**Science Skills**

**Making Pie Charts**

**Level 4**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **Making Pie Charts Level 4**

You are not normally expected to draw pie charts at Level 3, though you are expected to be able to read and understand them.

Pie charts are a good way of displaying information comparing numbers or **quantities** of things. They are especially useful to show **percentages** and for showing **proportion**.

**1. Pie Charts showing Percentages**

Study the following example and explanations of what you are expected to be able to do.

S2 pupils made subject choices.
30% chose chemistry; 35% chose biology; 20% chose physics; 15% chose technologies.
Display this information as a pie chart.

* Since you were given **percentage** figures, the figures **must add up to 100**.
* You will have been given a blank ‘pie’ to insert the information. Fill in a dot in the middle.
* Count the number of ‘slices’ you have been given.
**Remember that** **the whole ‘pie’ adds up to 100**.
Decide what percentage each ‘slice’ will represent.
If there are 10 ‘slices’ each will represent 10%. If there are 20 ‘slices’, each will represent 5%.
* If you have decided that each ‘slice’ represents 5%, then a figure of 30% will take up 6 ‘slices’; 20% will take up 4 ‘slices’ etc. Work out how many ‘slices’ each piece of information will need.
Start at the top and work round clockwise to complete the pie chart. Colour.
* It is essential that there is a **title** and a **key** to show what each ‘slice’ represents.

(This pie chart has been ‘exploded’ to show the ‘slices’ clearly. Your pie charts will not be ‘exploded’.)

**2. Pie Charts showing figures which are not percentages.**

 Example:

 Pupils in S1 were surveyed to find out favourite subjects at school. The results are
 shown in the table.

 Display this information as a pie chart.

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| **Favourite Subject** | **Number of Pupils** |
| History | 12 |
| Science | 24 |
| French | 6 |
| PE | 18 |

* If the figures you are given are not percentages, If you have not been told the total ‘number of pupils’, you will have to add them up. 12+24+6+18=**60**
* Now look at the number of ‘slices’ in the blank pie you have been given. (20)
* Divide the total ‘number of pupils’ by the number of ‘slices’ to work out the number which each ‘slice’ will represent. (60÷20 = **3**)
* If each ‘slice’ represents 3 pupils, you will need 4 ‘slices’ for 12 pupils; 8 ‘slices’ for 24 pupils; 2 ‘slices’ for 6 pupils and 6 ‘slices’ for 18 pupils.
Start at the top and work round clockwise to complete the pie chart. Colour.
* Insert the **Chart Title** and the **key**.

1. The table shows the **percentage composition** of a veggie burger.
 Present the information in the form of a pie chart.





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2 The table shows the **percentage composition** of loam soil.
 Present the information in the form of a pie chart.





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3 Centipedes eat woodlice and other small animals.
Woodlice make up **10%** of their diet and spiders account for **20%.**
Beetles make up **10%** of their diet and other insects make up **60%.**

Present this information as a pie chart.



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4 A manufacturer uses genetic engineering techniques to make a variety of products.
 The table below shows each product as a **percentage** of their total production in 2010.
 Display this information as a pie chart.

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5 The eye colours of **160 school pupils** are shown in the table below.
 Complete the pie chart to show this information.



 *Working*



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6 In a telephone survey into knowledge about science, people were asked to name any element in the Periodic Table. 40 people said copper; 60 said gold; 30 said silver; 50 remembered oxygen and 20 said carbon.

Display this information as a pie chart.

 Working

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7 Medical instruments can be made from a mixture of metals containing 80% titanium,
5% zirconium and the rest is other metals.

 Display this information as a pie chart.



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8 One way of classifying the types of hydrocarbon found in crude oil is shown in the table

 Complete the table and display this information as a pie chart.



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