## Dear Data

Lesson 2: What's the story?



# Starter Task: From last week, what depth questions could you ask for these topics?

- 1. The emotions you feel
- 2. The sounds you hear

## Learning Intentions

- To find a story in the data collected
- To complete a more complex tally chart
- Use a more complex tally chart to explore your data for unusual patterns

#### Success Criteria

- Found a story in your data
- Worked on (hopefully completed) your complex tally chart
- Identified any unusual data in your collection

## A simple visualisation



## Finding the question for your visualisation

- What you did
- Where you did it
- The size of books you own
- How much you have drunk
- The clothes you wear (or don't)
- Where you spend your time
- What do you do with your days
- Where you keep your books

The answer to the question will be shown in our visualisation.

To get started we are going to find how many unique answers there are to each of our data depth questions.

## Step 1: Analyse Level 1

- Make a copy of the table on the right.
- The first question was:
  - How did I consume the media?
- Look at the example answers on the next slide. There are 4 possible answers in Level 1.

• Enter the number 4 in your table at Level 1

Data Scie	Data Science: Number of Unique Answers at Each Level													
Lvi1														
Lvl2														
Lvl3														
Lvl4														

# Example Answers – How did I consume the media?

	An	swers to	your ques	tions					Answe	ers to your	question	ıs	
Lvl 1			Listenir	ng			Lvl 1			Read	ing		
Lvl 2		Phone		O	.5 Hour	S	Lvl 2	P	rinted Pa	per		1 Hour	
Lvl 3	Tues	sday	22:	15	Bedr	room	Lvl 3	Tue	sday	19:	00	Living f	Room
Lvl 4	Bed Fiction Entertainment						Lvl 4	Arm Chair	Non- Fiction	Work			
	An	swers to	your ques	tions					Answe	ers to your	question	ns	
Lvl 1			Watchi	ng			Lvl 1			Playi	ing		
Lvl 2	Desk	top Comp	outer	0	.5 Hour	S	Lvl 2	Desktop Computer				1.5 Hours	
Lvl 3	Tues	sday	20:	20:00 Study			Lvl 3	Tue	sday	20:	30	Stu	dy
Lvl 4	Desk Chair	Youtube   Work					Lvi 4	VI Desk Game		Entertainment			

## Step 2 – Analyse Step 2

- The second question was:
  - What did I consume the media on?
- Look at the example answers on the next slide. There are 8 possible answers in Level 2.

• Enter the number 8 in your table at Level 2

## Example Answers – What did I consume the media on?

	An	swers to	your ques	tions			$\top$			Answe	rs to your o	question	s			
Lvl 1			Listening					Lvl 1			Read	ling				
Lvl 2		Phone		0	.5 Hours	s		Lvl 2	F	Printed Pa	per		1 Hour			
Lvl 3	Tuesd	ay	22:	15	Bedr	oom		Lvl 3	Tue	esday	19:0	00	Living	Room		
Lvl 4	Bed	Music	Entertainment					<u>Lvl</u> 4	Arm Chair	Non- Fiction	Work					
	An	swers to	your ques	tions			T			Answe	rs to your o	question	s			
Lvl 1			Watching					Lvl 1			Play	ing				
Lvl 2		iPad		0	.5 Hours	s		Lvl 2	С	inema Sci	reen					
Lvl 3	Tuesd	ay	20:	00	Stu	ıdy		Lvl 3	Tue	esday	20:	30	Stu	dy		
Lvl 4	Desk Chair	Youtube	Work	1 1				Lvl 4	Seat	Movie	Entertainment					
	An	swers to	your ques	tions						Answe	rs to your o	question	s			
Lvl 1			Listening					Lvl 1			Read	ling				
Lvl 2		TV		0	.5 Hours	S		Lvl 2	Desktop Con		nputer		1 Hour			
Lvl 3	Tuesd	ay	22:	15	Bedr	oom		Lvl 3	Tue	esday	19:0	00	Living	Room		
Lvl 4	Bed	Netflix	Entertainment					Lvl 4	Arm Chair	Non- Fiction	Work					
	An	swers to	your ques	tions						Answe	rs to your o	question	s			
Lvl 1			Watching				Ī	Lvl 1			Play	-				
Lvl 2	F	Record		0.5 Hours					El	ectronic l	Book		1.5 Hours			
Lvl 3	Sunda	ау	10:			Lvl 3	Tue	esday	20:	30	Stu	dy				
Lvl 4	Dining Table	Music	Entertainment					Lvl 4	Desk Chair	Fiction	Entertainment					

