APPENDIX

APPENDIX A There are 30 objective type questions on fraction. You are supposed to circle the most correct answer for the respective questions.

Q1. What is the denominator for the fraction $\frac{13}{50}$?

1 3 50 13

Q2 .How many sixth is equal to 1 third?

2 3 1 4

Q3. How do you write 0.8 as fraction?

$\frac{100}{80}$ $\frac{18}{100}$ $\frac{1}{10}$ $\frac{8}{10}$

Q4. The example of third is:

$\frac{2}{3}$ $\frac{3}{6}$ $\frac{31}{4}$ $\frac{3}{1}$

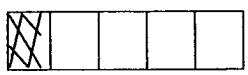
Q5. Identify the quotient of the fraction $6\frac{3}{9}$

3 6 9 57

Q6. Which is the biggest fraction?

$\frac{3}{4}$ $\frac{5}{4}$ $\frac{1}{4}$ $\frac{51}{5}$

Q7. What does the shaded portion mean?



$\frac{5}{1}$ $\frac{4}{1}$ $\frac{1}{4}$ $\frac{1}{5}$

Q8.What does the fractions for these decimal have in common? 1.3 2.3 0.3 0.4

All are tenth All are ten All are once All are hundredth

Q9. What is mean by 7 tenth?

0.7 0.07 .007 07

Q10. 3 fifth + 1 fifth =?

5 fourth 4 fifths 3 fifth 1fifth

Q11.Rewrite $2\frac{1}{3}$ as improper fraction

$\frac{6}{3}$ $\frac{5}{3}$ $\frac{7}{3}$ $\frac{21}{3}$

Q12. Express 0.003 in fraction

$\frac{3}{10}$ $\frac{3}{100}$ $\frac{3}{1000}$ $\frac{3}{3000}$

Q13.Following are the correct way to represent $\frac{1}{2}$ except

$\frac{50}{100}$ 0.50 0.5 0.05

Q14. Solve $\frac{2}{4} + \frac{3}{6}$

2 4 1 6

Q15. Choose the fractions to represent 0.03 as fraction

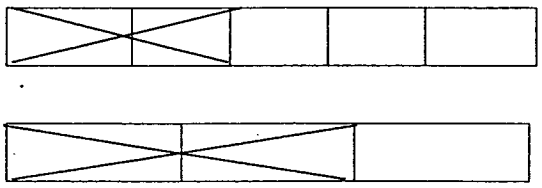
$\frac{30}{100}$ $\frac{3}{100}$ $\frac{100}{3}$ $\frac{100}{30}$

Q16. Compare and select the smallest fraction amongst the given fraction

$\frac{3}{6}, \frac{4}{6}, \frac{3}{4}, \frac{2}{9}$

$\frac{3}{6}$ $\frac{4}{6}$ $\frac{3}{4}$ $\frac{2}{9}$

Q17.Which of the following option is correct for the given diagram?



A $\frac{2}{3} > \frac{2}{5}$ *B* $\frac{2}{3} < \frac{2}{5}$

A B Both None of them

Q18. Arrange from small to big $\frac{3}{7}, \frac{9}{10}, \frac{6}{8}, \frac{2}{3}$

$\frac{3}{7}, \frac{9}{10}, \frac{6}{8}, \frac{2}{3}$ $\frac{9}{10}, \frac{6}{8}, \frac{2}{3}, \frac{3}{7}$ $\frac{6}{8}, \frac{2}{3}, \frac{3}{7}, \frac{9}{10}$ $\frac{3}{7}, \frac{2}{3}, \frac{6}{8}, \frac{9}{10}$

Q19. Amongst $\frac{3}{4}, \frac{6}{9}, \frac{3}{8}, \frac{5}{12}$ which is the greatest fraction

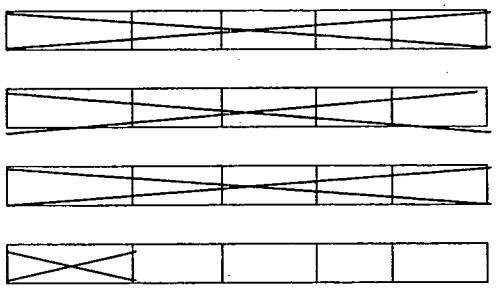
$\frac{6}{9}$ $\frac{3}{8}$ $\frac{3}{4}$ $\frac{5}{12}$

Q20. $\frac{1}{2}$ is equal to:

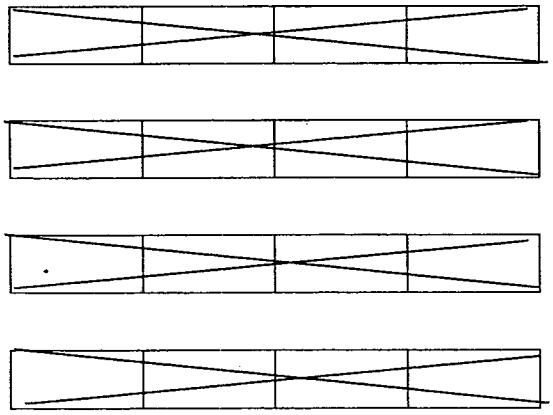
$\frac{50}{100} = 0.50$ $\frac{50}{100} = 0.05$ $\frac{50}{100} = .0050$ $\frac{50}{100} = 5.0$

Q21. Infer $\frac{16}{5}$ with diagram (select the most correct diagram)

A



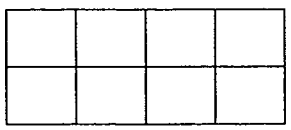
B



A B Both None of them

Q22. Justify the diagram with the correct equation

1



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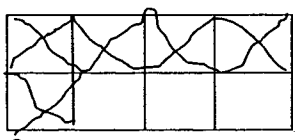

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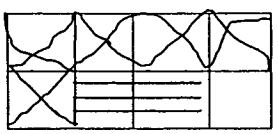

$\frac{5}{8}+\frac{2}{8}$ $\frac{5}{8}-\frac{2}{8}$ $\frac{5}{8}+\frac{7}{8}$ $\frac{7}{8}-\frac{1}{8}$

Q23. Can you add $\frac{2}{3}$ of the population of Bhutan to $\frac{1}{3}$ of the population of India to get the whole population of Bhutan? Why? (select the correct answer)

A. Yes because $\frac{2}{3}+\frac{1}{3}=1$

B. No because $\frac{2}{3}$ *and* $\frac{1}{3}$ is not of same whole

A B None of them Both

Q24. Which is the following is correct?

A $0.7 > 0.07$ B $0.7 < 0.07$ C $0.7 = 0.07$

A B C A, B and C

Q25. Simplify 0.25

$\frac{1}{4}$ $\frac{25}{100}$ 25 $\frac{100}{400}$

Q26. The decimal 0._ _ is written as a fraction. What could the decimal be if the denominator is 2?

