

# Numeracy Skills for Science

## Reading Tables - Level 3 – Book 1

### Task 1 – Reading The Information in a Table

Read the following information about tables.

**Tables** are used to display the results of an investigation.

Tables are used to **compare** things.

They show the **relationship** between two or more things.

It is very important to read the headings carefully.

The table below shows the number of units of alcohol in some common drinks. The things being compared are the **drinks** and the **number of units of alcohol**.

You know what things are being compared because they are in the **headings**.

In this table the headings are in italics.

<b>Headings</b>	
<i>Drink</i>	<i>Alcohol (units)</i>
1 bottle of alcopop	2.0
1 pint of lager	2.3
1 glass of wine	2.1
1 pint of cider	3.0
1 measure of spirits	1.4

Before you begin to look at the question, you should **read** the **whole table**.

You should put it into **sentences**, building in the **headings**. Read it aloud if this helps.

*Example:*

In the drink 1 bottle of alcopop there are 2.0 units of alcohol.

In the drink 1 pint of lager, there are 2.3 units of alcohol.

In the drink 1 glass of wine, there are 2.1 units of alcohol.

In the drink 1 pint of cider, there are 3.0 units of alcohol.

In the drink 1 measure of spirits, there are 1.4 units of alcohol.

Once you have done this it should be very easy to **find** any information that you need for the questions.



Name of student	Test 1	Test 2	Test 3	Test 4	Test 5
Linda	55	62	60	64	64
Brian	39	39	45	48	49
Melanie	46	51	53	59	65
John	76	79	79	81	85

Brian's marks were  $39 + 39 + 45 + 48 + 49 = 220$   
 (There were 5 tests)  
 $220 \div 5 = \mathbf{44}$

6. **Draw Conclusions**

**Draw conclusions** means *write what you have found out* from the table.

*Example:*

A student carried out an investigation to find out how long it took two substances to dissolve; first in water at 30°C, then at 60°C, then at 80°C.

The results are in the table below.

Substances	30 °C	60°C	80°C
<b>A</b>	20 minutes	15 minutes	8 minutes
<b>B</b>	11 minutes	9 minutes	3 minutes
<b>C</b>	30 minutes	22 minutes	14 minutes
<b>D</b>	15 minutes	10 minutes	4 minutes
<b>E</b>	35 minutes	21 minutes	13 minutes

**What conclusions can you draw from the results?**

*You have to compare the substances and the times.*

*As you **read the table** aloud in **sentences**, you become aware that as the temperature is getting higher, the number of minutes is getting smaller.*

*For example: "Substance C dissolves in 30 minutes at 30°C. It dissolves in 22 minutes at 60°C and it dissolves in 14 minutes at 80°C."*

*Since the student wanted to know how quickly the substances dissolved, the conclusions will include words such as*

**fastest, slowest, faster than, slower than, largest, smallest, increase, decrease, etc.**

**The conclusion is what you found out.** *There are lots of things you could write.*

*All the answers below are correct.*

*The more **'scientific'** ways of writing the conclusions are in **red**.*

- Substance B dissolved faster than all the rest at 30°C
- Substance E was the slowest to dissolve at 30°C
- All the substances dissolved at a different rate, no matter what the temperature was.
- Substance A took longer to dissolve at 60°C than Substances B and D.
- All the substances dissolved faster as the temperature increased.
- **The lower the temperature, the more slowly the substances dissolve.**
- **As the temperature increases, all the substances dissolve more quickly.**
- **The greater the temperature, the faster the speed of dissolving.**

## 7. Predict

Tables are used to **predict**.

**'Predict'** means use the information in the table to make an intelligent guess about something which is not in the table.

After you have read the table in sentences, you will have noticed that the numbers are going up, going down or staying more or less the same.

*Example:*

A student carried out an investigation to find out how long it took two substances to dissolve first in water at 30°C, then at 60°C, then at 80°C.

