

**Student 6. Plan**

**Aim:** Does the number of leaves on a stem cutting affect the number of roots in stem cuttings? [2].

**Equipment needed:** 5 glass jars, scissors, ruler, a healthy Tahitian Bridal Veil plant.

**Instructions.** [1]

1. Take 25 cuttings of about 30cm long from the tip of a healthy growing stem. Always cut beneath the node on a 45° angle away from the node [5].
2. Group the cuttings into piles of 5.
3. Take the first pile of 5 and remove all the leaves on each of the five cuttings.
4. Take the next pile of five and leave only two leaf on each of the 5 cuttings.
5. Take the next pile of five and leave only four leaf on each of the 5 cuttings.
6. Take the next pile of five and leave only six leaf on each of the 5 cuttings.
7. Take the last pile of five and leave only eight leaf on each of the 5 cuttings [3].
8. Fill all of the jars with 300mls of water [5].
9. Put each pile of 5 cuttings into different jars. Each jar should have 5 cuttings place into it.
10. Leave those jars where they will receive sunlight and darkness [5].
11. Take photos every 2 days and record any results or anything that is happening to the cuttings.
12. Leave the cuttings for 2 weeks.
13. After two weeks, measure the root lengths and count the number of roots [4]. Record all information.

**Report:** [6]

Number of leaves	Number of roots grown over two weeks	Average
0	2, 5, 3, 4, 2	3.2 → 3
2	5, 5, 4, 3, 2,	3.8 → 4
4	6, 4, 4, 8, 5,	5.4 → 5
6	5, 6, 7, 4, 8,	6
8	8, 6, 9, 3, 7,	6.6 → 7

In this assessment 91289 I carried out a practical investigation to see whether the effect of leaves on the production of roots in stem cuttings. For this assessment I used Tahitian Bridal Veil plant to produce a report.

My purpose for this investigation was: Does the number of leaves on stem cuttings effect the number of roots in stem cuttings [2].

When gathering my results from the investigation there was a pattern shown, after calculating the averages of the results. As the number of leaves increased on each cutting the number of roots increased [7]. For the first group of cuttings which had 0 leaves, the average number of roots was 3. As the number of leaves increased, for example the next group of cuttings had 2 leaves, the average number of roots was 4. Then it increased from 5, 6, 7 number of roots. So therefore the pattern shown in the processed data was, as the number of leaves increased of each cutting the number of roots increased. So answering my purpose I can say; "Yes the number of leaves does effect the number of roots". This was shown in the pattern collected from my results. So therefore the more leaves on the cuttings the root growth increases [7].