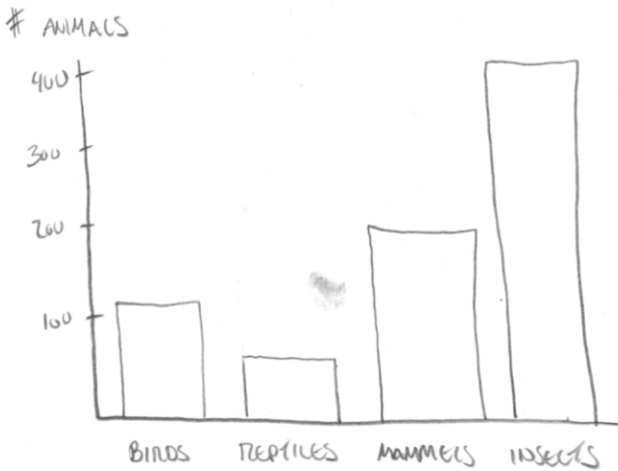


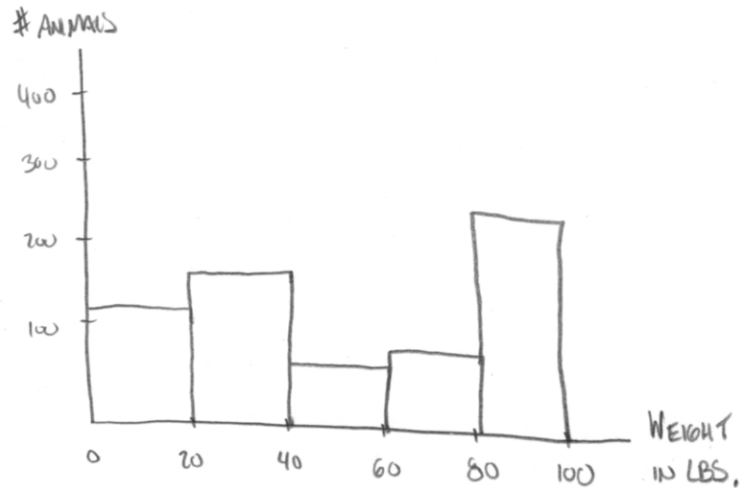
§ 1.5 RELATIVE FREQUENCY HISTOGRAMS

Def: A HISTOGRAM RESEMBLES A BAR CHART, BUT THE HORIZONTAL AXIS IS A PARTITIONED REAL NUMBER LINE.

BAR CHART



QUALITATIVE
(CATEGORICAL)



QUANTITATIVE
(NUMERICAL)



(CLASSES)
PARTITIONED INTO INTERVALS USING METHOD OF LEFT INCLUSION.

THAT IS, THE FIRST BAR SHOWS FREQUENCY (COUNT) OF ANIMAL WITH WEIGHT INSIDE $[0, 20)$.
SECOND BAR $[20, 40)$, THIRD $[40, 60)$, ETC.

↑ ↓
INCLUDED NOT INCLUDED

ex. MAKE A RELATIVE FREQUENCY HISTOGRAM FOR BIRTH WEIGHTS OF 30 HUMANS, MEASURED IN POUNDS.

5.8 7.8 8.1 6.3 ...

LOWEST : 5.5
 HIGHEST : 9.4

} SPAN OF 3.9

↑

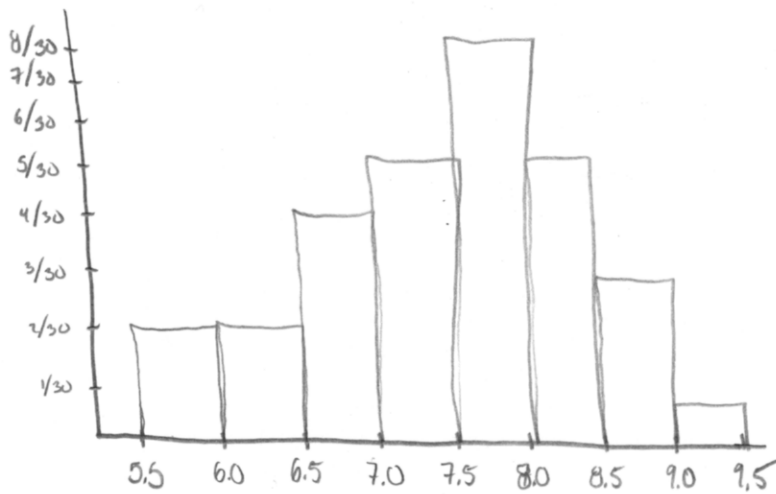
SPLIT UP INTO ROUGHLY 5-12 CLASSES
 (YOU HAVE SOME FREEDOM HERE)

$$\text{CLASS WIDTH} = \frac{\text{SPAN}}{\# \text{ CLASSES}} \quad \left(\text{ROUNDED UP TO A CONVENIENT NUMBER} \right)$$

FOR 8 CLASSES WE GET CLASS WIDTH OF 0.5

CLASS	TALLY	CLASS FREQ.	CLASS RELATIVE FREQ.
[5.5, 6.0)		2	2/30
[6.0, 6.5)		2	2/30
[6.5, 7.0)		4	4/30
[7.0, 7.5)		5	5/30
[7.5, 8.0)		8	8/30
[8.0, 8.5)		5	5/30
[8.5, 9.0)		3	3/30
[9.0, 9.5)		1	1/30
		<hr/> TOTAL 30	<hr/> TOTAL 1

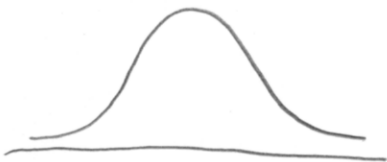
RELATIVE FREQUENCY HISTOGRAM



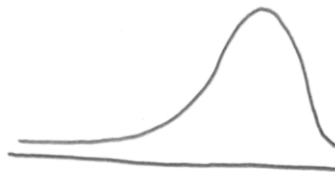
NOTICE HOW THE DATA ARE DISTRIBUTED ALONG THE HORIZONTAL AXIS.

REMARK: FOR DISCRETE DATA (INTEGER VALUED), e.g. # SIBLINGS, WE OFTEN ASSIGN EACH INTEGER ITS OWN CLASS.

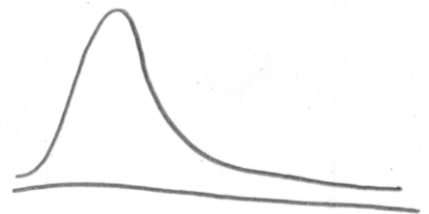
SYMMETRIC



LEFT-SKEWED



RIGHT-SKEWED



UNIMODAL



BIMODAL

