Tree roots

This task is about interpreting diagrams.

Part one: *Review your knowledge*
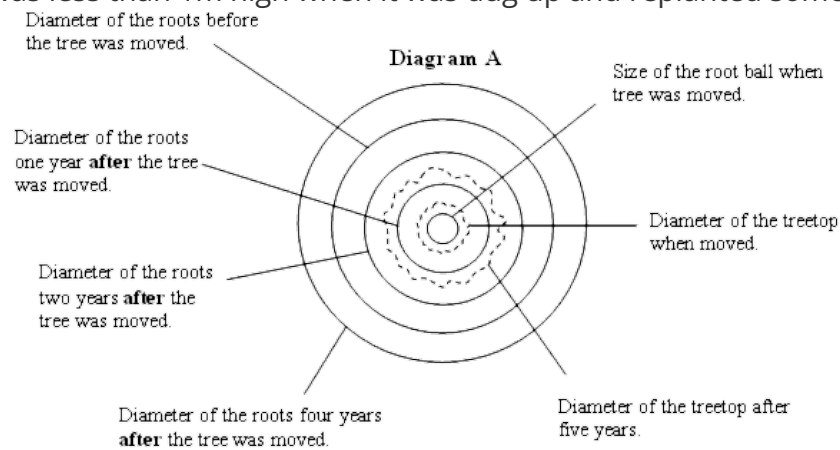
a) Use your knowledge of plants to list two main functions carried out by the roots of trees.

Function 1: [   ]

Function 2: [   ]

Part two: *Interpret a model*

Diagram A is a model that compares how the diameter of a tree's root system and branches changed over time. The tree was less than 1m high when it was dug up and replanted somewhere else.

Diameter of the roots before the tree was moved.

Diagram A

Size of the root ball when tree was moved.

Diameter of the roots one year **after** the tree was moved.

Diameter of the treetop when moved.

Diameter of the roots two years **after** the tree was moved.

Diameter of the roots four years **after** the tree was moved.

Diameter of the treetop after five years.

b) i) What does each smooth circle on the model represent? [   ]

ii) How many years' growth in total does the model show?

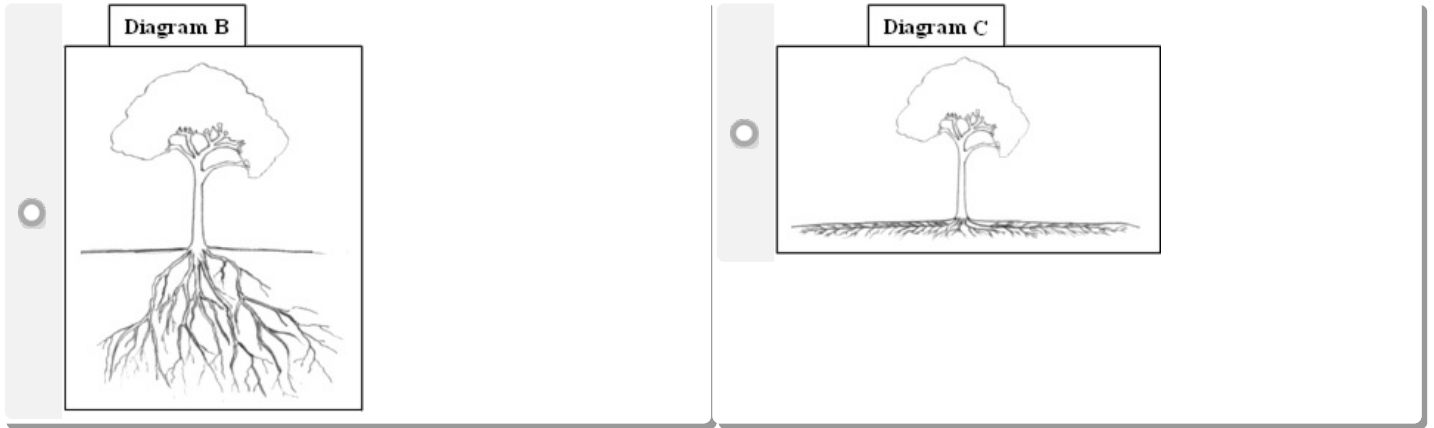- ○ Less than 2 years
- ○ 2-3 years
- ○ 3-4 years
- ○ At least 5 years

iii) How long did the roots take to grow back to their original spread? [   ]

Diagrams B and C show two types of tree root systems.

c) i) Which of these diagrams would be most like the tree modeled in diagram A?

Diagram B

Diagram C

Give a reason for your choice.

Part three: *Apply your knowledge*
When trees are moved the effects on their root systems can be dramatic. When even quite small trees are moved it is impossible to dig up all the roots as well. This means trees need very careful attention for some time if they are to survive.

d) Trees are often supported with sturdy stakes when they are first transplanted. How does this help them survive?

e) Use the information provided to recommend a suitable length of time for keeping the stakes in place.