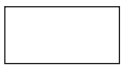
Y7	**UNIT 10 *Fractions*** Lesson Plan 1	*Fractions 1*
Activity		***Notes***
1	**Introduction to fractions** **OS 10.1** T: Twins, Jim and John, are celebrating their 18th birthday. Their mother cuts their square-shaped birthday cake into four slices of equal size, so that each of the four members of the family has one quarter of the cake. The men in the family have 3 quarters of the cake. We can write it like this (T on BB, Ps in Ex.Bs): 3 ⟵ NUMERATOR — ⟵ FRACTION LINE 4 ⟵ DENOMINATOR T: The numerator shows us how many of the equal parts we are referring to; the denominator shows how many equal parts make up the whole number. T: Now look at (b) on the OS. What fraction of the shape has been shaded? ($\frac{3}{8}$) And what are the words we use to describe the 3 and the 8 ? *(numerator* and *denominator)* *7 mins*	Whole class activity (definition). Slide appears on OHP and each P has a copy. Look at (a) on OS. T stresses that we can use the word 'quarter' only if we divide the whole into four equal parts. Then T tells Ps the names of the parts of a fraction, and explains them. Ps count, volunteer and answer. Agreement. Praising. Ps write the fraction next to the figure on their copy of OS 10.1. Then T gets Ps to practice what they have learned, using (c), (d), (e) and (f) in a similar way.
2	**Shading fractions of diagrams** **OS 10.2** *13 mins*	Individual work. Each P has a copy of OS 10.2 and works on it. T and Ps discuss the first example, and then Ps work, T monitors and helps. Checking on OHP. T points to P, P comes to OHP, shades in fraction and explains clearly. Agreement, feedback, self-correction. Praising.
3	**Fractions on a line** T: Use your ruler to draw 3 number lines, each of length at least 5 cm, one under the other. Starting from zero on the left hand side, mark off 4 cm on each of the lines. Here 4 cm will be a 'unit' length. Counting from zero, make a mark 3 quarters of a unit length along the first line. How far is this? *(3 cm)* T: On the second line, make a mark 4 quarters of a unit length along, and on the third line, make a mark at the point 5 quarters of a unit length along the line. T: Compare the fractions $\frac{3}{4}, \frac{4}{4}, \frac{5}{4}$ with the unit. Compare the numerator and denominator of each fraction. What can you say? *19 mins*	Whole class activity. T dictates what to do, monitors, and does the same on BB. Then T calls Ps to BB to draw the marks on the lines; other Ps in Ex.Bs. Agreement. Praising. After comparing the fractions, T leads Ps to see that a fraction can be smaller than, equal to or larger than 1, and introduces improper fractions. (T dictates, Ps write in Ex.Bs.)

Y7	**UNIT 10 *Fractions*** Lesson Plan 1	*Fractions 1*
Activity		***Notes***
4A	**Improper fractions - whole class activity** **PB 10.4, Example** and **OS 10.9 (a), (d), (e)**	Whole class activity. First, using diagrams at bottom of PB, p 152, T shows and explains how to write an improper fraction in another way, initiating the notion of mixed numbers. Then each P is given a copy of OS 10.9, which also appears on OHP. Ps count together, one P working at OHP, looking at the first, fourth and fifth diagrams.
4B	**Improper fractions - individual work** **OS 10.9 (b), (c)** P (e.g. diagram (b)): We can see there are 3 whole units and 3 quarters, so the mixed number represented by this fraction is $3\frac{3}{4}$. If we count the squares, we see that each whole unit contains 4 quarters, so there are $4 + 4 + 4 + 3 = 15$ quarters, so the improper fraction form is $\frac{15}{4}$ (and similarly with (c)).	Ps consider the second and third diagrams as individual work. T monitors, helps. Checking at OHP. T points, P comes to OHP, shows (counts), explains and fills in gaps. (T ensures correct mathematical language is used). Agreement, feedback, self-correction. Praising.
	30 mins	
5	**Practical work with fractions** **PB 10.4, Q1 (c), (d), (e), (g)**	Individual work, monitored, helped. Checking: see Activity 4B above.
	35 mins	
6A	**Further whole class work with fractions** **OS 10.10 (a), (c), (e)**	Whole class activity. Task appears on OHP and each P has a copy. T points to P (especially slower Ps), P comes to OHP, shows, shades, explains, writes. T may help.
6B	**Further individual practice** **OS 10.10, (b), (d)** T e.g: How many whole units have you shaded? P_1: I have shaded 4 whole units, since $4 \times 4 = 16$; I shaded 3 quarters of the fifth unit. So $\frac{19}{4}$ written as a mixed number is $4\frac{3}{4}$.	Individual work, monitored, helped. Oral checking. Agreement, feedback, self-correction. Praising.
	43 mins	