## Finish your analysis

- Continue the same way through all your questions.
- Sometimes you may want to group data rather than collecting individually for example
  - times(06:15, 15:00, 22:00) to time of day (morning, afternoon, night)
  - Duration into <2hours 2 to 4 hours 5+ hours

 Once you have finished analysing your data you have a simple visualisation like this

Data Scie	ence: Numb	er of Uniqu	ue Answer	s at Each Le	vel	
Lvi1	4					
Lvl2	8			3		
Lvl3	7		4		7	
Lvi4	9	13	4			

## A more complex tally chart



### Our Goal

We are going to create a more detailed tally chart.

What do you think it is telling you?

Our goal is to make one of these for the data you collected in part 1.

Main Focus	Other data	Listening	Watching	Reading	Playing	Morning	Afternoon	Evening -	Night	<1 Hour	1 – 2 hours	3 -5 hours	5 – 8 hours	>8 hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	 
Living Room		П	Ш	1		Ш		Ш	Ι	Ι	ШШ					I	1	-	1		П	
Dining Room																						
Study		1	Ш		Ш	1	_	Ш		1	Ш	П		1		П	1			Ш	1	
Kitchen		1	П				1	П		1	П							1	1		1	
Bedroom		Ш		П					ШШ	ШШ						1	_	=	1	П		
Balcony				1							1										_	
Cinema			1				1					1							1			
Outside						I					1										1	

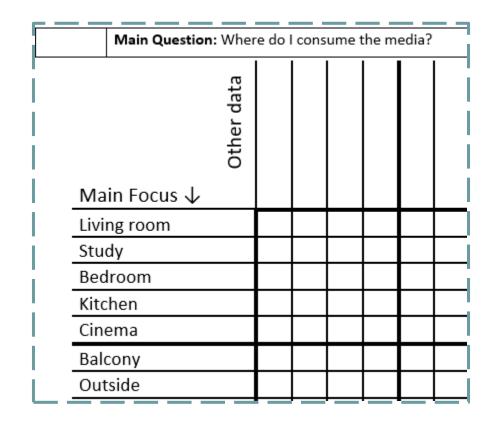
## Step 1 – What is our main question?

- The first focus is on the question we are going to create our visual around.
- These are the two areas of the sheet to focus on with this task.

Lets look at some examples with the sample data

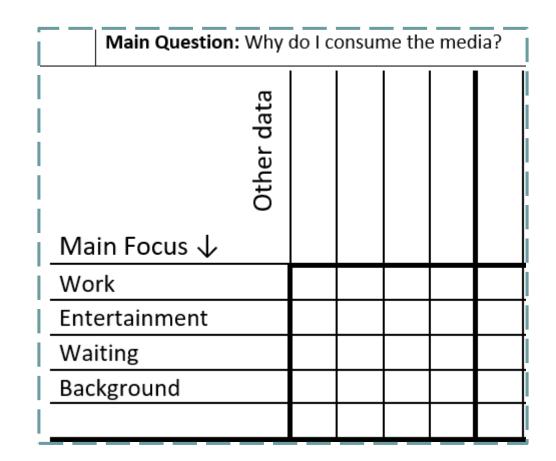
#### Main Focus on location

- Look through the answer cards and find the unique answers to the "where" question.
- Put these answers in the main focus column



## Main Focus on why

- Another way to look at the data is to change our main focus to answer the question "why did I consume the media"
- Look through the answer cards and find the unique answers to the "why" question.
- Put these answers in the main focus column



## Step 2 – Adding more data

- The next focus is on the answers to the unique answers to the other questions
- The top row of the sheet will be used to add this new information

 Lets look at some examples with the sample data (using the location main focus)

### Step 2 – How I consumed the media

- Start with the example where the main focus is location.
- Add the answers to the "how" question to the top row of the table.

