

Museum Madness

You have been asked help curate at the National Children’s Museum. The board of directors are offering the chance for children to help run the Museum and make some pretty gigantic decisions about what and how they exhibit.



1. First, up you need to analyse the figures below. The Museum Director has decided to give each exhibit a value score based on the data. To find an exhibit score they will calculate the following:

$$\text{Visitors per month} \times \text{Time spent in exhibit} \times \text{Average Customer Score}$$

Exhibit	Visitors per month	Time Spent in exhibit (minutes)	Weeks since exhibit opened.	Average Customer Score (out of 10)	Value score
Egyptians	27	9	56	7	
Dinosaurs	39	8	89	3	
Armouries	53	7	68	5	

The Museum Director has asked for visitor data for the whole year. Use the monthly figure above to calculate the visitors over the whole year. Note: The museum was closed for refurbishment during the whole of December.



Exhibit	Visitors last year
Egyptians	
Dinosaurs	
Armouries	

Based on the value score and yearly visitor figures, which two exhibits would you advise to run next year?

2. During the refurbishment all the dinosaur bones were moved to storage. The bones were coded and order according to length and weight.

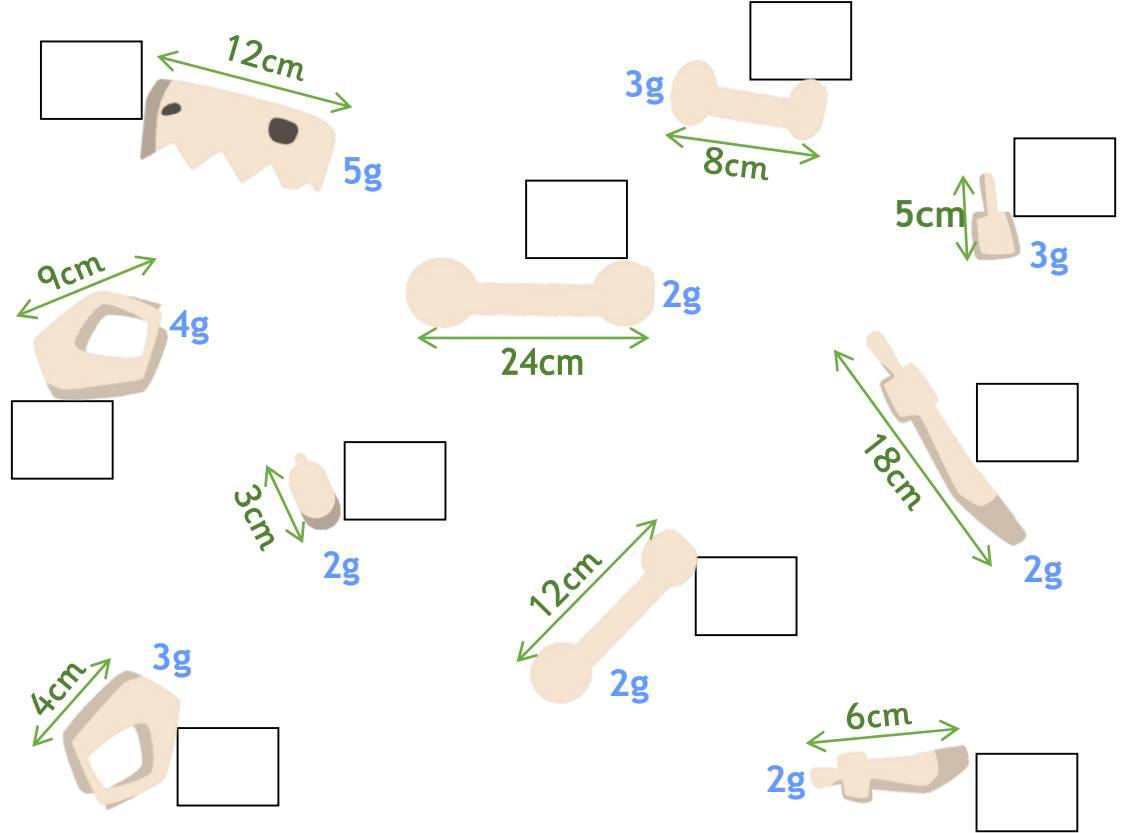
$$\text{length} \times \text{weight} = \text{code}$$

Complete the missing codes of the bones. Which two codes are missing?

