

3 Act Task: Coin Book  
Millicent Acquah, Michael Ripley and Ann Gregson

Level: Elementary

### **Act 1: The Question**

[The teacher shows short [video clip](#) of toonies covering the surface of a book with piles of other coin denominations next to the book]

a) *The teacher asks students “what do you notice? What do you wonder? What are the first questions that come to mind?”*

b) Students share observations or questions with a partner first, and then as a group (think-pair-share). The teacher records the observations and questions in a place that is visible to everyone. The teacher then determines which question(s) will be pursued by the class. If the teacher has a particular question in mind, he might guide the conversation towards it. In this case the questions might be:

- 1) How many coins will the man put on the book? Is he only going to use toonies?
- 2) How many toonies will fit on the book?
- 3) What will the dollar value be if the surface of the book is completely covered?

c) The teacher will ask students for estimated answers for the focus questions. Teacher will ask for estimates that would be too high and too low.

The teacher will have the students record their estimates.

### **Act 2: Information Gathering**

The teacher will ask the students the following questions:

-“What information do you need to answer the main question?”

-“What mathematical tools would be useful to answer the main question?”

*Students use their tools to come up with possible answers to the problem.*

The teacher may give the students the dimensions of the book: 13 cm by 20 cm

The students may have access to fake coins.

### **Act 3: The Reveal**

#### **[Freeze frame of book with surface covered in toonies]**

The teacher reveals the image of the answer: 28 toonies (\$56.00)

The teacher validates students answers by exploring students’ estimates and techniques for solving the problem.

### **The Sequel**

**[Video clip of book covered in quarters with the same dollar value of \$56 as the toonies.**

**Rows of quarters continue “off” the laptop’s surface]**

Extension questions: how many of each coin can fit in the rectangular surface of the book?

What is the highest dollar value that could be placed completely on the book? What is the

smallest dollar value?