0.05 0.5 0.005 .0005

Q27. Choose the most correct option for the following statement, 3.05 and 3.5 are different because.

A. $3.5 > 3.05$ B. 3.5 is 3 whole and 5 tenth. C. 3.05 is 3 whole and 5 hundredth

Only A is true A and B Only All are not true All are true

Q28. Which is/ are the equation that supports that the difference between two fraction is $\frac{1}{3}$

A. $\frac{5}{3}-\frac{4}{3}$ B. $\frac{5}{9}-\frac{4}{9}$ C. $\frac{5}{9}-\frac{2}{9}$

Only A Only B A and C A and B

Q29.Write a mix number where the whole number part is 5

$5\frac{2}{3}$ $3\frac{5}{2}$ $2\frac{3}{5}$ $1\frac{2}{3}$

Q30. Write the correct relation for $\frac{21}{4}$ and $5\frac{3}{4}$ (select the most correct option)

A $\frac{21}{4} > 5\frac{3}{4}$ B $\frac{21}{4} < 5\frac{2}{4}$ C $\frac{21}{4} = 5\frac{3}{4}$

A B C None of them

APPENDIX B Lesson plans with different techniques for the respective topics

SI No.	Cooperative learning Techniques	Topic or content	Lesson number	Process and principle in application.
1	Think pair share	Numerator denominator and quotient	Lesson 1	Because these topics are not so difficult, individual can think of solution if not can get the view of pair. But in case if their pair cannot solve the problem then they can get the view of their class mate.
		Problem on equivalent fraction with same numerator	Lesson 6	
		How to use fraction stripe	lesson10	
		Adding fraction with same denominator	lesson12	
		Writing fraction as decimal	Lesson 19 Lesson 23	
2	Team accelerated instruction (TAI)	Changing mix number to improper fraction	Lesson 2	This is the topic which requires bit higher level of thinking, whereby they need to know the concept. Therefore with TAI high achiever can assist the low achiever to get the concept.
3	Jig saw	Changing improper fraction to mix number.	Lesson 3	These are the topics which are bit challenging. Through jigsaw it can be easily learned as each people are going to expertise in the particular topic (problem) and they also helps their friends to learn thoroughly so that they earn good group grade. Large number of topic can be easily covered with this technique within short period of time.
		Equivalent fraction with same numerator.	Lesson 16	
		Subtracting fraction with different denominator	Lesson 9	
		Decimal as fraction	Lesson 18	
		Relating fraction with decimal	Lesson 20	
		Fraction as decimal	Lesson 22	
		Problems on relating fraction as decimal	Lesson 24	

SI No.	Cooperative learning Techniques	Topic or content	Lesson number	Process and principle in application.
4	Three minutes review	Comparing and ordering fraction by relating to half	Lesson 4 Lesson 5 Lesson 8	With this technique firstly teacher can check how attentive they are in the class. Secondly teacher can check the understanding. Some low achievers who does not understand when teacher is teaching, will get opportunity to clear their doubts
		Meaning of subtracting fraction	Lesson 15	
5	Group investigation	Solving problem on comparing fraction using equivalent fraction	Lesson 7 lesson 13	With this technique the problem on the respective topics requiring, higher order of thinking skill can be solved
		Naming fraction as decimal	Lesson 17 Lesson21	
6	STAD	Adding fraction using fraction stripe	Lesson 11	With this technique each member will be able to know how to use fraction stripe as they will be testes individually and also the whole group will be working hard, helping each other to learn the content as team earn certificate or reorganization based on the degree to which all team members have progressed over the past record.

SI No.	Cooperative learning Techniques	Topic or content	Lesson number	Process and principle in application.
7	Round robin brainstorming	Fraction between fraction	Lesson 14	It is implemented to the content which can have many possible answer, fraction between fraction is only the topic which is suitable (many possible answers)

APPENDIX C Lesson plans Lesson plans on fraction and decimal for an experiment

Lesson plan 1

Topic: Numerator, denominator and quotient.

Strategy: Cooperative learning

Technique: Think pair share

Skills practiced: Positive interdependence, face to face promotive, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper scissor and ruler.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ tell the definition of numerator, denominator and quotient.
- ✓ give the example of numerator denominator and quotient.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group (formal grouping) and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will ask them to find the meaning or definition and an example of the numerator, denominator and quotient after reading the text individually (pg. no. 3)
b. Students will read the text individually to find the answer for the question asked by the teacher (**Individual accountability**).
c. After understanding the meaning they will get into pair and share and discuss your understanding (**Interpersonal skills, face to face promotive interaction**).
d. Then teacher will call on any students to front and share their understanding to the whole class **(individual accountability).**

e. If both the member answers the question correctly the pair will be rewarded by the teacher. **(positive interdependence)**

(Lesson activity is based on the cooperative learning technique chosen for the respective lesson)

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked)**

Follow up activity: To check their understanding teacher will assign some problems in line to the content learnt to solve.

Closure: Teacher and students will solve the problem collectively on the board.

Lesson plan 2

Topic: Changing improper fraction to mix number

Strategy: Cooperative learning

Technique: Team accelerated instruction

Skills: Skills practiced: positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills.

Teaching learning materials: paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Write improper fraction as mixed fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group (formal grouping) and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Students (groups) will be ask to discuss what does it mean (6 fourth, 9 fourth and 11 fourth). They will be reminded that teacher will choose any member from the group and asks him or her to answer the questions **(individual accountability).**
b. If the entire member in the group is thorough with the answer then the group will be rewarded (**interpersonal, positive interdependence and face to face interaction).**

Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks (**Group processing will be checked).**
(Lesson activity is based on the cooperative learning technique chosen for the respective lesson).

Follow up activity: Each student will solve some problems related to the content learned (**individual accountability**).

Closure: Teacher will elaborate and provide more information if required.

Lesson plan 3

Topic: Changing mix fraction to improper fraction

Strategy: Cooperative learning

Technique: Jigsaw II

Skills: Skills practiced: positive interdependence, face to face promotive interaction, individual accountability (taking responsibility), interpersonal skills, and group processing skills.

Teaching learning materials: Paper and pen.

Lesson objective: by the end of the lesson each child will be able to:

- ✓ Convert mix fraction to improper fraction.
- ✓ Find the whole number part of the mixed number.
- ✓ Compare the fraction and find out which fraction is greater or smaller.
- ✓ Solve the word problem related to improper fraction and mixed number.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is

going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Each member in the group will get the different question (Convert improper fraction into mix fraction, find the whole number part of the mixed number compare the fraction and find out which fraction is greater or smaller and solve the word problem related to improper fraction and mixed number **(individual accountability).**
b. They are supposed to make the expert group by gathering all the member of different group having same problem and expertise on it. The expert will discuss their topic (in the expert group) **(Positive interdependence and face to face promotive interaction and interpersonal skills).**
c. Then later each expert will go back to their group and share their finding **(Positive interdependence and face to face promotive interaction and interpersonal skills).**
d. After this, team members will have quiz on the entire topics. The group will be rewarded if all the members in the group are thorough with the content learnt **(Individual accountability).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked).**

Follow up activity: Teacher will assign them similar questions to be solved so the he or she will be sure they knew thoroughly or not.

