# Lesson 2: Enter the data

## Introduction

During this lesson learners will become familiar with the term ‘pictogram’. They will create pictograms manually and then progress to creating them using a computer. Learners will begin to understand the advantages of using computers rather than manual methods to create pictograms, and use this to answer simple questions.

## Learning objectives

To recognise that objects can be represented as pictures

* I can enter data onto a computer
* I can use a computer to view data in a different format
* I can use pictograms to answer simple questions about objects

## Key vocabulary

Pictogram, enter, data, tally chart, compare, more than, less than, objects, count

## Assessment opportunities

**Introduction:** To assess the learners’ understanding of what a pictogram is.

**Activity 1:** To assess the learners’ ability to create a manual pictogram as a group, and to retrieve simple information, i.e. What is your group’s favourite colour?

**Activity 2:** To assess the learners’ ability to enter data into a computer to create a pictogram.

**Activity 3:** To assess the learners’ ability to answer simple questions based on the data.

## Preparation

**Subject knowledge:**

It would be beneficial for teachers to have an understanding of how pictograms are made and the advantages of using these, as opposed to tally charts, for comparing data. Teachers will need to have an understanding of how to create a pictogram using a computer. These skills are supported in the slides.

**You will need:**

* L2 Slides
* A1 Worksheet – Pictogram coloured circles
* A3 Worksheet – Pictogram questions
* A3 Solutions – Pictogram solutions
* Pictogram software (This unit assumes the use of ‘Just 2 Easy:Pictogram’ (<https://www.j2e.com/jit5#pictogram>) but other packages are available.
* Large sheets of paper e.g. flipchart paper
* Glue
* Scissors

## Outline plan

Please note that the activities are labelled in the top right-hand corner of the slide deck to help you navigate the lesson.

