

Phase 6 Answers

Table 1 Repair Methods

1. Repair method	2. Cost	3.How many	4.What is the total cost?
Blocking drains	£9 per drain	9	£81
Blocking Gullies	£7 per gully	6	£42
Planting Native Plants	£2 per plant	6 plants	£12
Timber dams	£5	7 dams	£35
		Total	£170

Table 2 Project Costs

Project Costs	Cost individually	How many	What is the total cost?
4 Workers (Jack's team)	£10 per week	4 weeks	£40
Machines	£28 per machine	8 machines	224
Welfare (Toilets and rest place workers)	£33 per welfare unit per week	4 weeks	132
		Total	£396

Questions

- How much will it cost to plant the native plants? **£12**
- How much will it cost to buy the machines? **£224**
- What is the total cost of all the repair methods? **£170**
- What are the total project costs? **£396**
- What is the total for the whole project? **£170 + £396 = £566**
- Remember Olivia started with £600. From working out the total project cost, how much money does Olivia have left over? **£34**
- With the money Olivia has left over how many more timber dams could she buy? **Six timber dams.**

Phase 7 Answers

Table 1 Restoration Techniques

Repair Method	Cost individually	How many does Olivia need	What is the total cost?
Blocking drains	£95 per drain	9	£855
Blocking Gullies	£76 per gully	8	£608
Planting native plants to help stabilise the soil and restore the natural habitat	£2 per plant	26 plants	£52
Timber dams	£73	8	£584
		Total	£2099

Table 2 Expenses

Expenses	Cost individually	How many	What is the total cost?
4 Workers (Jack's team)	£112 per week	4 weeks	£448
Machines	£782 per machine	3 machines	£2346
Welfare (Toilets and rest place workers)	£238 per welfare unit per week	4 weeks	£952
		Total	£3746

Questions

Q1) How much will it cost to plant the native vegetation? **£52**

Q2) How much will it cost to buy the machines? **£2346**

Q3) What is the total cost of the repair methods? **£2099**

Q4) What is the total cost of all the expenses? **£3746**

Q5) What is the total project cost? (repair methods and expenses) **£5845**

Q5) Remember Olivia started with £6000. From working out the total project cost, how much money does Olivia have left over? **£155**

Q6) With the money Olivia has left over how many more Timber dams could she buy?

Two timber dams

Phase 8 Answers

Table 1 Restoration Techniques

Restoration Technique	Cost individually	How many does Olivia need	What is the total cost?
Blocking drains	£256 per drain	9	£2304
Planting native plants to help stabilise the soil and restore the natural habitat	£130 per bag of plants	7	£910
Timber dams	£502	6	3012
		Total	6226

Table 2 Expenses

Expenses	Cost individually	How many	What is the total cost?
Workers (Jack's team)	£682 per week	4 weeks	2728
Machines	£95.21	6 machines	571.26
Welfare (accommodation, Toilets and rest place for workers)	£73.26	2 welfare units	146.52
		Total	3,445.78

Questions

Q1) What is the total cost of all the restoration techniques? £6226

Q2) What is the total cost of all the expenses? £3445.78

Q3) What is the total Project cost? £9,671.78

Q3) Remember Olivia started with £10,000. How much money does Olivia have left after paying for the project? $10,000 - 9,671.78 =$ £328.22

Q4) Whilst out on site doing the work, Jack found more drains that need blocking. With the money Olivia has left how many more drains can Jack block? One

Q6) It was so wet that one of the machines got stuck! Jack has had to buy another machine. How much does the project cost in total now? £9,766.99

Q7) With the money left over how many bags of native plants could Olivia buy? Two

Phase 9 Answers

Table 1 Restoration Techniques

Restoration Technique	Cost individually	How many does Olivia need	What is the total cost?
Blocking drains	£3560 per drain	7	24,920
Planting native plants to	1503 per bag of plants	8	12,024
Timber dams	£6024	4	24,096
		Total	61,040

Table 2 Expenses

Expenses	Cost individually	How many	What is the total cost?
Workers (Jack's team)	£90	42	3780
Machines	£2587.23	4	10,348.92
Welfare (accommodation, Toilets and rest place for workers)	£114.18	6	685.08
		Total	14, 813.6

Questions

- What is the total cost of all the restoration techniques? **£61,040**
- What is the total cost of all the expenses? **£14,813.6**
- What is the total project cost?. $61,040 + 14,813.6 = \textbf{£75,853.6}$
- Olivia started with £100,000. How much money does she have left after paying for the project? $\text{£}100,000 - \text{£}75,853.6 = \textbf{24,146.4}$
- Whilst out on site doing the work, Jack found more drains that need blocking. How many more drains can Olivia block with the leftover money? **Six drains**
- It was so wet that one of the machines got stuck! Jack has had to buy another machine. How much does the project cost in total now? **78,440.283**
- Jack's team finished their work in half the time they originally planned. Because of this, Olivia only needs to pay for half the number of weeks she expected. How much money does she pay the workers now instead? $\text{£}3780/2 = \textbf{£1890}$

8. With the leftover money how many more timber dams could Olivia and Jack install? **Four**

9. oh no! it snowed so hard that Jack and his team couldn't do all the work. They had to leave two drains. How much money should they give back to Olivia? **£7120**