Closure: Student will be asked to summarize the lesson taught.

Lesson plan 4

Topic: Comparing and ordering fraction by relating to ½

Strategy: Cooperative learning

Technique: Three minute review.

Skills: Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills.

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ Compare the fraction by relating to ½.
- ✓ Order the fraction by relating to ½

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will demonstrate how to compare and order fractions by comparing to half. Any time while demonstrating teacher may stop and ask the group to review what has been demonstrated or taught for three minutes.
b. The respective groups are required to discuss and make sure that all the members in the group are clear with the content demonstrated **(Interpersonal skills, face to face promotive interaction, and positive interdependence).**
c. Any member in the group will be asked to explain it to the whole class about the content **(Individual accountability).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked).**

Follow up activity: Students will solve some problems related to the content taught.

Closure: Teacher will check their work and provide the necessary feedback.

Lesson plan 5

Topic: Comparing and ordering fraction by relating by equivalent decimal

Strategy: Cooperative learning

Technique: Three minute review.

Skills: Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills.

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Compare the fraction by relating to equivalent decimal.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will stop any time while demonstrating (how to compare and order fractions by comparing to equivalent decimal). Any time teacher may stop and ask the group to review what has been demonstrated or taught for three minutes.
b. The respective groups are required to discuss and make sure that all the members in the group are clear with the content demonstrated **(Interpersonal skills, face to face promotive, and positive interdependence).**
c. Any member in the group will be asked to explain it to the whole class about the content **(Individual accountability).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked).**
Follow up activity: Students will solve some problems related to the content taught.
Closure: Teacher will check their work and provide the necessary feedback.

Lesson plan 6
Topic: Solving problems on equivalent decimal.
Strategy: Cooperative learning
Technique: Group investigation
Skills: Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills
Teaching learning materials: Paper, text book and pen.
Lesson objective: By the end of the lesson each child will be able to:

- ✓ Solve problems on equivalent decimal.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.
Lesson activity: Followings are the steps of the activity:

a. Teacher will write several questions on comparing fraction using equivalent decimal.
b. Every group will select one question (problem) from the list of questions (problems).
c. Students in the group should work collectively to come up with the solution for the problem chosen. **(Positive interdependence, face to face promotive and interpersonal skill)**

d. Each member in the group should be very much clear with the solution that you come up with and they will be rewarded for that **(Positive interdependence).**
e. Any member in the group will be asked to share about the finding at the end **(individual accountability)**.

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked)..**

Follow up activity: Each group will share their finding (knowledge or solution to the problems assigned) to the whole class.

Closure: Teacher will provide the necessary feedback and briefly summarize the lesson taught.

Lesson plan 7

Topic: Comparing and ordering fraction by relating by equivalent fraction.

Strategy: Cooperative learning

Technique: Three minute review.

Skills practiced: positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: pepper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Compare the fraction by relating to equivalent fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will demonstrate how to compare and order fractions by comparing to equivalent fraction. Any time while demonstrating, teacher may stop and ask the group to review what has been demonstrated or taught for three minutes.
b. The respective groups are required to discuss and make sure that all the members in the group are clear with the content demonstrated **(Interpersonal skills, face to face promotive interaction, and positive interdependence).**
c. Any member in the group will be asked to explain it to the whole class about the content **(Individual accountability).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked).**

Follow up activity: Students will solve some problems related to the content taught.

Closure: Teacher will check their work and provide the necessary feedback.

Lesson plan 8

Topic: Problems on equivalent fraction.

Strategy: Cooperative learning

Technique: Think pair share

Skills: Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper, text book and pen.

Lesson objective: By the end of the lesson each child will be able to:

Solve the problems one equivalent fraction with same numerators.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will write one problem on the board related to equivalent fraction with same numerator.
b. Then you are supposed find the answer individually **(individual accountability)**.
c. After solving the problem individually you will get into pair and share and discuss your understanding. **(Interpersonal skills, face to face promotive)**
d. Then teacher will call on any students to front and share their understanding to the whole class **(individual accountability).**
e. If both the members (pair) answer the question correctly the pair will be rewarded by the teacher **(positive interdependence)**.

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked).**

Follow up activity: Each student will be asked to solve the similar problem related to the content learnt.

Closure: Teacher will assess the students' work, clarifying their doubts and providing the necessary feet back.

Lesson plan 9

Topic: Equivalent fraction with same numerator

- Equivalent fraction with same numerator.
- Comparing fraction using equivalent decimal.

Strategy: Cooperative learning

Technique: Jigsaw II

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility), interpersonal skills, and group processing skills

Teaching learning materials: pepper and pen.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ Order the fraction from least to greatest by making same numerator.
- ✓ Find which fraction is greatest by using equivalent decimal.
- ✓ Solve the word problems on equivalent fraction.
- ✓ Solve the word problems on equivalent decimal.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction:

Lesson activity: Followings are the steps of the activity:

a. Teacher will distribute different worksheet to each member of the group (1.about ordering the fraction from least to greatest by making same numerator 2.about finding which fraction is greatest by using equivalent decimal, 3. solving the word problems on equivalent fraction, 4. solving the word problems on equivalent decimal)

b. Each member in the group will get the different question. They are supposed to make the expert group by gathering all the member of different groups having same problem and expertise on it **(individual accountability).**

c. The expert will discuss their topic (in the expert group). Then later each expert will go back to their group and share their finding **(Positive interdependence and face to face promotive interaction and interpersonal skills).**

d. After this, team members (jig saw group) will have quiz on the entire topics. The group will be rewarded if all the members in the group are thorough with the content learnt **(Individual accountability and Positive interdependence).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks **(Group processing will be checked).**

Follow up activity: Each individual will be asked to solve the similar kind of problems.

Closure: Teacher will check their work and provide the necessary feedback.

Lesson plan 10

Topic: How to use fraction stripes.

Strategy: Cooperative learning

Technique: Think pair share

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills.

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Share their understanding about how to use fraction stripe.

Solve the problems related to usage of fraction stripe

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction:

Lesson activity: Followings are the steps of the activity:

a. Teacher will ask you some questions. (Teacher will write one question related to fraction stripe") and ask them to find the solution by using fraction stripe.
b. Students will try to find the answer for the question asked, individually **(Individual accountability)**.

c. After finding the answer students will get into pair then share and discuss their answer **(Interpersonal skills, face to face promotive interaction)**.
d. Then teacher will call on any students to front and share their understanding to the whole class **(individual accountability).**
e. If both the member answers the question correctly the pair will be rewarded by the teacher **(positive interdependence)**.

