

Name:			
Class:			

## **ACTIVITY SHEET**

# 1.5 Constructing and using calibration curves

In the 1950s, atomic absorption spectroscopy was developed by CSIRO scientist Dr Alan Walsh. It is an analytical technique used to determine the unknown concentration of an element based on the amount of light it absorbs compared to samples of known concentration.



### Instructions

1 Use the data below to construct a calibration curve on the grid for known concentrations of lead.

Lead concentration (ppm)	Absorbance
0.00	0.00
1.00	0.17
2.00	0.34
3.00	0.48
4.00	0.65
5.00	0.83
6.00	1.01

(Source: http://www.ausetute.com.au/aas.html)

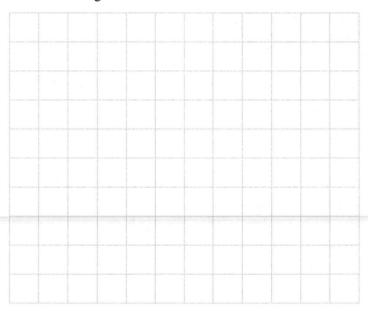


2 Use the curve to determine the concentration of lead in a sample with an absorbance of 0.53.



**3** Use the data below to construct a calibration curve on the grid for known concentrations of cadmium.

0.000
0.038
0.082
0.120
0.160
0.200
0.240



**4** Use the curve to determine the concentration of cadmium in a sample with an absorbance of 0.190.

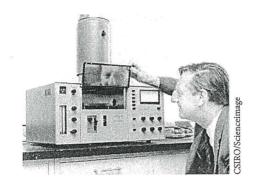


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#### Instructions

1 Use the data below to construct a calibration curve on the grid for known concentrations of lead.

ead concentration (ppm)	Absorbance	Ve-
0.00	0.00	
1.00	0.17	09
2.00	0.34	08
3.00	0.48	
4.00	0.65	0,7
5.00	0.83	0.6
6.00	1.01	0.5
		10.4 20.2 0.1
		OK 1 2 3 Pt (gen)

2 Use the curve to determine the concentration of lead in a sample with an absorbance of 0.53.

31/ pm.



3 Use the data below to construct a calibration curve on the grid for known concentrations of cadmium.

Cadmium concentration (mg L <sup>-1</sup> )	Absorbance								
0.00	0.000	014				-			
1.00	0.038	0121-							
2.00	0.082		ŧ					No.	
3.00	0.120	0118-			-	-	- Andrews	*	
4.00	0.160	h.I/a				-	Market Land		
5.00	0.200	DIK-				San San Street			
6.00	0.240	1011			was provided in		1	1	-
		0.00		and the same					
	2	0.03	and the same of th						
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4 Use the curve to determine the concentration of cadmium in a sample with an absorbance of 0.190.

4.75 mgL-1