Y7	**UNIT 10 *Fractions*** Lesson Plan 1	*Fractions 1*
Activity		***Notes***
7	**Summarising** P_2 at BB: $\frac{17}{8} = 2\frac{1}{8}$ T: What are the names given to the parts of a fraction? What do they show? What type of fraction is $\frac{17}{8}$? What can we do with this type of fraction? What name do we give to the other form of these fractions?	Summarising the work done in the lesson. After P_2 has written the mixed fraction on BB, T asks P_2 to name and explain the terms encountered during the lesson (numerator, denominator, fraction line, improper fraction, mixed number). T asks, P_2 answers, T may help. Agreement. Praising.
	45 mins	
	Set homework	
A	**PB 10.1, Q1 (a), (b), (c)** **PB 10.4, Q1 (a), (f)**	
B	**PB 10.1, Q2 (a), (e)** **PB 10.1, Q4 (a), (b)** **PB 10.4, Q2 (a), (c)**	

Y7	**UNIT 10 *Fractions*** Lesson Plan 2	*Fractions 2*
Activity		***Notes***
1	**Checking homework**	Oral checking. T asks, Ps answer. Agreement, feedback, self-correction. Praising.
1A	**PB 10.1, Q1 (a)** $\frac{8}{9}$, **(b)** $\frac{3}{8}$, **(c)** $\frac{1}{6}$ **PB 10.4, Q1 (a)** e.g. $\frac{3}{2}$ and $1\frac{1}{2}$, **(f)** e.g. $3\frac{1}{4}$ and $\frac{13}{4}$	This part of checking can appear on OHP. Self-correction. Praising.
1B	**PB 10.1, Q2 (a), (e)** **PB 10.1, Q4 (a), (b)** **PB 10.4, Q2 (a), (c)**	Solutions appear on OHP. Feedback, self-correction. Praising.
	5 mins	
2	**Mental work** On separate diagrams, shade the stated fractions of this shape $\frac{5}{1}$, $2\frac{1}{4}$, $\frac{4}{3}$  T: - What type of numbers are on the BB? - Name the parts of the first fraction. - Which of these fractions is less than 1 ? - How can you tell that the third fraction is larger than 1 ? What is the name given to this type of fraction? Can it be written as a mixed number?	Mental work. T writes the numbers and draws the empty shape on BB. T makes Ps repeat what they learnt from the previous lesson. Ps answer the questions, then dictate to T how to divide and shade the shape. Then they explain the other forms of the second and third fractions.
	12 mins	
3	**Questions for individual work** T: Let's see how you get on with these questions on fractions. Look at the statements on the OHP. Decide which of them are true and which are false, and then correct the false ones. (a) The numerator of a (positive) fraction smaller than 1 is always smaller than the denominator. *(True)* (b) The denominator of a fraction larger than 1 is always smaller than the numerator. *(True)* (c) The numerator of a fraction equal to 1 is twice as large as the denominator. *(False)* (d) For a fraction equal to or larger than 1, the numerator can be larger than the denominator. *(True)*	Individual work. The statements appear on OHP. Ps work in Ex.Bs, T monitors. When checking (a) and (b), T can ask Ps for some examples. For (c), Ps have to correct the statement by crossing out the word 'twice'. For (d), T asks Ps to explain the meaning of 'at least', and makes Ps stress that it allows for the fraction to be either equal to or larger than 1. The words 'can be' are used, so the statement is true. Agreement. Feedback. Self-correction. Praising.
	20 mins	
4A *(continued)*	**Converting improper fractions to mixed numbers** T: Let's see how to convert improper fractions to mixed numbers without using diagrams **PB 10.4, Q4 (c), (d), (e), (j)** T e.g: For question 10.4, Q4 (c), is $\frac{5}{3}$ larger than 1 ? *(Yes)* And how many thirds are there in 1 ? *(Three, since* $1 = \frac{3}{3}$*)* If 3 of the 5 thirds make 1 whole unit, how do we write $\frac{5}{3}$ as a mixed number? $(\frac{5}{3} = 1\frac{2}{3})$	Whole class activity. For (c) and (d), T asks questions, Ps answer, leading to Ps understanding the process of converting improper fractions into mixed numbers.

