple	Write another question suitable for higher tier	Complete sheets
	Heads or Tails	36	A coin!			Play game, discuss slide

	Evaluating probability statements	37	Probability evaluation cards (NPS8)	To be done in pairs		Lead discussion
	Reflection	38				Collective feedback on that learnt, would do differently in future etc.
14:45-15:00	BREAK					
15:00-15:50	Session 7: Statistics Data representation	39	Post it's			Display collectively, all view and discuss.
	Interpreting bar charts and pie charts	40-41	Bar & Pie chart cards (NPS9)	Guide toward key data	Match/draw box plots to pair up	Card matching activity
	An average mystery!	42	Mystery clue sheet (NPS10)	Guide to easier clues in first instance		Delegates fill in the two way table with mean/mode/median clue cards
	Reflection	43				Collective feedback on that learnt, would do differently in future etc.
15.50 – 16.00	Review, evaluations & CLOSE	44-45	Evaluation forms			Complete forms