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked)**

Follow up activity: Teacher will collectively solve the similar problem on the board checking their understanding and clearing their doubts if there is any.

Closure: Teacher will ask some students to share what they have learnt to the whole class.

Lesson plan 11

Topic: Adding fraction using fraction stripe

Strategy: Cooperative learning

Technique: STAD (student team achievement division)

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills.

Teaching learning materials: Paper, fraction stripe, text book and pen.

Lesson objective: By the end of the lesson each child will be able to:

Use the fraction stripes to add the fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction:

Lesson activity: Followings are the steps of the activity:

a. Each group will be given a question each on adding fraction using fraction stripe to solve the question collectively **(Interpersonal skills, face to face promotive interacction)**.
b. After that each individual will be given a similar problem to solve individually **(individual accountability).**
c. If all the members of the group solve the problem correctly then the group will be rewarded **(positive interdependence)**.

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked)**

Follow up activity: Teacher will assign them similar questions to solve in group

Closure: Teacher and students will collectively solve the questions (the questions that were given for the individuals to solve) on the board to recapitulate what they have learnt.

Lesson plan 12

Topic: Adding fraction with same denominator

Strategy: Cooperative learning

Technique: Think pair share

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper, text book and pen.

Lesson objective: By the end of the lesson each child will be able to:

Add the fraction with same denominator.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will write one question on the board about adding the fraction with same denominator.
b. Students will solve the problem individually to find the answer for the question asked by the teacher (**Individual accountability**).
c. After solving they will get into pair to share and discuss their answer (**Interpersonal skills, face to face promotive interaction**).
d. Then teacher will call on any students to front and share their understanding to the whole class **(individual accountability).**
e. If both the member answers the question correctly the pair will be rewarded by the teacher (**positive interdependence**).

   [Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks **(Group processing will be checked).**

Follow up activity: Students will be asked to solve the similar problem from their text book.

Closure: Teacher will check their work so that students will clarify their doubts with teacher. And get the necessary feet back.

Lesson plan 13

Topic: Adding fraction with different denominator

Strategy: Cooperative learning

Technique: Group investigation

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper, text book and pen.

Lesson objective: By the end of the lesson each child will be able to:

Add the fraction with different denominator.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will write many questions on adding the fraction having different denominator.
b. Every group will select each question (problem) from the list of questions
c. Students in the group should work collectively to come up with the solution for the problem chosen (**Positive interdependence, face to face promotive interaction and interpersonal skill**).
d. Each member in the group should be very much clear with the solution that you come up with and the group will be rewarded for that (**Positive interdependence).**
e. Any member in the group will be asked to share about the finding at the end (**individual accountability**).

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks **(Group processing will be checked).**

Follow up activity: Each group will share their finding (knowledge or solution) to the whole class.

Closure: Teacher will provide the necessary feedback and briefly summarize the lesson taught.

Lesson plan 14

Topic: Fractions between fractions

Strategy: Cooperative learning

Technique: Round robin brain storming

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper, text book and pen.

Lesson objective: By the end of the lesson each child will be able to:

Find what fraction that comes between the given fractions.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. A question is posed by the teacher with many possible answers and students are given time to think about answers.
b. After the "think time," members of the team share responses with one another round robin style **(Individual accountability, face to face promotive interaction, interpersonal skills)**.
c. The recorder writes down all the answers of the group members.

d. The person next to (clockwise) the recorder gives their answer and the recorder writes it done then the each person in the group in order (clockwise) gives an answer until time is called. (This strategy is very similar to round table).
e. The group having maximum positive answers will be rewarded **(positive interdependence).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked).**

Follow up activity: Teacher will provide the necessary feedbacks in line to their responses'.

Closure: Teacher will briefly summarize the lesson taught and clear their doubts if there is any.

Lesson plan 15

Topic: Meaning of subtracting fraction

Strategy: Cooperative learning

Technique: Three minutes review

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper, text book and pen.

Lesson objective: By the end of the lesson each child will be able to:

Tell what they mean by subtracting fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will be explaining the meaning of subtracting fraction. Any time while explaining teacher may stop and ask the group to review what has been demonstrated or taught for three minutes.
b. The respective groups are required to discuss and make sure that all the members in the group are clear with the content explained **(Interpersonal skills, face to face promotive, and positive interdependence).**
c. Any member in the group will be asked to explain it to the whole class about the content **(Individual accountability).**
d. The respective group will be rewarded if the member the group is able to explain it to the whole class **(positive interdependence).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked).**

Follow up activity: Students will solve some problems on the content learned.

Closure: Teacher will briefly summarize the lesson taught and clear their doubts if there is any.

Lesson plan 16

Topic: Problems on equivalent fraction.

Strategy: Cooperative learning

Technique: Jigsaw II

Skills practiced: positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:
Solve the problems related to subtracting fraction with same and different denominator
Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.
Lesson activity: Followings are the steps of the activity:

a. Teacher will distribute different worksheet to each member of the group (problem on subtracting fraction with different denominator).
b. Each member in the group will get the different question. They are supposed to make the expert group by gathering all the member of different groups having same problem and expertise on it **(individual accountability Positive interdependence and face to face promotive interaction and interpersonal skills).**
c. The expert will discuss their topic (in the expert group) Then later each expert will go back to their group and share their finding **(Positive interdependence and face to face promotive interaction and interpersonal skills).**
d. After this, team members (jig saw group) will have quiz on the entire topics. The group will be rewarded if all the members in the group are thorough with the content learnt **(Individual accountability and Positive interdependence).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].
Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks **(Group processing will be checked).**
Follow up activity: Students will clear their doubts if there is any by asking the teacher to explain.
Closure: Student will be asked to summarize the lesson taught.

Lesson plan 17

Topic: Naming decimal as fraction.

Strategy: Cooperative learning

Technique: Group investigation

Skills practiced: Positive interdependence, face to face promotive interation, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Solve the problems on the topic "Naming decimal as fraction".

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will write many questions on naming decimal as fraction.
b. Every group will select each question (problem) from the list of questions
c. Students in the group should work collectively to come up with the solution for the problem chosen (**Positive interdependence, face to face promotive and interpersonal skill**).
d. Each member in the group should be very much clear with the solution that you come up with and the group will be rewarded for that (**Positive interdependence).**
e. Any member in the group will be asked to share about the finding at the end (**individual accountability**).

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks **(Group processing will be checked).**
Follow up activity: Each group will present their finding to the whole class and teacher will give the necessary feedback and reward them accordingly.
Closure: Student will be asked to summarize the lesson taught or learnt.

