

# Epidemic!



- You need**  coloured pens  a classmate  
 a photocopy of the Activity Two table copymaster

*I'm Eric the Gravedigger. I dig graves for three villages: Munster, Broningen, and Ratfree. The Black Death has been raging for 4 weeks. Many people have died.*

The Space Waka lands in Europe 650 years ago.

## Activity One

- Copy and complete the tables below to predict how many graves Eric will have to dig in weeks 5 and 6 if the patterns continue.

### Munster Deaths

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
1	2	4	8		

### Broningen Deaths

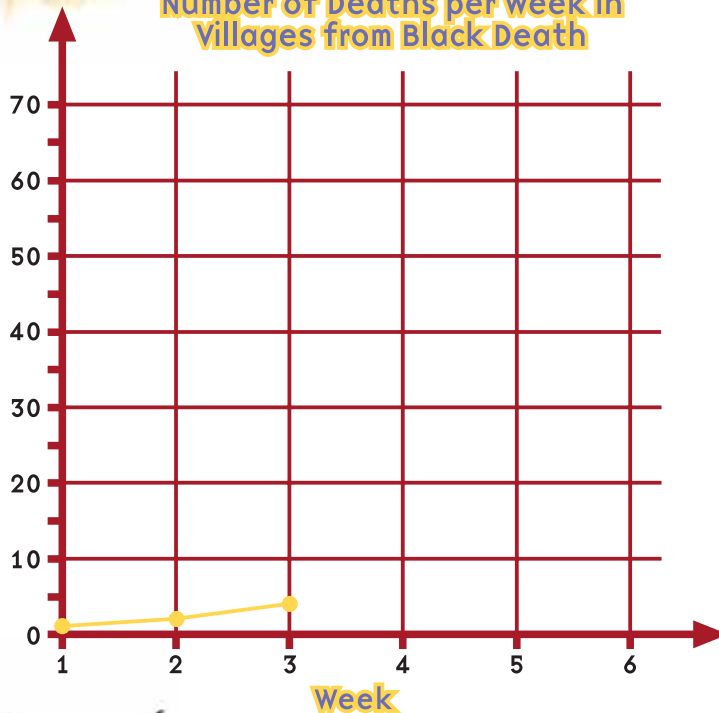
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
5	10	15	20		

### Ratfree Deaths

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
64	32	16	8		



Number of Deaths per Week in Villages from Black Death



- Eric must plot each village's death rate on this graph. Copy and complete it for him. Use a different colour for each village.
- Each village had a population of 150 at the start of week 1. Use your predictions to work out how many people will be alive in each village after week 6.



Number of deaths in villages



In Ratfree, the number of deaths from the plague is decreasing each week.

Munster has had the least deaths from the plague so far.

There are lots of spare beds in Broningen.



4. You and the *Space Waka* crew must spend a night in a village during week 4 of the plague. Where is the safest place to spend the night? Explain the reasons for your choice.

### Activity Two

The plague is spread by rats. At the end of week 4, the villagers try to stop the plague spreading by killing the rats. Each village has just over 1 000 rats. If 1 000 rats can be exterminated in 10 days, the village will survive the plague. Help the villagers to exterminate the rats.

Sam gives Ratfree some rat poison from the *Space Waka*. Ratfree sends all the villagers out on the first day to drop poison, and they do nothing for the next 9 days. The other villages send out people to kill rats.

The table below shows the numbers of villagers sent out and the rats killed each day.

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Munster	Villagers sent out	5	5	5	5						
	Rats killed	50	50	50	50						
Broningen	Villagers sent out	9	11	9	11						
	Rats killed	90	110	90	110						
Ratfree	Villagers sent out	whole village	0	0	0						
	Rats killed	10	20	40	80						

- Complete your copy of the table with the number of rats that will be killed.
  - Compare your answers with a classmate and discuss your predictions.
- Which villages do you think will survive the plague? Why?
  - Which villages do you think won't survive the plague? Why?
- Discuss with your classmate what the villages that don't look like surviving the plague could do to kill more rats.