**A Day In The Life…**

|  |  |
| --- | --- |
| **Content Objectives**   * Work interchangeably with decimals and their corresponding fractions. * Interpret percentages as a fraction or a decimal. * Calculate fractions of amounts. * Construct (simple) pie charts. | **Skill Objectives**   * Move freely between numerical and diagrammatic representations. * Extend and formalise their knowledge of proportion. * Interpret when the structure of a problem requires proportional reasoning. |
| **SMSC Indicators**   * Discover oneself and the surrounding world (spi). * Reflect (spi). | **Stretch and Challenge**   * Students could use half-hour segments on their pie chart to make them more accurate. * Ask students to work without calculators where appropriate. |

|  |
| --- |
| **Success Criteria**  **Represent average day using pie chart; calculate simple proportions of time spent doing each activity as a fraction, decimal and percentage, using a calculator for support if necessary.**  **Move fluidly between fractions, decimals and percentages; choose to use a calculator as appropriate; reflect on “The Time You Have” and draw mathematical conclusions.** |

|  |
| --- |
| **Resources**   * Lesson PowerPoint * Template sheet for student pie charts * Video link: [The Time You Have (In Jelly Beans)](http://www.youtube.com/watch?v=BOksW_NabEk) |

|  |  |
| --- | --- |
| **Activity** | **Timing** |
| Independent: Students list the activities that make up a normal (school) day in their exercise book, with approximate timings.  Think Pair Share: Look for any common features. What activities do we all have in common? What may be different? Collect list on board for use in next activity.  Typical list may include:   * Sleeping; * Eating/drinking; * Bathing/showering/toilet etc; * School-related activities (including homework); * Travel time; * Recreation (e.g. TV/computer/sports) – may choose to group these together or split into separate categories.   Independent: Students represent their average day on a 24-sector pie chart, using a colour key.  Direct Teaching: Explain/show examples of how to calculate what proportion of their day is spent doing each activity. Give proportions as fractions, decimals and percentages, emphasising methods for moving between all three representations. If you’re comfortable with doing so, you may want to model this using a pie chart of your own day. Alternatively, there is an example pie chart on the PowerPoint.  Independent: Students calculate what proportion of their day is spent doing each activity. Differentiate by level of support, expectation and use of a calculator where appropriate.  Direct Teaching: Demonstrate how these proportional calculations could be used to estimate the amount of time spent doing each activity in a lifetime (use average life expectancy of 80 years).  Independent: Students use their proportional calculations to work out how much of their lifetime would be spent doing each of these activities. It may be more straightforward to use calculators at this point as some of the numbers get “messy”.  Video: Show the video “[The Time You Have (In Jelly Beans)](http://www.youtube.com/watch?v=BOksW_NabEk)”. Get students to consider how their answers match up with the average American. | 5 min  5 min  10 min  10 min  10 min  5 min  10 min  5 min |