Lesson plan 18
Topic: Decimal as fraction.
Strategy: Cooperative learning
Technique: Jigsaw II
Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills
Teaching learning materials: Paper, hundredth grid paper and pen.
Lesson objective: By the end of the lesson each child will be able to:
Represent decimal using fraction stripe in tenth.
Represent decimal with two decimal places using hundredth grid.
Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.
Lesson activity: Followings are the steps of the activity:

a. Teacher will distribute different worksheet to each member of the group (Represent decimal using fraction stripe in tenth and represent decimal with two decimal places using hundredth grid) Each member in the group will get the different question on decimal as fraction.

b. Then they are supposed to make the expert group by gathering all the member of different groups having same problem and expertise on it **(individual accountability Positive interdependence and face to face promotive interaction and interpersonal skills).**
c. The experts will discuss their topic (in the expert group). Then later each expert will go back to their group and share their finding **(Positive interdependence and face to face promotive interaction and interpersonal skills).**
d. After this, team members (jig saw group) will have quiz on the entire topics. The group will be rewarded if all the members in the group are thorough with the content learnt **(Individual accountability and Positive interdependence).**
e. **Monitoring:** Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks **(Group processing will be checked).**

Follow up activity: Discuss the problems (which the group member got) on the board collectively to clear doubt and check their understanding.

Closure: Student will be asked to summarize the lesson taught.

Lesson plan 19

Topic: Writing decimal as fraction.

Strategy: Cooperative learning

Technique: Think pair share

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Share their understanding about the text that they read.

Solve the problems related to the content that they read.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Students will read the text individually and try to understand the concept **(Individual accountability)**.
b. After understanding the concept they will get into pair and share and discuss your understanding **(Interpersonal skills, face to face promotive interaction)**.
c. Then teacher will call on any students to front and share their understanding to the whole class **(individual accountability).**
d. If both the member answers the question correctly the pair will be rewarded by the teacher **(positive interdependence)**.

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks **(Group processing will be checked).**

Follow up activity: Students will solve the problem relate to the text that they read individually first then they will pair and share.

Closure: Teacher will check their work and provide the necessary feet back.

Lesson plan: 20

Topic: Problems on relating decimal with fraction.

Strategy: Cooperative learning

Technique: Jigsaw II

Skills practiced: Positive interdependence, face to face promotive, individual accountability (taking responsibility, interpersonal skills, and group processing skills.

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Solve the problems about relating decimal with fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will distribute different worksheet to each member of the group (Problems on relating decimal with fraction).
b. Then they are supposed to make the expert group by gathering all the member of different groups having same problem and expertise on it **(individual accountability Positive interdependence and face to face promotive and interpersonal skills).**
c. The expert will discuss their topic (in the expert group) Then later each expert will go back to their group and share their finding **(Positive interdependence and face to face promotive interaction and interpersonal skills).**
d. After this, team members (jig saw group) will have quiz on the entire topics. The group will be rewarded if all the members in the group are thorough with the content learnt **(Individual accountability and Positive interdependence).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked).**

Follow up activity: Students will clear their doubts if there is any by asking the teacher to explain or solve the problems.

Closure: Teacher will summarize the lesson taught.

Lesson plan 21

Topic: Naming fraction as decimal.

Strategy: Cooperative learning

Technique: Group investigation

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Solve the given problem on naming the fraction as decimal with their prior knowledge on the topic

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will write many questions on naming fraction as decimal.
b. Every group will select each question (problem) from the list of questions
c. Students in the group should work collectively to come up with the solution for the problem chosen **(Positive interdependence, face to face promotive interaction and interpersonal skill)**.
d. Each member in the group should be very much clear with the solution that you come up with and the group will be rewarded for that **(Positive interdependence).**
e. Any member in the group will be asked to share about the finding at the end **(individual accountability)**.

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked).**

Follow up activity: Each group will present their finding to the whole class.

Closure: Teacher will provide the necessary feedback and clarify their doubts if there is any.

Lesson plan 22

Topic: Fraction as decimal.

Strategy: Cooperative learning

Technique: Jigsaw II

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Represent fraction as decimal using tenth grid.

Represent fraction as decimal using hundredth grid.

Rename the fraction.

Simplify the fraction (converting fraction to decimal)

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction.

Lesson activity: Followings are the steps of the activity:

a. Teacher will distribute different worksheet to each member of the group on Represent fraction as decimal using tenth grid, represent fraction as decimal using hundredth grid, Rename the fraction and simplify the fraction).

b. Then they are supposed to make the expert group by gathering all the member of different groups having same problem and expertise on it **(individual accountability positive interdependence and face to face promotive interaction and interpersonal skills).**
c. The expert will discuss their topic (in the expert group). Then later each expert will go back to their group and share their finding (**Positive interdependence and face to face promotive interaction and interpersonal skills).**
d. After this, team members (jig saw group) will have quiz on the entire topics. The group will be rewarded if all the members in the group are thorough with the content learnt **(Individual accountability and Positive interdependence).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked)**

Follow up activity: Students will clear their doubts if there is any.

Closure: Teacher will ask the student summarize the lesson taught.

Lesson plan 23

Topic: Writing fraction as decimal.

Strategy: Cooperative learning

Technique: Think pair share

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper, text book and pen.

Lesson objective: By the end of the lesson each child will be able to:

Share their understanding about the text that they read.

Solve the problems related to the content that they read.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction

Lesson activity: Followings are the steps of the activity:

a. Students will read the text (pg. 25) individually and try to understand the concept (**Individual accountability**).
b. After understanding the concept they will get into pair and share and discuss your understanding. **(Interpersonal skills, face to face promotive interaction)**
c. Then teacher will call on any students to front and share their understanding to the whole class **(individual accountability).**
d. If both the member answers the question correctly the pair will be rewarded by the teacher (**positive interdependence**).

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together or achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked)**

Follow up activity: Students will solve the problem relate to the text that they read individually first then they will pair and share.

Closure: Teacher will check their understanding and provide the necessary feet back.

Lesson plan: 24

Topic: Problems on relating fraction with decimal.

Strategy: Cooperative learning

Technique: Jigsaw II

Skills practiced: Positive interdependence, face to face promotive interaction, individual accountability (taking responsibility, interpersonal skills, and group processing skills

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Solve the problems about relating fraction with decimal.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: In the lesson development the teacher basically makes the students ready for the activity by gaining the attention, getting them in the group **(formal grouping)** and giving activity instruction

Lesson activity: Followings are the steps of the activity:

a. Teacher will distribute different worksheet to each member of the group on solving the problems about relating fraction with decimal
b. Then you are supposed to make the expert group by gathering all the member of different groups having same problem and expertise on it **(individual accountability Positive interdependence and face to face promotive interaction and interpersonal skills).**
c. The experts will discuss their topic (in the expert group) Then later each expert will go back to their group and share their finding **(Positive interdependence and face to face promotive interaction and interpersonal skills).**
d. After this, team members (jig saw group) will have quiz on the entire topics. The group will be rewarded if all the members in the group are thorough with the content learnt **(Individual accountability and Positive interdependence).**

[Lesson activity is based on the cooperative learning technique chosen for the respective lesson].