Y7	**UNIT 10 *Fractions*** Lesson Plan 2	*Fractions 2*
Activity		***Notes***
4A *(continued)*	P: For (e), as $18 \div 5 = 3$ with a remainder of 3, there are $3 \times 5 = 15$ fifth parts of the 18, making 3 whole units, with 3 fifth parts remaining. So $\frac{18}{5} = 3\frac{3}{5}$.	For (e) and (j), a P explains the conversion (T may help). Agreement. Praising.
4B	**Individual practice** **PB 10.4, Q4 (f), (l), (n), (o)**	Individual work, monitored, helped. Oral checking. T points to P, P explains. Agreement, feedback, self-correction. Praising.
	28 mins	
5A	**Converting mixed numbers to improper fractions** T: Now we'll do the process in reverse as we convert mixed numbers into improper fractions. **PB 10.4, Q5 (a), (c), (g)** e.g P: For 10.4, Q5 (c), 1 unit is made up of 4 quarters, so 2 units $= \frac{8}{4}$ and $2\frac{1}{4} = \frac{9}{4}$.	Whole class activity. Ps discussed previously the number of parts in a whole unit; now the stronger Ps can explain the conversion process used here. Agreement. Praising.
5B	**PB 10.4, Q5 (b), (e), (m)**	Individual work. Oral checking. Agreement, feedback, self-correction. Praising.
	34 mins	
6	**Shading fractions** **PB 10.1, Q6**	Whole class activity. T draws the shape on BB, Ps in Ex.Bs. Then T asks the questions. At (b) and (c), a P comes to BB and shades; at (d) and (e), Ps count, answer and discuss the result with T.
	38 mins	
7A	**Mental work** **PB 10.1, Q10 and Q8**	Mental work. Ps close their PBs and Ex.Bs and listen carefully as T reads out the text. T asks questions, points to P and P answers. Agreement, feedback. Praising. We suggest that Q10 is tackled first because it involves the question, "What fraction has been eaten?", which is not asked in Q8.
7B	**Further practice** Tom eats $\frac{8}{3}$ of a chocolate cake at a party. What fraction of the cake is left for Jerry? P (at BB): $\frac{8}{3} = 2\frac{2}{3}$ (with explanation)	Here Ps can be allowed to make a noise as they protest that $\frac{8}{3} > 1$. Then T makes Ps repeat how to convert an improper fraction to a mixed number and asks Ps to do this with $\frac{8}{3}$. Agreement. Praising.
	45 mins	

Y7	**UNIT 10 *Fractions*** Lesson Plan 2	*Fractions 2*
Activity		***Notes***
	Set homework **PB 10.4, Q4 (a), (g), (m)** **PB 10.4, Q5 (f), (h), (o)** **PB 10.1, Q9**	.

Y7	**UNIT 10 *Fractions*** Lesson Plan 3	*Equivalent Fractions*
Activity		***Notes***
1	**Checking homework** **PB 10.4, Q4 (a)** $4\frac{1}{2}$, **(g)** $1\frac{2}{9}$, **(m)** $1\frac{6}{7}$ **PB 10.4, Q5 (f)** $\frac{17}{3}$, **(h)** $\frac{22}{5}$, **(o)** $\frac{39}{8}$ **PB 10.1, Q9 (a)** $\frac{17}{20}$, **(b)** $\frac{3}{20}$ *3 mins*	T has already asked one of Ps to write answers on BB as soon as P arrives. Agreement (or not). Feedback, self-correction. Praising.
2	**Fractions on number lines** **OS 10.3** T: Do you think there are equal fractions in these number lines? We'll see *8 mins*	Mental work. Task appears on OHP. T asks, Ps answer, dictating what T should write in boxes. Ps also talk about conversions. Agreement. Praising
3	**Equal fractions** **OS 10.4** (with equals signs removed) T: Look at the different forms of these equal fractions. What do you notice? Ps: If the denominator is twice or four times greater, then the numerator will also be that much greater. T: That's right. Is this always true? We'll look at it another time, but now, let's move on to the next task. *15 mins*	Whole class activity. Each P has a copy of OS 10.4 (with = signs removed) and it appears on OHP. T points to P, P comes to OHP and shades. Other Ps work on their sheets. With T's help, Ps realise the equalities, and can then insert the equals signs. Agreement. Praising.
4	**Finding equivalent fractions** **PB 10.2, Q3** T (writes on BB): $\frac{3}{5} = \frac{6}{10} = \frac{12}{20}$ T: Is our previous conclusion true here? Ps: Yes! T: We'll look at some more examples. *18 mins*	Individual work. Oral checking. Agreement, feedback, self-correction. Praising. Then T writes the solution on BB.
5A	**Division of fractions into smaller parts** **OS 10.6** T: We'll look at the third and the last of the number lines. Any fraction can be divided into smaller parts. If we divide the quarters of a unit into three equal parts, we'll get twelfth parts $(3 \times 4 = 12)$, so $\frac{1}{4} = \frac{3}{12}$. This is why our conclusion is correct.	Teacher explains. Each pair of Ps has a copy of OS 10.6, and follows T's reasoning on it.

