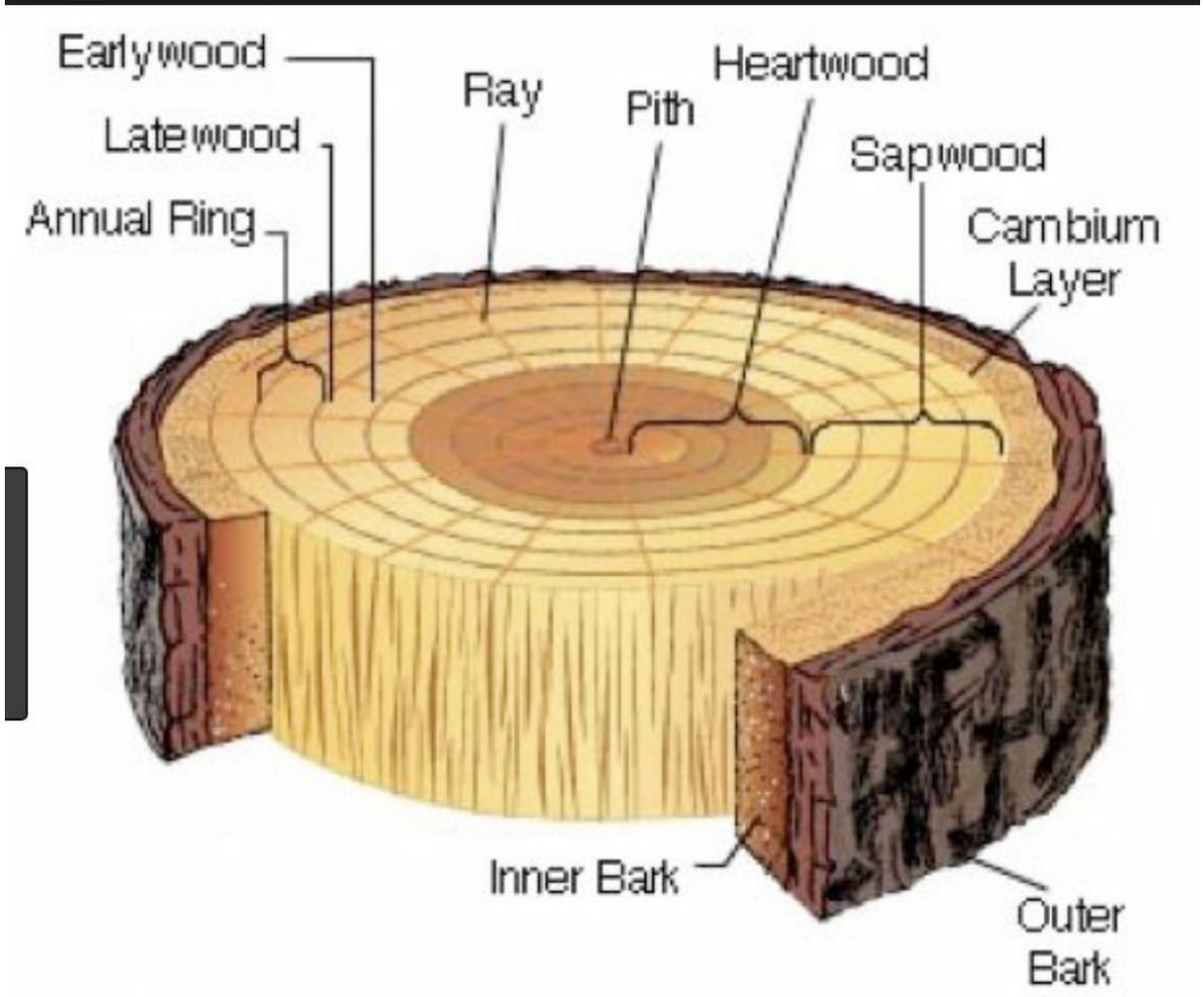
Earlywood
Latewood
Annual Ring
Ray
Pith
Heartwood
Sapwood
Cambium Layer
Inner Bark
Outer Bark

Links to MYP concepts

Key concepts from other MYP subjects that could be used within the **statistics and probability** branch include **communication** (representation, probability of events), **communities** (samples, populations), **connections** (probability of successive trials, measures of central tendency), **development** (probability of successive trials, population sampling), **global interaction** (population sampling, representations) and **systems** (probability of events, conditional probability). Related concepts from MYP mathematics that could be used within the **statistics and probability** branch include **change**, **equivalence**, **generalization**, **justification**, **measurement**, **model**, **pattern**, **quantity**, **representation**, **simplification** and **system**.

Topic	Skills
Standard and extended mathematics	
Graphical analysis and representation (pie charts, histograms, line graphs, scatter plots, box-and-whisker plots)	Data collection Constructing and interpreting graphs Drawing the line of best fit
Population sampling	Selecting samples and making inferences about populations
Measures of central tendency/location (mean, mode, median, quartile, percentile) for discrete and continuous data	Calculating the mean, median and mode, and choosing the best measure of central tendency
Measures of dispersion (range, interquartile range) for discrete and continuous data	Calculating the interquartile range

Collect data

1. Measure the circumference of your tree cookie
2. Count the growth rings of your cookie
3. Collect data from all participants

Use the TI Nspire to enter the data

List A label with “circumference”

List B label with “age”

TI instructions

1. New document
2. 4 Add lists and spreadsheets
3. Enter under column A circumference of all samples (in cm)
4. Enter under column B age (in years)
5. Be sure to label columns
6. Ctr doc
7. 5 Data and statistics
8. Click to put age on X axis and circumference on Y axis
9. Menu
10. 4 analyze
11. 6 Regression
12. 2 show linear
13.

What does the line of regression tell you?

Is the correlation strong?

Is it positive or negative?

Are there any outliers?

Is it fair to estimate the age of a tree with a circumference of 100cm? Justify your answer.

Why factors affect the size of the rings?

Consider growth conditions for trees….

Why would trees have variability in the size of their growth rings?

Logic and Reasoning

Consider how each of the following affects growth of trees in your environment:

Humidity

Water in soil

Competition

Wind

Nutrients in soil

temperature

D. Applying mathematics in real-life contexts

MYP mathematics encourages students to see mathematics as a tool for solving problems in an authentic real-life context. Students are expected to transfer theoretical mathematical knowledge into real-world situations and apply appropriate problem-solving strategies, draw valid conclusions and reflect upon their results.

In order to reach the aims of mathematics, students should be able to:

i. identify relevant elements of authentic real-life situations

ii. select appropriate mathematical strategies when solving authentic real-life situations

iii. apply the selected mathematical strategies successfully to reach a solution

iv. justify the degree of accuracy of a solution

v. justify whether a solution makes sense in the context of the authentic real-life situation.