Monitoring: Teacher will be moving around observing how well they are working together to achieving their goal, whether they have effective working relationship or not and providing the necessary feedbacks. **(Group processing will be checked)**

Follow up activity: Students will clear their doubts if there is any.

Closure: Teacher will summarize the lesson taught.

APPENDIX D Comparison of the mathematics score of pre-test and post-test of each technique of cooperative learning (experimental group).

Participants	Think Pair Share (5 questions)		TAI (3 questions)		Jig saw (9questions)	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
1	3	3	2	2	1	6
2	2	1	2	3	3	6
3	2	4	2	2	5	7
4	2	2	2	1	4	7
5	2	0	1	2	1	6
6	3	3	1	2	4	6
7	2	3	1	1	3	7
8	2	2	1	3	5	7
9	4	3	3	3	4	9
10	3	3	3	2	4	8
11	1	2	1	1	4	5
12	2	3	0	3	2	4
13	3	2	2	2	3	7
14	3	3	2	3	7	8
15	2	4	2	2	3	7
16	2	3	2	2	4	6
17	2	4	2	1	4	9
18	3	3	3	3	3	6
19	2	3	2	1	5	7
20	2	2	2	3	3	1
21	2	2	2	2	4	7
22	3	4	1	2	2	6
23	3	2	2	3	3	2
Total	**55**	**61**	**41**	**49**	**81**	**144**
Percentage of improvement between pre-test and post-test in each technique	**10.90909**		**19.5122**		**77.77778**	

Comparison of the mathematics score of pre-test and post-test of each technique of cooperative learning (experimental group).

Participants	Group Investigations (2questions)		STAD (4 questions)		3 minutes review (4questions)		Round robin brain storming (3 questions)	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post- test	Pre-test	Post- test
1	1	2	1	2	2	1	0	0
2	0	2	1	3	0	2	1	3
3	1	1	2	3	1	2	1	2
4	0	1	2	4	0	3	0	1
5	0	1	2	2	2	1	2	3
6	1	0	1	2	1	2	1	2
7	1	1	1	3	1	2	1	3
8	0	2	3	2	1	2	1	3
9	1	2	3	3	2	2	2	2
10	1	2	2	1	1	3	2	2
11	0	1	2	2	3	1	1	1
12	2	1	2	1	3	2	1	2
13	0	1	3	2	2	2	3	2
14	2	2	2	3	2	0	2	2
15	2	2	1	3	1	2	2	3
16	1	1	2	2	2	2	2	0
17	0	2	3	2	1	2	3	0
18	1	1	1	1	1	2	2	1
19	1	1	3	2	1	0	2	1
20	1	1	3	3	2	0	2	2
21	1	1	2	2	1	2	2	3
22	1	2	3	2	1	2	2	3
23	1	0	3	1	2	0	2	2
Total correct answers in each group	**19**	**30**	**48**	**51**	**33**	**37**	**37**	**43**
Percentage of improvement between pre-test and post-test in each technique	**57.89474**		**6.25**		**12. 12**		**16.22**	

Comparison of the mathematics score of each technique of cooperative learning (experimental group) with the mathematics scores of control group

Think Pair share			Group investigation			TAI			3 minute review			Jigsaw			STAD			Round robin brainstorming		
Question Number	Control Group	Experimental Group	Question Number	Control Group	Experimental Group	Question Number	Control Group	Experimental Group	Question Number	Control Group	Experimental Group	Question Number	Control Group	Experimental Group	Question Number	Control Group	Experimental Group	Question number	Control group	Experiment-al group
1	11	18	12	16	18	29	15	16	2	10	12	8	17	19	10	19	21	16	18	14
5	4	5	13	4	12	30	18	18	6	4	5	21	6	9	14	0	3	18	8	13
20	5	9				11	7	15	17	14	16	24	6	13	22	7	12	19	15	16
4	10	6							28	1	4	26	8	18	23	10	15			
7	18	23										25	2	15						
												3	20	21						
												27	8	13						
												15	20	16						
												9	17	20						
Total number of correct answer	**48**	**61**		**20**	**30**		**40**	**49**		**29**	**37**		**104**	**144**		**36**	**51**		**41**	**43**

APPENDIX E Social skills check list

Item No.	Items	Responses	
		Yes	No
A	**Foundation skills**		
1.	I maintain eye contact when I talk with my friend/s in the group.		
2.	I can make out whether my friend/s are happy or sad by their gesture/s and facial expression/s.		
3.	I maintain appropriate personal space with my friend/s.		
B	**Interaction skills**		
4.	I solve the conflict/s in a peaceful way by discussing the problem/s.		
5.	I take turn to share my idea/s in the group/s.		
6.	I begin and end conversation/s		
7.	I talk with everyone in the group/s.		
8.	I can talk with my teacher whenever necessary.		
C	**Affective skill**		
9.	I can identify my feeling/s for my friend/s and activities.		
10.	I care that my friend/s are not hurt by my words.		
11.	I feel like helping my friend/s when they are in need.		
12.	I can decode body language and facial expression/s.		
13.	I trust my group member.		
D	**Cognitive skills**		
14.	I learnt how to choose freely the best choice/s to solve the problem/s.		
15.	I could monitor my own learning by following the norms of the activity/ies.		
16.	I can discuss the problem/s with my friends.		
17.	I try to be active in the activity (group activity).		

APPENDIX F Lesson plans on fraction and decimal for an experiment

Lesson plan 1

Topic: Numerator, denominator and quotient.

Strategy: Direct instruction

Skills practiced: Problem solving skills

Teaching learning materials: Paper scissor and ruler.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ tell the definition of numerator, denominator and quotient.
- ✓ give the example of numerator denominator and quotient.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: Teacher will explain the students, what are numerator, denominator and quotient mean? Teacher also solves some problems on the board as an example.

Lesson activity: Students will do some exercise from the text book (the exercise are related are related to the content taught or explained by teacher during lesson development).

Monitoring: Teacher will be moving around observing and providing the necessary help.

Follow up activity: To check their understanding teacher will check their work and provide the necessary feedbacks.

Closure: Teacher and students will solve the problem collectively on the board.

Lesson plan 2

Topic: Changing improper fraction to mix number

Skill/s: Problem solving

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Write improper fraction as mixed fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: Teacher will demonstrate how to convert improper fraction to mixed fraction by solving a problem on convert improper fraction to mixed fraction as an example.

