



JAMMU SANSKRITI SCHOOL, JAMMU

(AFFILIATED TO CBSE) CODE: 730065

**GRAPHIC
NOVEL**

**CLASS – 6TH
SUB: MATHS**

NCERT CHAPTER -7

FRACTIONS

**QR CODE
AT DIKSHA**



0650CH07

STORYBOARD

FRACTIONS

Like fraction

UNIT FRACTION

PROPER FRACTION

Learning outcomes

1. Students will be able to recognize and whole both visually and numerically.
2. Students can compare and contract different types of fraction.
3. Students will apply their new knowledge of fraction by creating a fraction museum with manipulative.
4. Students will be able to understand the type of fraction.
5. The student will be able to identify fractions pictorially.

CHARACTERS



RAVINDER (WISE MAN)



NANDAN (ELDER BROTHER)



KUNDAN (YOUNGER BROTHER)



CHANDAN (ELDER THAN KUNDAN)

FOREST SCENE

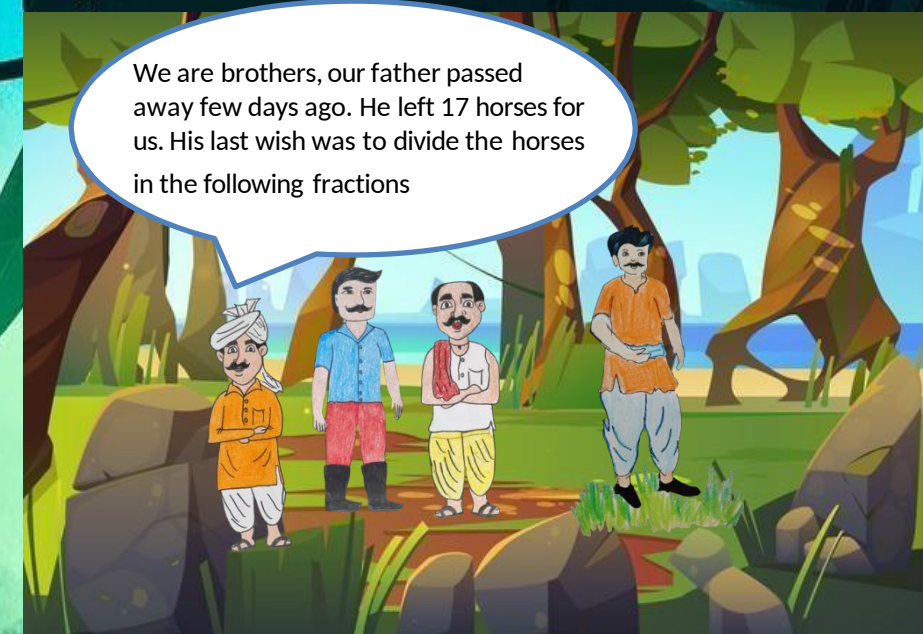
SCENE-1

ONCE THERE WAS A WISE MAN RAVINDER WHO WAS TAKING STROLL ON HIS HORSE IN THE COUNTRYSIDE WHERE HE FOUND THREE BOYS WHO WERE VERY SAD. HE CONSOLED THEM. RAVINDER WENT TO THEM AND ASKED THEM ABOUT THEIR PROBLEM





What happened young men?



We are brothers, our father passed away few days ago. He left 17 horses for us. His last wish was to divide the horses in the following fractions



I should get $\frac{1}{2}$ of all horses

I should also have $\frac{1}{9}$ of all horses.

According to his wish I should get $\frac{1}{3}$ of all horses



We are sad that we are not able to fulfill his last wish

I can give you my horse and it should solve the problem

Ravinder drawing circles on ground



We will try to share it pictorially

Let's represent horses as circles

Here are your 17 circles and 18th one is mine



Now total of your horses is $6+9+2=17$ horses

We are left with one circle which is my horse.

$$\frac{1}{2} \times 18 = 9$$

As $\frac{1}{2}$ of horses are mine, so I got 9 circles

$$\frac{1}{3} \times 18 = 6$$

I should get $\frac{1}{3}$ of horses so I got 6 circles

I should get $\frac{1}{9}$ of all horses, 2 are mine.

$$\frac{1}{9} \times 18 = 2$$

PROPER FRACTION:-

A proper fraction is a fraction whose numerator is smaller than its denominator.