*\*Timings are rough guides*

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| Introduction (Slides 2–6)  5 mins | **What is a pictogram?**  Show slide 2, and go through the learning objectives for the lesson.  Show slide 3, and ask the learners ‘What is a pictogram?’  **Note:** The learners may have encountered pictograms in maths previously depending on when this unit is taught during the school year. Some groups of learners may have little or no experience of pictograms.  Allow the learners to think, pair, and share with a partner before sharing with the main group. Ask them ‘Has anyone heard of the word pictogram? Where have you seen this word before?’  Show slide 4, and tell the learners that a pictogram is a chart that uses pictures to display data. Explain that we can make them manually with pens and paper, or using a computer.  Show slide 5, and inform the learners that the pictogram shows the favourite colours of a group of children. Each circle of colour represents one child’s answer.  Show slide 6, and explain that you asked eight children what their favourite colour was and recorded it using a pictogram. Tell them that for each person’s answer you added a circle of their chosen colour. Click through the animation to show how the eight choices were recorded.  **Note:** The circles underneath the line are not counted. These simply show the data that is being collected. This will be explained on the next slide. |
| **Activity 1**  (Slides 7–9)  10 mins | **Quick pictograms**  Show slide 7, and explain that the images underneath the line show the data that is being collected.  Tell the learners they are going to work in their table groups to create a pictogram to show their favourite colours (red, green, blue, or yellow), but that this will be a race. Tell them they need to gather the data from the people in their group and show this in the form of a pictogram.  Physically show the learners the materials they will need to use, e.g. large sheets of paper, glue, scissors, and the pictogram coloured circles sheet.  **Note:** This activity shows how the manual creation of a pictogram compares to the ease of using a computer. If you do not have the time or appropriate materials, learners could create pictograms using pens and paper, but the differences between manual and computer-based pictograms will be less pronounced.  Show slide 8, and establish the rules that the learners need to follow as they make their pictograms:   * Everyone has to choose their favourite colour from the list: red, green, blue, or yellow * You only have one vote, so you can only pick one colour * Everyone has to help make the pictogram * Once the pictogram is made you need to work out as a group what your favourite colour is and sit down   Show slide 9. Allow time for the learners to create their pictograms.  Discuss the findings from each group. Ask key questions such as: ‘What was your group’s favourite colour?’ ‘How do you know?’ Use this chance to introduce or revise vocabulary such as ‘more’, ‘less’ and ‘count’.  Stick the pictograms up around the classroom to model what they should look like, while the learners complete their own pictograms on the computer. |
| **Activity 2** (Slides 10–15)  10 mins | **Enter the data**  Show slide 10, and tell the learners they are going to use a computer to enter some data and create a pictogram. Show them how to access the chosen software. Allow them time to get to the correct place. Encourage learners to support their classmates.  Show slide 11, and tell the learners you have asked your family what their favourite fruit is from your list: apples, bananas, oranges, pears, or strawberries. They could only choose one fruit from the list.  Show slide 12, and explain that each time a member of your family chose their favourite fruit you clicked on the **+** next to their chosen fruit. This is the data you collected. Click to show the animation.  Show slide 13. Ask the learners ‘Why do you think I collected this information?’ Tell them that you are having a family party soon and that you wanted to know how much of each fruit to buy. It is always important to have a reason to collect your data.  Show slide 14, and tell the learners you have been asking the teachers how they get to school in the mornings. Tell them you have the answers from the teachers and that you would like them to record the data as a pictogram.  Show the screen recording to demonstrate how to open a ‘journey’ pictogram (by scrolling down and clicking on **journeys**). Point out that objects can be added to the pictogram by clicking on the add (+) above the corresponding object.  Show slide 15. Tell the learners that you will click through the answers, and that they should add the data to their pictogram. Click through the animation slowly, announcing each piece of data as it appears on the board.  At the end of the animation, learners should have constructed their own pictograms. Tell them they are going to use these to answer some questions later in the lesson.. |
| **Activity 3**  (Slides 16–20)  15 mins | **Answering questions**  Tell the learners they are going to answer some questions using the data they have displayed as a pictogram. Remind them you have collected data to find out your family's favourite fruit. Each member of the family has voted once for their favourite.  Show slide 16. Tell the learners the pictures underneath the **+** and **-** signs show the types of objects that are being counted. When you count the number of objects, you do not count these pictures..  Show slide 17, and ask ‘How many people chose bananas?’ (4 people)  Show slide 18, and ask ‘How many people chose oranges?’ (2 people)  Show slide 18, and ask ‘Which fruit got the most votes?’ (Strawberries)  Show slide 20. Ask the learners ‘Can you use your pictogram to answer simple questions?’ Show them the worksheet and read through the questions. Allow learners time to answer the questions using their onscreen pictograms. |
| **Plenary**  (Slides 21–24)  5 mins | **How do computers help us?**  Show slide 21, and ask the learners ‘How do computers help us when we make pictograms?’ Allow them time to offer their opinions.  **Note:** Refer back to the large pictograms made manually at the beginning of the lesson if appropriate.  Show slide 22. Ask the learners ‘Which pictogram is easiest to read?’ Tell them to answer by holding up the corresponding number of fingers, and question them based on their choices.  Discuss how the first pictogram is easier to read because the coloured circles are evenly spaced, they do not overlap, and they are aligned with the numbers.  Click to show the animation and tell the learners that computers help us to lay out the data so that it is evenly spaced, and easy to read and understand.  Show slide 23. Tell the learners that making pictograms by hand can take a lot of time. Click to play the animation and show the process, including labelling, cutting, and sticking. Discuss the time it takes to label, cut, and stick handmade pictograms, and point out that they aren’t always as neat as they could be. Tell them it can become messy too! This can be an advantage of using a computer to create pictograms.  Show slide 24. Tell the learners that it is easy to input data on a computer. Click to play the animation. Tell them that with the click of a button we can add another coloured circle to the pictogram. We don’t need to spend time cutting and sticking. |
| **Next time**  (Slides 25-26)  5 mins | Review the ‘Assessment’ and ‘Summary’ slides. |

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