The results are in the table below.

<i>Substances</i>	<i>30 °C</i>	<i>60°C</i>	<i>70°C</i>	<i>80°C</i>
<b>A</b>	20 minutes	15 minutes		8 minutes
<b>B</b>	11 minutes	9 minutes		3 minutes
<b>C</b>	30 minutes	22 minutes		14 minutes
<b>D</b>	15 minutes	10 minutes		4 minutes
<b>E</b>	35 minutes	21 minutes		13 minutes

**Predict** the number of minutes Substance C would have taken to dissolve if the temperature of the water was 70°C.

What to do:

1. Find the data for Substance C in the table. (now coloured)

2. Decide where in the table 70°C would be. (now marked)
3. The answer at Level 3 is "**Between 22 minutes and 14 minutes**".  
You do not have to guess an exact number. (If you did, it would be 18°C or 19°C.)

If you are asked to predict the number of minutes Substance C would have taken to dissolve at **100°C**, the answer would be "**Less than 14 minutes**".  
If you wanted to be more exact (though this is not usually necessary at Level 3) the answer would be 6°C or 7°C.

### **Task 2 – Reading Tables Questions**

The remainder of the level 3 booklet 1 provides questions on reading tables. This information is summarised in the table below.

<b>Question</b>	<b>Content</b>	<b>Question</b>	<b>Content</b>
1	Insects	14	Drug Deaths
2	Compounds/Fertilisers	15	Recycled Waste
3	Pulse Rate	16	Wind Turbines
4	Exercise	17	Energy Needs
5	Stain Removal	18	Flower Bulbs Conclusions and
6	Body Fat %	19	Tin and Solder Prediction
7	Yeast	20	Light & Plant Oxygen
8	Germination	21	Water Types
9	Cultivation	22	% Body Substances
10	Bees	23	% Blood Groups
11	Alcohol	24	Vital Capacities
12	Milk	25	Average Heart Rate
13	Caddis Flye Larve		

**Your task is to answer the three table questions listed below.**

<b>Question</b>	<b>Content</b>
21	Water Types Conclusion
23	% Blood Group
25	Average Heart Rate

## Numeracy Skills for Science Reading Tables - Level 3 – Book 2

### Task 1 – Reading The Information in a Table

Read the following information about tables.

**Tables** are used to display the results of an investigation.

Tables are used to **compare** things.

They show the **relationship** between two or more things.

It is very important to read the headings carefully.

The table below shows the number of units of alcohol in some common drinks. The things being compared are the **drinks** and the **number of units of alcohol**.

You know what things are being compared because they are in the **headings**.

In this table the headings are in italics.

<b>Headings</b>	
<i>Drink</i>	<i>Alcohol (units)</i>
1 bottle of alcopop	2.0
1 pint of lager	2.3
1 glass of wine	2.1
1 pint of cider	3.0
1 measure of spirits	1.4

Before you begin to look at the question, you should **read** the **whole table**.

You should put it into **sentences**, building in the **headings**. Read it aloud if this helps.

*Example:*

In the drink 1 bottle of alcopop there are 2.0 units of alcohol.

In the drink 1 pint of lager, there are 2.3 units of alcohol.

In the drink 1 glass of wine, there are 2.1 units of alcohol.

In the drink 1 pint of cider, there are 3.0 units of alcohol.

In the drink 1 measure of spirits, there are 1.4 units of alcohol.



Example:

Calculate the **average** mark achieved by Brian in the tests.

Name of student	Test 1	Test 2	Test 3	Test 4	Test 5
Linda	55	62	60	64	64
Brian	39	39	45	48	49
Melanie	46	51	53	59	65
John	76	79	79	81	85

Brian's marks were  $39 + 39 + 45 + 48 + 49 = 220$

(There were 5 tests)

$220 \div 5 = \underline{44}$

6. **Draw Conclusions**

**Draw conclusions** means **write what you have found out** from the table.

*Example:*

A student carried out an investigation to find out how long it took two substances to dissolve; first in water at 30°C, then at 60°C, then at 80°C.