Y7 UNIT 10 *Fractions* Lesson Plan 3 — *Equivalent Fractions*

Activity		*Notes*
5B	**Further practice** T: Before we write down the rule, we'll use the OS to check it. Find and write down equivalent fractions to each of the following: (a) $\frac{1}{4}$ (b) $\frac{1}{3}$ (c) $\frac{8}{16}$ (d) $\frac{3}{4}$ T (writes on BB): (a) $\frac{1}{4}=\frac{3}{12}=\frac{2}{8}=\frac{4}{16}$ (b) $\frac{1}{3}=\frac{2}{6}=\frac{4}{12}$ (c) $\frac{8}{16}=\frac{1}{2}=\frac{2}{4}=\frac{4}{8}=\frac{3}{6}=\frac{6}{12}$ (d) $\frac{3}{4}=\frac{6}{8}=\frac{12}{16}=\frac{9}{12}$	Whole class activity. T writes the fractions (a) to (d) on BB; Ps look at the number lines and call out the equivalent fractions. T writes them on BB, Ps in Ex.Bs. Agreement. Praising. Then T encourages Ps to state the rule (*the value of a fraction remains the same if we multiply or divide both its numerator and denominator by the same (non-zero) number.)*
5C	**Whole class activity** T: And now, fill in the gaps and then check your answers using the number lines. (a) $\frac{1}{6}=\frac{\quad}{12}$ (b) $\frac{6}{16}=\frac{\quad}{8}$ (c) $\frac{5}{8}=\frac{10}{\quad}$ (d) $\frac{10}{12}=\frac{5}{\quad}$ (e) $\frac{2}{3}=\frac{4}{\quad}=\frac{\quad}{12}$	Whole class activity. Task appears on BB or OHP. T points to a P who gives the solution; T writes on BB (or OHP) and class check it on number lines. Agreement (or not, leading to correction). Ps write in Ex.Bs. Praising.
	28 mins	
6	**Individual work** **PB 10.2, Q5 (a)** $\frac{3}{4}=\frac{6}{8}$, **(d)** $\frac{3}{4}=\frac{9}{12}$, **(j)** $\frac{3}{4}=\frac{15}{20}$, **(l)** $\frac{5}{7}=\frac{15}{21}$ **PB 10.2, Q7 (a)** $\frac{15}{30}=\frac{1}{2}$, **(b)** $\frac{6}{9}=\frac{2}{3}$, **(f)** $\frac{16}{40}=\frac{2}{5}$ **(k)** $\frac{144}{200}=\frac{18}{25}$	Individual work, monitored, helped. Oral checking. Reasoning. Agreement, feedback, self-correction. Praising.
	34 mins	
7A	**Relative sizes of fractions** T: Write the fractions in each set in increasing order of size. 1. $\frac{2}{3}$; $1\frac{1}{3}$; $-\frac{1}{3}$; $\frac{4}{3}$, $\frac{7}{3}$ — $-\frac{1}{3},\frac{2}{3},\frac{4}{3}$ and $1\frac{1}{3},\frac{7}{3}$ 2. **PB 10.2, Q8 (a)** — $\frac{1}{10},\frac{1}{9},\frac{1}{7},\frac{1}{4},\frac{1}{3}$ 3. $\frac{2}{3}$; $\frac{5}{6}$; $\frac{7}{6}$; $1\frac{1}{3}$, $\frac{4}{6}$ — $\frac{2}{3}$ and $\frac{4}{6},\frac{5}{6},\frac{7}{6},1\frac{1}{3}$ 4. **PB 10.2, Q8 (d)** — $\frac{2}{7},\frac{2}{5},\frac{3}{7},\frac{3}{5},\frac{5}{7}$	Whole class activity. T and Ps discuss each problem. For set 1., they need to make a conversion, then state that, *for fractions with the same denominator, the one with the largest numerator is the largest.* For set 2., they have to state that *a fraction with a smaller denominator is larger than another fraction if the numerators are equal.* For 3. and 4., T has to remind Ps of the lowest common multiple (see Unit 7, Lesson Plan 1).
(continued)		