Main Focus ↓	Other data	Listening	Watching	Reading	Playing
Living room					
Study					
Bedroom					
Kitchen					
Cinema					
Balcony					
Outside					

## Step 3 – When did I consume the media?

 Now add the answers to the question "When did I consume the media"

       Main Focus   ↓	Other data	Listening	Watching	Reading	Playing	Morning	Afternoon	Evening	Night
Living room									
Study									
Bedroom									
Kitchen									
Cinema									
Balcony									
Outside									

## Step 4 – For how long did I consume the media?

 Now add the answers to the question "For how did I consume the media?"

 Carry on adding information to the table until you have the answers to all your remaining questions along the top row

Main C	uestio	n: Wh	ere do	I cons	ume t	he med	dia?				_			
Main Focus ↓	Other data	Listening	Watching	Reading	Playing	Morning	Afternoon	Evening	Night	<1 hour	1-3 hours	3-5 hours	5-8 hours	>8 hours
Living room														
Study														
Bedroom														
Kitchen														
Cinema														
Balcony														
Outside														

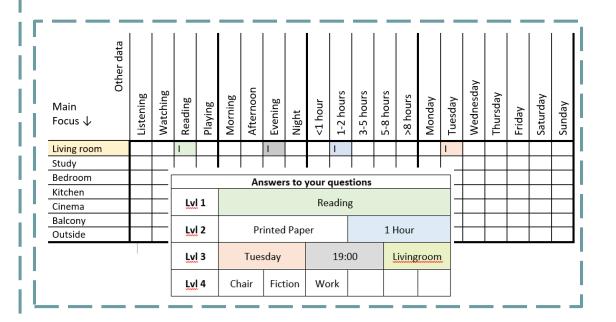
## Step 4 – Preparing to add the data

- The next focus is tallying all the combinations of data so that we can find something interesting in the data.
- Start with your empty table as shown here.

Main Focus ↓	Other data	Listening	Watching	Reading	Playing	Morning	Afternoon	Evening	Night	<1 hour	1-3 hours	3-5 hours	5-8 hours	>8 hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Living room																					
Study																					
Bedroom																					
Kitchen																					
Cinema																					
Balcony																					
Outside																					

## Step 5 Reviewing answers and adding the data

- Review each set of answers and add the data to your empty table.
- Repeat the steps until you have added answers from all your cards to the tally chart



# Continue until all your data is in the tally chart!

Main Focus ↓	Other data	Listening	Watching	Reading	Playing	Morning	Afternoon	Evening	Night	<1 hour	1-2 hours	3-5 hours	5-8 hours	>8 hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Living room		II	Ш	I		Ш		Ш	1	Ι	ШШ				Ш	1	1	I	1		Ш
Study																					
Bedroom		1	Ξ		$\blacksquare$																
Kitchen		1	=			=	Ι			Ξ					_		-		Ι		
Cinema			=					П			П									I	1
Balcony				I		I				I							Ι				
Outside			Ш				Ш				П									II	

### TASK: Tallying your homework data

 Using the sheet and the examples we have looked at create a tally of the data you collected for homework

## Missing (or extra) Data, is it important?

During the week that you collected data did anything happen that changed the data you collected?

#### For example:

- A holiday may increase the amount of media consumed on a day compared to the norm
- A family dinner out may lead to a day when there is less phone usage compared to the norm

These should be noted in our final visualization if they effect the chosen data, the example data has very little for Monday as there was an event attended all day.

#### TASK: Unusual Data

• Is there any unusual data in your collected data?

 If there is note it on your sheet somewhere to remind you when you start on your visualizations.

Finish you tally chart of data

If you require this document in an alternative format, such as large print or a coloured background, please contact Claire Sowton, data.schools@ed.ac.uk or Moray House School of Education and Sport, St John's Land, Holyrood Road, Edinburgh, EH8 8AQ