For example :- $\frac{3}{4}$, $\frac{2}{11}$

ACTIVITY

NAME : TO CREATE A BIRD USING DIFFERENT PARTS OF FRACTION.

MATERIAL REQUIRED: Colourful Sheets, Scissors
, Glue

PROCEDURE:

- Take a sheet of paper and cut out a Circular region from that paper as shown in fig. 1
- Now cut that circle in to two equal halves such that both the parts represent $\frac{1}{2}$ of fraction.
- Next cut those $\frac{1}{2}$ in to other halves such that we have parts each representing $\frac{1}{4}$ of a fraction .
- Now cut these four parts in to equal halves such that each part represents $\frac{1}{8}$ of fraction.
- Now arrange the different parts of fraction as shown In Fig. 2 using glue.
- A beautiful fraction bird is prepared.



EXERCISE-1

Answer the following questions:-

Q1): Write down the numerator and the denominator of each of the following:

- i. $\frac{4}{9}$
- ii. $\frac{6}{11}$
- iii. $\frac{8}{15}$

Q2): Determine:

- i. $\frac{2}{3}$ of 15 pens
- ii. $\frac{2}{3}$ of 27 balls
- iii. $\frac{2}{3}$ of 36 balloons

Q3): Which of the following are proper fractions?

- i. $\frac{3}{2}$
- ii. $\frac{5}{6}$
- iii. 3
- iv. $\frac{19}{18}$
- v. $\frac{26}{26}$
- vi. $\frac{23}{31}$

ANSWER KEY

Q1

i) $N=4, D=9$ ii) $N=6, D=11$, iii) $N=8, D=15$

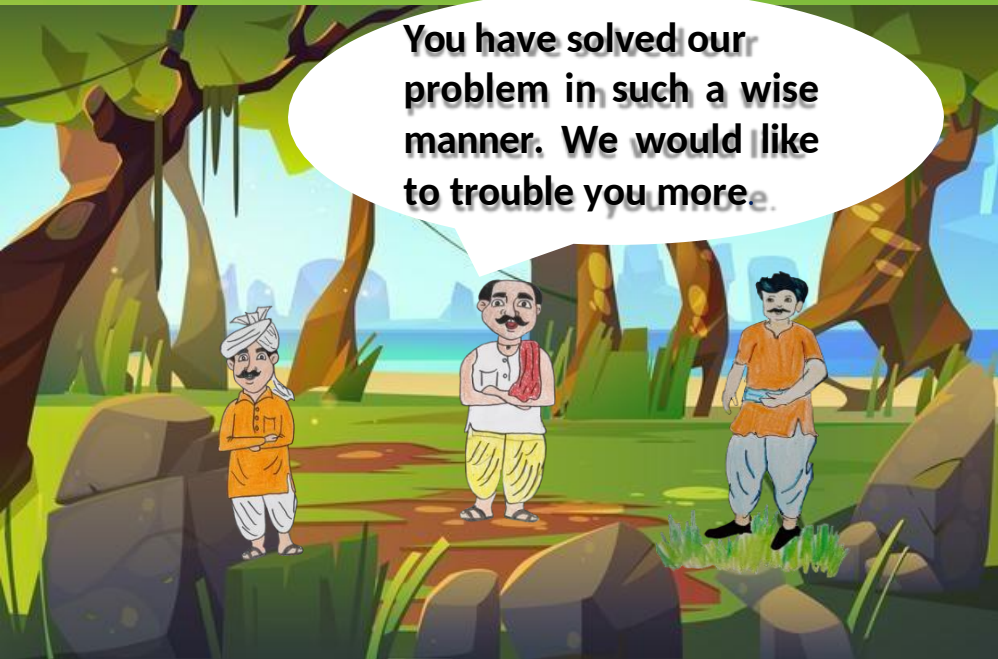
Q2)

i) 10 ii) 18 iii) 24

Q3)

$5/6, 23/31$

SCENE 2



OK, No problem we will distribute the bars.
Gentle men, Kindly bring those bars.



NANDAN BRINGS THE BAG AND SHOWED IT TO RAVINDER



Look ,these are 7 pieces ,how will we distribute these gold bars among three of us ?



