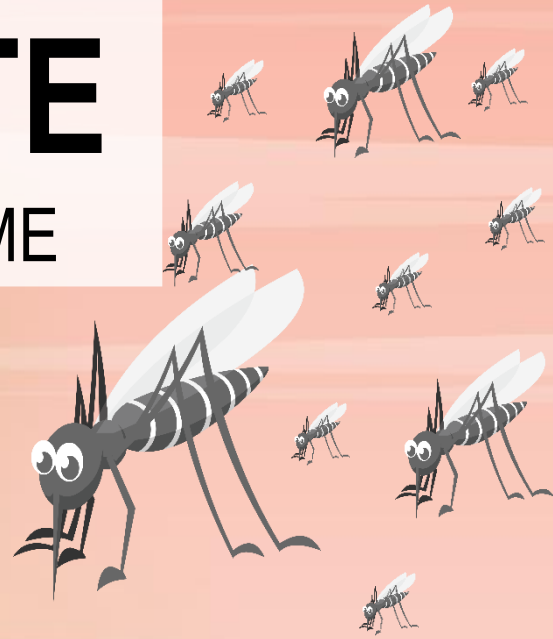


THE BIG BITE

MOSQUITO VIRALITY GAME

INTRODUCTION

An activity for a class to increase their understanding of probability and chance in real world contexts, the usefulness of graphs and scatterplots for modelling, and how disease is spread and prevented. It also can be used to talk about predicting future patterns based on previously collected data, as well as comparing and contrasting the usefulness of various types of graph. Good for individuals or small groups.



TIME AND MATERIALS

Total Activity Time: 40 minutes

Concept Pre-Teach: 5 minutes

Rules Explanation and Questions: 5 mins

Approximate Playtime: 15 minutes

Graph Plotting and Maths Explanation Time: 10 minutes



Materials per Student/Group:

1 Pair of Scissors (unless mosquitos pre-cut)

1 Coloured Pencil

1 Ruler

1 Six Sided Dice or dice rolling app (or Google Search bar: type "roll d6")

1 printed A4 activity sheet per student (attached)

CURRICULUM RELEVANCY

Year 4 Australian Curriculum Links:

- **understanding** making connections between representations of numbers, partitioning and combining numbers flexibly
- **fluency** communicating sequences of simple fractions, collecting and recording data
- **problem-solving** includes formulating, modelling and recording authentic situations involving operations, comparing time durations and using properties of numbers to continue patterns
- **reasoning** includes using generalising from number properties and results of calculations, communicating information using graphical displays and evaluating the appropriateness of different displays.
- **Data representation and interpretation** select and trial methods for datacollection, including survey questions and recording sheets
- **Chance** describe possible everyday events and order their chances of occurring

