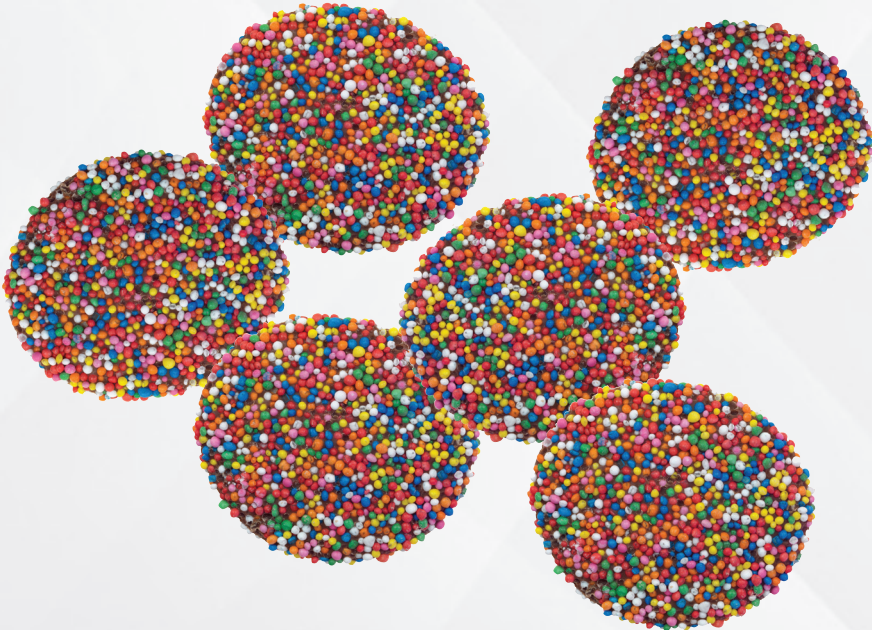


# FRECKLES



## About three-act tasks

The three-act mathematics task format was developed by Dan Meyer.

It is a whole group mathematics task consisting of three distinct parts: an engaging and perplexing Act One, an information and solution seeking Act Two, and a solution discussion and solution revealing Act Three.

Three-act tasks provide an authentic context to use and develop math understanding. They create situations where students engage in mathematical modelling, build relational understanding among concepts and learn to justify their thinking when seeking answers to problems.

## Facilitating the three acts

### Act One

Play Act One video. Act One shows a jar of chocolate 'freckles' and a rectangular iced cake.

The question is 'How many chocolate freckles will I need to cover the top of this cake?'

Guide the students to use number sense by asking them to estimate a number that is too high and one that is too low. Record their guesses.



### Act Two

Play Act Two video. Act Two shows some freckles dotted along the length and width of the top surface of the cake. The question is 'How does this information help?'

Promote a discussion about how this provides a clue as to how many freckles would be needed to cover the top surface. Help students to be clear when they are explaining their thinking verbally. Encourage students to listen to their peers and build on each other's thinking.

The clue is a partial array where they need to multiply the column and row to find the total. So they are essentially using a multiplication fact to answer the question.



### Act Three

Play Act Three video. This is where the answer is shown. Compare different methods that students used and promote discussion about which was the most efficient method and why.



# Freckles

## The Sequel

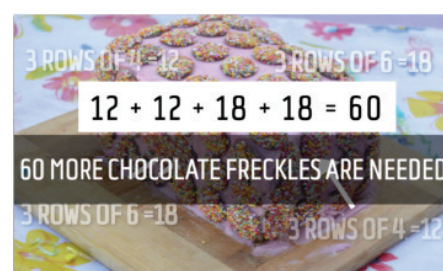
Play the sequel video in this three-act task. This provides an extension to the first problem. The students are presented with a visual where they are challenged to find how many more chocolate freckles they need to cover the whole cake (the side surfaces and the top surface of the rectangular prism).

In order to solve this, they need to use the row and column from the array on the top surface. Give students the height dimension (which is three freckles) – but allow students to engage in a 'productive struggle' with this variable – don't be too helpful! After all, this is the very essence of the three-act task format.



## The Finale

Play the final video in this three-act task. This video provides the solution to the sequel. Promote a discussion comparing different methods which could have been used to solve this problem.



# Freckles

## Act One

What is the main question?

Make a guess that you know is too low:

Make a guess that you know is too high:

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## Act Two

What information are you given?

How does it help?

---

## Act Three

How close were your guesses?

Name \_\_\_\_\_

love learning with 

# Freckles

## The Sequel

Your workspace:

Name \_\_\_\_\_