Y7	**UNIT 10 *Fractions*** Lesson Plan 3	*Equivalent Fractions*
Activity		***Notes***
7A *(continued)*		In set 3., only the fractions in thirds have to be written in sixths, but with set 4. all the fractions need to be converted. All the transformations and ordering of the fractions are dictated by Ps (with help from T). T writes on BB, Ps in Ex.Bs. Agreement. Praising.
7B	**Individual work** T: Now try some on your own. 5. $\frac{3}{7}$; $\frac{7}{10}$; $\frac{4}{10}$; $\frac{2}{5}$ 6. **PB 10.2, Q8 (e)** $\frac{4}{10}$ and $\frac{2}{5}, \frac{3}{7}, \frac{7}{10}$ $\frac{1}{9}, \frac{3}{7}, \frac{5}{9}, \frac{5}{7}, \frac{7}{9}$ *45 mins*	Individual work, monitored, helped. The fractions in set 6. (as previously in 4.) may cause problems for slower Ps, but this is covered again in Unit 20. Solutions to these tasks are explained and written on BB by stronger Ps. Agreement, feedback, self-correction. Praising.
	Set homework **PB 10.2, Q2** **PB 10.2, Q4 (b), (c)** **PB 10.2, Q5 (b), (e), (i)** **PB 10.2, Q7 (c), (e), (j)** **PB 10.2, Q6 (i), (k)**	

Y7	**UNIT 10 *Fractions*** Lesson Plan 4	*Fractions of Quantities*
Activity		***Notes***
1	**Checking homework** **PB 10.2, Q2** **PB 10.2, Q4 (b)** $\frac{1}{3}=\frac{2}{6}=\frac{3}{9}=\frac{4}{12}=\frac{5}{15}$ **(c)** $\frac{1}{4}=\frac{2}{8}=\frac{3}{12}=\frac{4}{16}$ **PB 10.2, Q5 (b)** $\frac{2}{5}=\frac{4}{10}$ **(e)** $\frac{2}{5}=\frac{6}{15}$ **(i)** $\frac{2}{3}=\frac{8}{12}$ **PB 10.2, Q7 (c)** $\frac{9}{12}=\frac{3}{4}$ **(e)** $\frac{8}{18}=\frac{4}{9}$ **(j)** $\frac{17}{51}=\frac{1}{3}$ **PB 10.2, Q6 (i)** In order to compare these fractions they both have to be converted. The common denominator is 35. Since $\frac{5}{7}=\frac{25}{35}$ and $\frac{3}{5}=\frac{21}{35}$, $\frac{5}{7}>\frac{3}{5}$. **PB 10.2, Q6 (k)** In order to compare these fractions they both have to be converted. The common denominator is 21. Since $\frac{2}{3}=\frac{14}{21}$ and $\frac{5}{7}=\frac{15}{21}$, $\frac{2}{3}<\frac{5}{7}$. *6 mins*	Oral checking, repeating points learned in the previous lesson. T points to P. P answers. Agreement, feedback, self-correction. Praising. Solutions to these two tasks can be shown on BB by a (stronger?) P.
2	**Activity 10.3 (game)** *16 mins*	Games like this, as well as mental work, are often a good way to start a lesson. If the teams (rows) are of equal numbers and abilities, Variation 1 will be suitable. Otherwise, Variation 2 will probably be better. Praising
3	**Whole class activity** T: What are fractions? For example, what is meant by $\frac{2}{3}$? P: It means that, when the unit is divided into 3 equal parts, we have two of the three. T: Now listed carefully and do what I say: Use your ruler to draw a straight line of length 4.5 cm. This is the unit. Label it 1 (unit). Now, under this line, draw another straight line, this time of length 9 cm. How many units is this? *(2)* Label it 2. Divide each of the lines into 3 parts of equal length. Make a mark at $\frac{2}{3}$ of the unit line and $\frac{1}{3}$ of the 2-unit line. Compare them. What can we say about them? T: Don't forget that the fraction $\frac{2}{3}$ can also mean that we have divided two units into three equal parts, and are referring to one of those parts. *22 mins*	Whole class activity. T makes Ps repeat the definition of the parts of a fraction. Agreement. Praising. Guided work. T dictates instructions slowly and methodically, while doing the same on BB. Ps answer, try to state.