Note from the Museum Director:

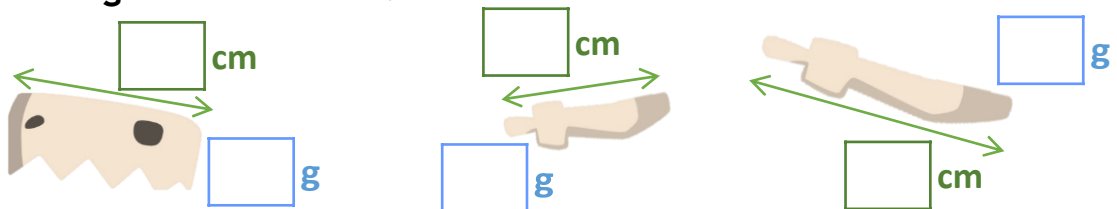
Remember there were a number of bones assigned the same code.

- CODES**
- 15
- 24
- 12
- 36
- 48
-
-



These bones have the same code but their measurements are incomplete. Fill in possible missing measurements.

- 20



3. The marketing team are working on the price to charge for tickets, they have a few choices of pricing structure. The Museum Director has been very clear he wants a family of four to be able to visit for less than £25. Which prices would meet this criteria? Which would you recommend and why?

A
Adult £6.75
Child £3.50

B
Adult £8.59
Child £4.25

C
Adult £11.00
Child £2.50

D
Adult £ 7.85
Child £3.75

4. The Egyptian exhibit has acquired a set of previously undiscovered coins from an ancient pharaoh's tomb. The coins must be displayed in rows and columns, then labelled according to their dates.

How many rows and columns should each group of coins could have? There may be more than one choice for each group.

	3100BC to 2500BC	2500BC to 2000BC	2000BC to 1500BC	1500BC to 1000BC	1000BC to 500BC
Number of coins	50	24	30		63
choice 1	2 x 25	4 x 6	x	12 x 3	x
choice 2	5 x 10	x	x	x	x
choice 3	25 x 2	x	x	x	x



5. The Museum Director has been reviewing visitor numbers and wants to encourage people to spend longer at each exhibit. He employs tour guides to take people around the exhibits and give fun facts along the way.



Each tour guide can work up to 98 minutes between breaks, each area takes 7 minutes to tour. How many areas can a guide cover between their breaks? Show your calculation.

On the first day of the new tours, a school trip arrives with 84 children. There are 3 tour guides at the Museum that day.

How many children will each tour guide have in their group? Show your calculation.

6. To make the most of the school trips and extra visitors, the Museum shop is looking to stock a variety of trinkets on sale for under £5 each. Tick which of the stock from the orders book could make a profit if sold for £5 or less each.



Plastic Roman Helmet



Miniature Gold Sarcophagus



Cuddly Woolly Mammoth



Metal Roman Soldier

12 for £48

9 for £36

7 for £14

11 for £88

7. Now you have decided on which items to buy, you have a budget to complete the order form below. Be careful, you can ONLY spend a maximum of £250!

MuseumGifts.com order form		
Item	Amount Ordered	Cost
Total Cost		

8. Lots of schools are contacting to arrange summer trips. They would like to know the cost of visiting the museum, a guided tour and an interactive session. Use the price list to calculate the full cost for the schools.

School Visit Prices

ENTRY
£123 per class

TOUR
£137 per class

SESSION
£234 per half class

Location	Classes
St. Jude's	5 classes
Heath Manor	3 classes
Oak Mount	8 classes
Moorhill	2 classes

9. Your time at the museum is over. The visitor numbers are up! 6 times more people visited the Dinosaurs last month, 4 times more people visited the Egyptians and 9 times more visited the Armouries. That's FANTASTIC!!
Uh Oh! Here's the director with just one more job before you leave...

Could you calculate the increase in visitors to each exhibit please before you go?

PSST!
You're going to need those monthly figures from question 1!!