Lesson activity: Students will be asked to solve a problem from the text book related to the content taught by the teacher during lesson development.

Monitoring: Teacher will move around and provide the necessary help to the students if required.

Follow up activity: Teacher will check their work and provide the necessary feedbacks.

Closure: Teacher will elaborate and provide more information if required.

Lesson plan 3

Topic: Changing mix fraction to improper fraction

Strategy: Direct Instruction

Skill/s: Problem solving skills.

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ Convert mix fraction to improper fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: Teacher will demonstrate how to covert the mix fraction into improper fraction by solving a problem on the board as an example.

Lesson activity: Students will solve problems from their text book (problems that are related to the content that the teacher taught or explained during the lesson development.

Monitoring: Teacher will move around and provide the necessary help to the students.

Follow up activity: Teacher will check the students work and provide the necessary feedback.

Closure: Student will be asked to summarize the lesson taught.

Lesson plan 4

Topic: Comparing and ordering fraction by relating to ½

Strategy: Direct Instruction

Skill/s: Problem solving

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ Compare the fraction by relating to ½.
- ✓ Order the fraction by relating to ½

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: The teacher will demonstrate how to compare and order fraction by relating to half on the board by solving a problems as an example.

Lesson activity: Students will be asked to solve similar questions from the test book. The questions are related to the content that the teacher explained during the lesson development.

Monitoring: Teacher will move around and provide the necessary help required by the students.

Follow up activity: Teacher will check the work of the students and provide the necessary feedback.

Closure: Teacher will summarize the lesson taught and assign them similar questions to solve as homework.

Lesson plan 5

Topic: Comparing and ordering fraction by relating to equivalent decimal

Strategy: Direct Instruction

Skill/s: Problem solving

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ Comparing and ordering fraction by relating to equivalent decimal

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: The teacher will demonstrate how to compare and order fraction by relating to equivalent decimal on the board by solving a problems as an example.

Lesson activity: Students will be asked to solve similar questions from the test book. The questions are related to the content that the teacher explained during the lesson development.

Monitoring: Teacher will move around and provide the necessary help required by the students.

Follow up activity: Teacher will check the work of the students and provide the necessary feedback.

Closure: Teacher will summarize the lesson taught and assign them similar questions to solve as homework.

Lesson plan 6

Topic: Solving problems on equivalent decimal.

Strategy: Direct instruction

Skill/s: Problem solving

Teaching learning materials: Paper, text book and pen.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ Solve problems on equivalent decimal.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: Teacher will solve some problems on equivalent decimal as an example on the board.
Lesson activity: Students will solve some similar problems from the text book.
Monitoring: Teacher will move around and provide the necessary help required by the students.
Follow up activity: Teacher will check their work and provide the necessary feedbacks.
Closure: Teacher will provide the necessary feedback and briefly summarize the lesson taught.

Lesson plan 7
Topic: Comparing and ordering fraction by relating by equivalent fraction.
Strategy: Direct Instruction
Skill/s: Problem solving
Teaching learning materials: Paper, text book and pen.
Lesson objective: By the end of the lesson each child will be able to:

- ✓ Comparing and ordering fraction by relating to equivalent fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: The teacher will demonstrate how to compare and order fraction by relating to equivalent fraction on the board by solving a problems as an example.
Lesson activity: Students will be asked to solve similar questions from the test book. The questions are related to the content that the teacher explained during the lesson development.

Monitoring: Teacher will move around and provide the necessary help required by the students.

Follow up activity: Teacher will check the work of the students and provide the necessary feedbacks.

Closure: Teacher will summarize the lesson taught and assign them similar questions to solve as homework.

Lesson plan 8 and 9

Topic: Problems on equivalent fraction.

Strategy: Direct instruction

Skill/s: Problem solving

Teaching learning materials: Paper, text book and pen.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ Solve problems on equivalent fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: Teacher will solve some problems on equivalent fraction as an example on the board.

Lesson activity: Students will solve some similar problems from the text book.

Monitoring: Teacher will move around and provide the necessary help required by the students.

Follow up activity: Teacher will check their work and provide the necessary feedbacks.

Closure: Teacher will provide the necessary feedback and briefly summarize the lesson taught.

Lesson plan 10

Topic: Equivalent fraction with same numerator and comparing fraction using equivalent decimal.

Strategy: Direct instruction

Skills practiced: Problem solving

Teaching learning materials: Paper and pen.

Lesson objective: By the end of the lesson each child will be able to:

Solve the problems related to equivalent fraction with same numerator and comparing fraction using equivalent decimal.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: Teacher will solve the problems related to equivalent fraction with same numerator and comparing fraction using equivalent decimal on the board

Lesson activity: Students will be asked to solve the problems from the text books, related to the content taught by the teacher during lesson development.

Monitoring: Teacher will be move around and provide the necessary help required by the students.

Follow up activity: Teacher will check their work and provide the necessary feedbacks.

Closure: Teacher will check their work and provide the necessary feedback.

Lesson plan 11

Topic: How to use fraction stripes.

Strategy: Direct instruction

Skill/s practiced: Problem solving

Teaching learning materials: Paper pen, fraction stripe and text book.

Lesson objective: By the end of the lesson each child will be able to:

Solve the problems related to usage of fraction stripe

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: Teacher will demonstrate how to use the fraction stripes and solve the problems related to the fraction stripes.
Lesson activity: Students will be asked to solve the problems related to the fraction stripes.
Monitoring: Teacher will move around and provide the help required by the students.
Follow up activity: Teacher will check the work of the students and provide the necessary help.
Closure: Teacher will summarize the lesson taught and assign them homework.

Lesson plan 12
Topic: Adding fractions using fraction stripe
Strategy: Direct instruction
Skill/s practiced: Problem solving
Teaching learning materials: Paper pen, fraction stripe and text book.
Lesson objective: By the end of the lesson each child will be able to:
Solve the problems related to usage of fraction stripe
Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: Teacher will demonstrate how to adding fractions using fraction stripe. **Lesson activity:** Students will be asked to solve the problems related to adding fractions using fraction stripe, from the text book.
Monitoring: Teacher will move around and provide the help required by the students.
Follow up activity: Teacher will check the work of the students and provide the necessary help.
Closure: Teacher will summarize the lesson taught and assign them homework.

Lesson plan 13

Topic: Adding fraction with same denominator

Strategy: Direct instruction

Skill/s practiced: Problem solving

Teaching learning materials: Paper pen, and text book.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ Solve the problems related to adding fraction with same denominator.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: Teacher will demonstrate how to add fraction with same denominator. **Lesson activity:** Students will be asked to solve the problems related to adding fractions with same denominator.

Monitoring: Teacher will move around and provide the help required by the students.

Follow up activity: Teacher will check the work of the students and provide the necessary help.