Y7	**UNIT 10 *Fractions*** Lesson Plan 4	*Fractions of Quantities*
Activity		***Notes***
4A	**Finding fractions of numbers** **PB 10.3, Q1 (c)** e.g. T (Q1 (c)): How can we find $\frac{1}{5}$ of 15 ? Ps: We have to divide 15 by 5, which gives the answer 3. T: Right. Don't forget what we learnt earlier, that we can write it in different ways: $\frac{1}{5}$ of $15 = 15 \div 5 = \frac{15}{5} = 3$	Whole class activity. The first one is guided by T, the other can be explained by Ps. Praising. T writes on BB, Ps in Ex.Bs.
4B	**PB 10.3, Q1** (all the other parts)	Mental work. T points to P, P answers (quick-fire). Agreement. Praising.
	28 mins	
5A	**Further practice with fractions of numbers** **PB 10.3, Q2 (a), (c), (g), (h)** T: Who can explain to us how to find $\frac{3}{4}$ of 24 ? P (at BB): $\frac{1}{4}$ of $24 = 24 \div 4 = \frac{24}{4} = 6$ $\frac{3}{4}$ of $24 = 3 \times 6 = 18$ (and so on)	Whole class activity. The first question can be answered by a stronger P at BB; subsequent ones can be answered by slower Ps at BB, with help if necessary. Agreement. Praising.
5B	**Questions involving fractions** **PB 10.3, Q2 (b), (d), (i)**	Individual work, monitored, helped. Oral checking. Agreement, feedback, self-correction. Praising.
	34 mins	
6	**Questions in context** **PB 10.3, Q3 and Q5**	Mental work. T reads out text slowly. Ps volunteer, T waits for slower Ps (may ask questions to help them). Then T points to P, P explains and answers with a whole sentence (T may help). Agreement, feedback. Praising.
	40 mins	
7 *(continued)*	**Another question in context** **PB 10.3, Q6 (b)** P_1 at BB: $\frac{1}{10}$ of $510 = 51$ $\frac{3}{10}$ of $510 = 3 \times 51 = 153$ So $510 - 153 = 357$ pupils have no pets. T: Has anyone done this by a different method? Was it shorter? Have you got the same answer? Come to the BB and show us your solution.	Individual work, monitored, helped. Checking at BB. Agreement. Praising. Then T asks if anyone found a shorter method.

Y7	**UNIT 10** ***Fractions*** Lesson Plan 4	*Fractions of Quantities*
Activity		***Notes***
7 *(continued)*	P_2 at BB: $\frac{1}{10}$ of $510 = 51$. We need $\frac{7}{10}$ of 510, so $7 \times 51 = 357$, and we didn't have to make a subtraction. T: Who chose this method? Who chose the other? *45 mins*	Agreement, feedback, self-correction. Praising.
Extra	**Quick question at 45 mins:** T: Find $\frac{1}{3}$ of 2. $(\frac{2}{3})$ Find $\frac{1}{5}$ of 7. $(\frac{7}{5})$ *45 mins*	If no-one can answer, this can be extra homework.
	Set homework **PB 10.2, Q9 (a) (h)** **PB 10.3, Q2 (e), (f), (j)** **PB 10.3, Q7** **PB 10.3, Q8**	