The results are in the table below.

Substances	30 °C	60°C	80°C
<b>A</b>	20 minutes	15 minutes	8 minutes
<b>B</b>	11 minutes	9 minutes	3 minutes
<b>C</b>	30 minutes	22 minutes	14 minutes
<b>D</b>	15 minutes	10 minutes	4 minutes
<b>E</b>	35 minutes	21 minutes	13 minutes

**What conclusions can you draw from the results?**

You have to compare the substances and the times.

As you **read the table** aloud in **sentences**, you become aware that as the temperature is getting higher, the number of minutes is getting smaller.

For example: "Substance C dissolves in 30 minutes at 30°C. It dissolves in 22 minutes at 60°C and it dissolves in 14 minutes at 80°C."

Since the student wanted to know how quickly the substances dissolved, the conclusions will include words such as

**fastest, slowest, faster than, slower than, largest, smallest, increase, decrease, etc.**

**The conclusion is what you found out.** There are lots of things you could write.



All the answers below are correct.  
The more '**scientific**' ways of writing the conclusions are in **red**.

- Substance B dissolved faster than all the rest at 30°C
- Substance E was the slowest to dissolve at 30°C
- All the substances dissolved at a different rate, no matter what the temperature was.
- Substance A took longer to dissolve at 60°C than Substances B and D.
- All the substances dissolved faster as the temperature increased.
- **The lower the temperature, the more slowly the substances dissolve.**
- **As the temperature increases, all the substances dissolve more quickly.**
- **The greater the temperature, the faster the speed of dissolving.**

## 7. Predict

Tables are used to **predict**.

**'Predict'** means use the information in the table to make an intelligent guess about something which is **not** in the table.

After you have read the table in sentences, you will have noticed that the numbers are going up, going down or staying more or less the same.

*Example:*

A student carried out an investigation to find out how long it took two substances to dissolve first in water at 30°C, then at 60°C, then at 80°C.

The results are in the table below.

Substances	30 °C	60°C	70°C	80°C
<b>A</b>	20 minutes	15 minutes		8 minutes
<b>B</b>	11 minutes	9 minutes		3 minutes
<b>C</b>	30 minutes	22 minutes		14 minutes
<b>D</b>	15 minutes	10 minutes		4 minutes
<b>E</b>	35 minutes	21 minutes		13 minutes

**Predict** the number of minutes Substance C would have taken to dissolve if the temperature of the water was 70°C.

What to do:

1. Find the data for Substance C in the table. (now coloured)
2. Decide where in the table 70°C would be. (now marked)
3. The answer at Level 3 is "**Between 22 minutes and 14 minutes**".  
You do not have to guess an exact number. (If you did, it would be 18°C or 19°C.)

If you are asked to predict the number of minutes Substance C would have taken to dissolve at **100°C**, the answer would be "**Less than 14 minutes**".  
If you wanted to be more exact (though this is not usually necessary at Level 3) the answer would be 6°C or 7°C.

### **Task 2 – Reading Tables Questions**

The remainder of the level 3 book 2 provides questions on reading tables. This information is summarised in the table below.

<b>Question</b>	<b>Content</b>	<b>Question</b>	<b>Content</b>
1	Starlings	8	Lillies
2	Blood Groups	9	Detergents and Stains
3	Model Tank Investigation	10	New Plants
4	Energy and Buildings	11	Fuels
5	Lung Volume and Air Pressure	12	Exercise and Pulse
6	Seeds : Glucose and Starch	13	Coal
7	Seeds: Starch, Sugar and Protein	14	Temperature and Reaction Rate

**Your task is to answer the three table questions listed below.**

<b>Question</b>	<b>Content</b>
1	Starlings
4	Energy and Buildings
11	Fuels