Closure: Teacher will summarize the lesson taught and assign them homework.

Lesson plan 14

Topic: Adding fraction with different denominator

Strategy: Direct instruction

Skill/s practiced: Problem solving

Teaching learning materials: Paper pen, and text book.

Lesson objective: By the end of the lesson each child will be able to:

Solve the problems related adding fraction with different denominator.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: Teacher will demonstrate how to add fraction with different denominator.

Lesson activity: Students will be asked to solve the problems related to adding fractions with different denominator.

Monitoring: Teacher will move around and provide the help required by the students.

Follow up activity: Teacher will check the work of the students and provide the necessary help.

Closure: Teacher will summarize the lesson taught and assign them homework.

Lesson plan 15

Topic: Fractions between fractions

Strategy: Direct instruction

Skill/s practiced: Problem solving

Teaching learning materials: Paper pen, and text book.

Lesson objective: By the end of the lesson each child will be able to:

- ✓ Solve the problems related to fractions between fractions.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: Teacher will solve some problems related to fractions between fractions on the board.

Lesson activity: Students will be asked to solve the problems related to fractions between fractions on the board.

Monitoring: Teacher will move around and provide the help required by the students.

Follow up activity: Teacher will check the work of the students and provide the necessary help.

Closure: Teacher will summarize the lesson taught and assign them homework.

Lesson plan 16 and 17

Topic: Subtracting fraction

Strategy: Direct instruction

Skill/s practiced: Problem solving

Teaching learning materials: Paper pen, and text book.

Lesson objective: By the end of the lesson each child will be able to:
Solve the problems related to subtracting fraction
Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: Teacher will solve some problems related to subtracting fraction
Lesson activity: Students will be asked to solve the problems related to the content taught by the teacher during the lesson demonstration.
Monitoring: Teacher will move around and provide the help required by the students.
Follow up activity: Teacher will check the work of the students and provide the necessary help.
Closure: Teacher will summarize the lesson taught and assign them homework.

Lesson plan 18
Topic: Problems on equivalent fraction.
Strategy: Direct instruction
Skill/s practiced: Problem solving
Teaching learning materials: Paper pen, and text book.
Lesson objective: By the end of the lesson each child will be able to:
Solve the problems related to equivalent fraction.
Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: Teacher will solve some problems related to equivalent fraction.
Lesson activity: Students will be asked to solve the problems related to the content taught by the teacher during the lesson demonstration.
Monitoring: Teacher will move around and provide the help required by the students.

Follow up activity: Teacher will check the work of the students and provide the necessary help.

Closure: Teacher will summarize the lesson taught and assign them homework.

Lesson plan 19

Topic: Naming decimal as fraction.

Strategy: Direct instruction

Skill/s practiced: Problem solving

Teaching learning materials: Paper pen, and text book.

Lesson objective: By the end of the lesson each child will be able to:

Solve the problems related to naming decimal as fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: Teacher will solve some problems related to naming decimal as fraction on the board.

Lesson activity: Students will be asked to solve the problems related to the content taught by the teacher during the lesson demonstration.

Monitoring: Teacher will move around and provide the help required by the students.

Follow up activity: Teacher will check the work of the students and provide the necessary help.

Closure: Teacher will give additional explanation on naming fraction as decimal if required and teacher summarizes the lesson taught.

Lesson plan 20

Topic: Represent decimal using fraction stripe in tenth.

Strategy: Direct instruction

Skill/s practiced: Problem solving

Teaching learning materials: Paper pen, and text book.

Lesson objective: By the end of the lesson each child will be able to:

Represent decimal using fraction stripe in tenth.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: Teacher will demonstrate how to represent decimal using fraction stripe in tenth by solving some problems on representing decimal using fraction stripe in tenth and using hundredth as an example on the board.
Lesson activity: Students will be asked to solve the problems related to the content taught by the teacher during the lesson demonstration.
Monitoring: Teacher will move around and provide the help required by the students.
Follow up activity: Teacher will check the work of the students and provide the necessary help.
Closure: Teacher will give additional explanation on naming fraction as decimal if required and teacher summarizes the lesson taught.

Lesson plan 21
Topic: Represent decimal using hundredth grid.
Strategy: Direct instruction
Skill/s practiced: Problem solving
Teaching learning materials: Paper pen, and text book.
Lesson objective: By the end of the lesson each child will be able to:
Represent decimal using fraction stripe in tenth and using hundredth grid
Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.
Lesson development: Teacher will demonstrate how to represent decimal using hundredth grid by solving some problems on representing decimal using hundredth as an example on the board.
Lesson activity: Students will be asked to solve the problems related to the content taught by the teacher during the lesson demonstration.
Monitoring: Teacher will move around and provide the help required by the students.

Follow up activity: Teacher will check the work of the students and provide the necessary help.

Closure: Teacher will give additional explanation on naming fraction as decimal if required and teacher summarizes the lesson taught.

Lesson plan: 22 and 23

Topic: Problems on relating decimal with fraction.

Strategy: Direct instruction

Skill/s practiced: Problem solving

Teaching learning materials: Paper pen, and text book.

Lesson objective: By the end of the lesson each child will be able to:

Solve problems on relating decimal with fraction.

Lesson introduction: Teacher will check their prior knowledge on the topic (topic that she is going to teach) by asking the questions related to the content that she is going to teach. Teacher will try to connect their prior knowledge to the current lesson that she is going to teach. So that he or she can begin the lesson with their knowledge.

Lesson development: Teacher will solve some problems on relating decimal with fraction on the board as an example.

Lesson activity: Students will be asked to solve the problems related to the content taught by the teacher during the lesson demonstration.

Monitoring: Teacher will move around and provide the help required by the students.

Follow up activity: Teacher will check the work of the students and provide the necessary help.

Closure: Teacher will give additional explanation on naming fraction as decimal if required and teacher summarizes the lesson taught.

GRADUATE SCHOOL

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Phitsanulok, 65000
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May 8, 2014

Subject: To conduct the research
RE # ทล.0527.02/1859

Dear Secretary, Ministry of Education, Bhutan

Since Miss Tulashi Devi Pradhan, Identify number 56064815, the graduate student of the Master of Education Program (Curriculum and Instruction) of the Graduate School, Naresuan University, is conducting the thesis research on the title "EFFECT OF COOPERATIVE LEARNING ON STUDENT'S MATHEMATIC ACHIEVEMENT AND SOCIAL SKILLS OF MENDRELGANG PRIMARY SCHOOL IN BHUTAN". Therefore, I would like to request you to kindly allow her to do experimental research in Mendrelgang Primary School, Tsirang, Bhutan.

Thank you for your assistance.
Yours very truly,

(Assistant Professor Dr.Aumporn Lincharoen)
Associate Dean for Academic Affairs
Graduate School of Naresuan University

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