Y7	**UNIT 10 *Fractions*** Lesson Plan 5	*Practising Fractions*
Activity		***Notes***
1	**Checking homework** **PB 10.2, Q9 (a)** $\frac{8}{24}=\frac{1}{3}$, **(h)** $\frac{80}{200}=\frac{2}{5}$ **PB 10.3, Q2 (e)** 25, **(f)** 16, **(j)** 20 **PB 10.3, Q7** 5 houses do not have satellite TV. **PB 10.3, Q8** Rachel has 225 foreign stamps. **Extra** Discussion on finding $\frac{1}{3}$ of 2 and $\frac{1}{5}$ of 7, if not completed in previous lesson.	T asks Ps to give just the answers. Agreement (or not). Explanations given if there are problems. Discussion at Q9 re the meaning of 'simplest form' of a fraction. Self-correction. Praising. Ps and T discuss method and agree on answers.
	6 mins	
2	**Mental work as a game** T: Now we'll see how much you remember from the last lesson. **OS 10.8** T: Here is a labyrinth with only one route from the START to the EXIT. We'll go through this together; here are the instructions. If you think the next move should be to the right (or to the left), raise your right (or left) hand. If the next move should be down, raise both hands. Be careful! If you signal two wrong moves you'll be out of the game, and stuck in the labyrinth for ever!! T: Are you ready? Let's START. T: Now we can go right or down. I'll count aloud from 1 to 3; when I say 'three' you must signal the next move with your hands. Let's go: one, ... two, ..., THREE!	Task appears on OHP and each P is given a copy of OS 10.8. Individual work: Ps write their moves on their copy of OS or in Ex.Bs. After a short time for calculation, T asks them to signal the first move. Agreement. Explanation. Praising. At each step Ps draw a line on their diagram (T on OHP) showing the correct route. At the end when all are out of the labyrinth - BIG PRAISING.
	18 mins	
3A	**Fractions (using diagrams)** **M 10.3, Q1-3**	Individual work. Each P is given a copy of Fraction Sheet C and works on it. T asks questions, one at a time, checking the answers and method of working after each one. Agreement, feedback, self-correction. Praising.
3B	**Fractions** **M10.3, Q4-5**	Mental work. T asks, Ps volunteer, T points to (slower) P for answer and explanation. Agreement, feedback. Praising.
3C *(continued)*	**Different types of fractions** **M10.3, Q6-8**	Individual work. All three tasks appear on BB at the same time and Ps work through them. When most Ps

Y7	**UNIT 10 *Fractions*** Lesson Plan 5	*Practising Fractions*
Activity		***Notes***
3C *(continued)*		have finished, T divides BB into 3 parts and calls 3 Ps out to write down the solutions. Agreement (or not). Discussion. Feedback, self-correction. Praising.
	32 mins	
4	**Extra tasks for stronger Ps** **A)** A rectangle has a side of length 8.4 cm. The other side is $\frac{3}{4}$ of this length. Calculate the perimeter and area of the rectangle. **B)** One of the interior angles of a triangle is $\frac{4}{9}$ of the sum of the interior angles; another of the angles is $\frac{1}{4}$ the size of this one. (a) Does the triangle contain an obtuse angle? (b) What is the name given to this type of triangle?	T realises that stronger Ps might become bored with pace necessary for slower ones, so gives them copies of extra questions to work on individually. T reviews problems in earlier work with slower Ps, using exercises from PB.
	P_1 (at BB): **A)** $a = 8.4$ cm $b = \frac{3}{4} \times a$ $\frac{1}{4}$ of $8.4 = 2.1$ $\frac{3}{4}$ of $8.4 = 6.3$ $P = (a + b) \times 2$ $= (8.4 + 6.3) \times 2$ $= 29.4$ cm $A = a \times b$ $= (8.4 \times 6.3)\ \text{cm}^2$ $= 52.92\ \text{cm}^2$	Feedback. Praising.
	P_2 (at BB): **B)** The sum of the interior angles of a triangle is $180°$. So $a = \frac{4}{9}$ of $180° = 80°$ $b = \frac{1}{4}$ of $80° = 20°$ $c = 180° - (a + b) = 80°$ (a) The triangle has no obtuse angle. (b) This is an isosceles triangle.	Feedback. Praising.
	45 mins	

Y7	**UNIT 10** ***Fractions*** Lesson Plan 5	*Practising Fractions*
Activity		***Notes***
	Set homework **M10.4, Q1-5** **PB 10.4, Q10**	