Instructions included on each sheet

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QUT

Part 1: Outbreak

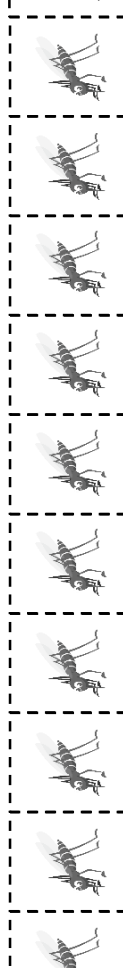
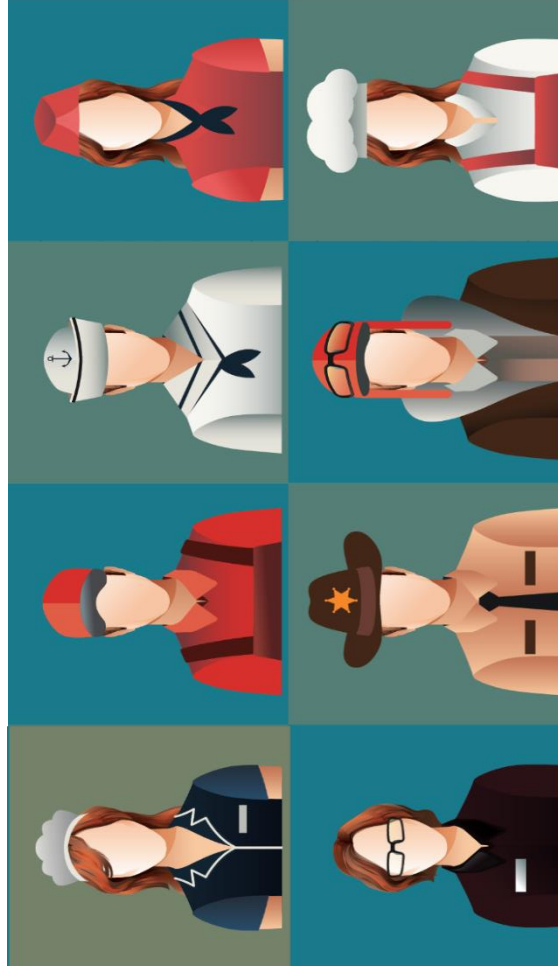
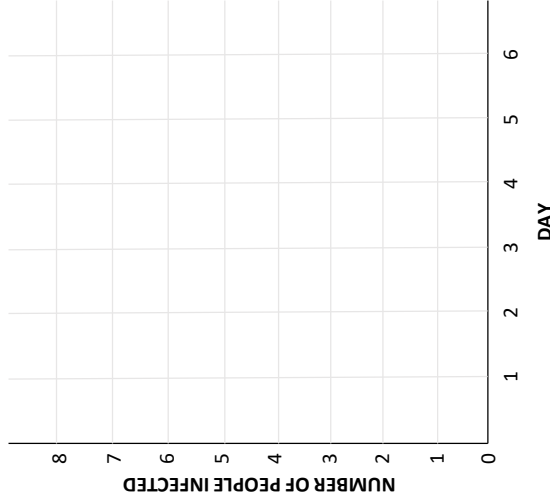
How to Play

- 1) Cut out the little Mosquitos at the bottom of the page.
- 2) Begin with one mosquito.
- 3) Place your Mosquito onto your person of choice below, and roll the dice to bite.

Biting and Infecting

If you get a 3, 4, 5 or 6, that person is infected by the mosquito! Mark an X on that person to show they now have a disease. Then, gain an extra mosquito to use on your next turn. If you roll a 1 or a 2, the person is not infected this turn, and you do not gain a new mosquito.

- 4) Each Day, move all of your mosquitos to new people, and roll to bite for each of them. Multiple Mosquitos can try to bite the same person, if you choose. If the person is infected, do not roll for it this turn
- 5) At the end of each Day, place a mark on the graph on the right to show how many people are now infected.
- 6) Play 6 "Days" in total, repeating steps 6 to 7 until you are finished.



Part 2: Prevention/Intervention

Now you can try and limit the rate of infection. Play the game using the same steps, however, choose one of the following options to change the probabilities. Circle which you think will help limit the spread of disease the most. Discuss and decide together if you're in groups

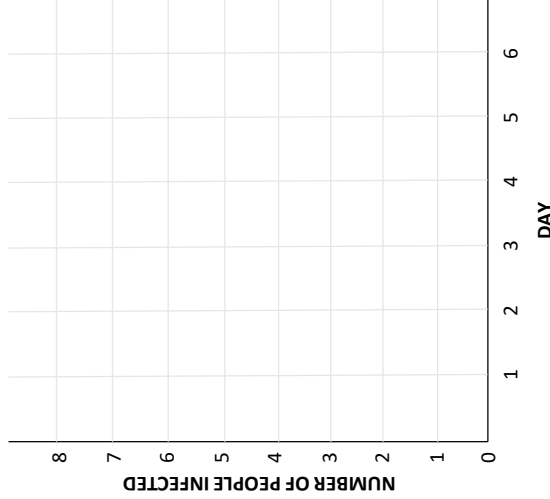
IRRADIATE THE MOSQUITOS

When a mosquito successfully infects a Person, instead of automatically gaining a new mosquito, you must roll a dice and get a 5 or 6 for it to appear



DISTRIBUTE MOSQUITO NETS

You now must roll a 5 or a 6 to infect another person with a mosquito.



Follow-up questions:

- Was your choice the best choice?
- Why/why not?
- Can you think of another way to limit infection?
- Compare with someone else/another group!