Ravinder laughs and gave one big piece to Nandan

Take your 1 big piece





Take your two pieces which are equal to one big piece



He gave 2 pieces to Kundan

Take your 4
small pieces
which are equal
to one
complete bar

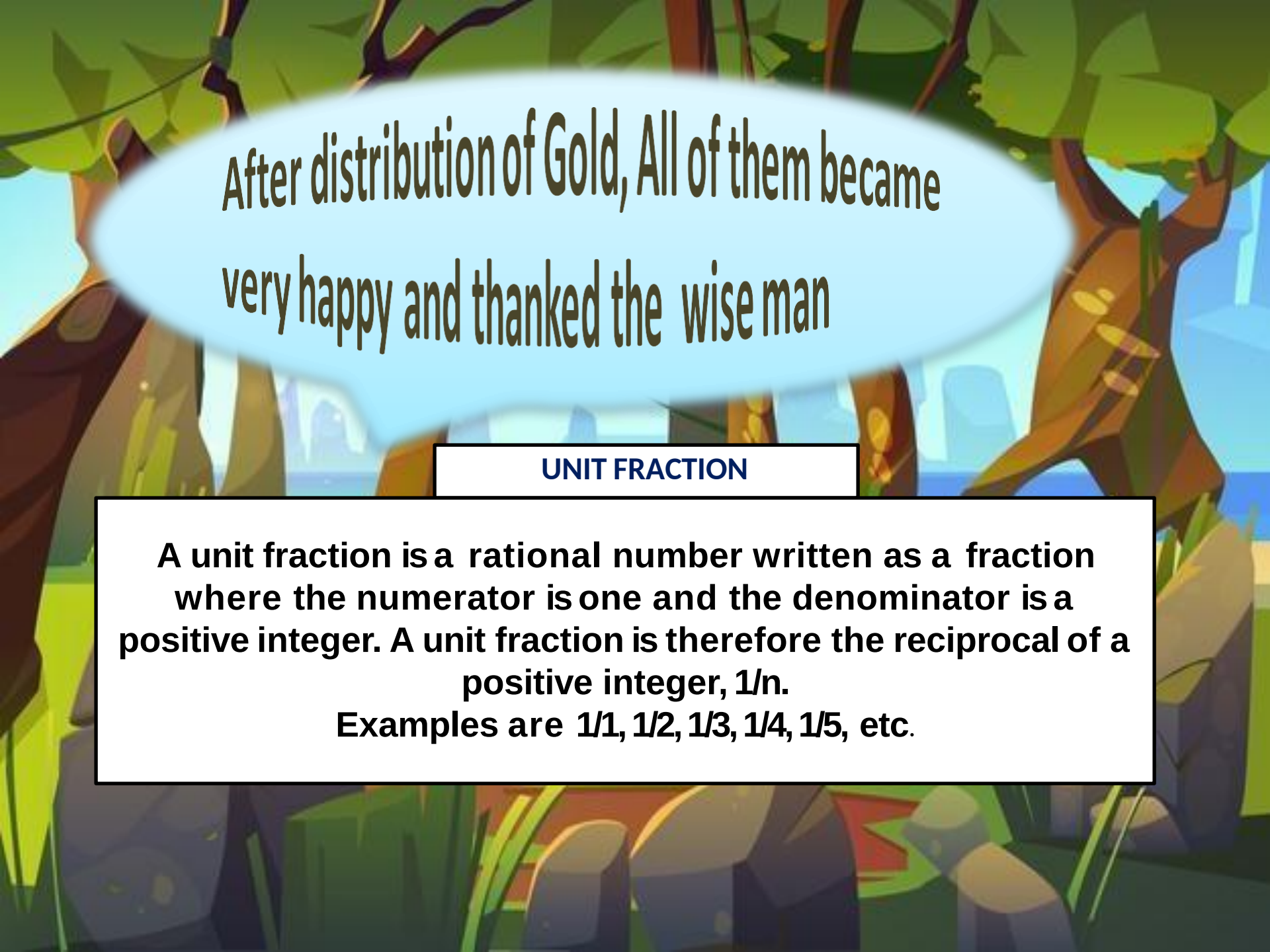


Ravinder gave 4 small pieces to Chandan

1 COMPLETE BAR = 1

$$\frac{1}{2} + \frac{1}{2} = \frac{2}{2} = 1 \text{ (2 HALVES)}$$

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{4}{4} = 1 \text{ (4 HALVES)}$$



After distribution of Gold, All of them became
very happy and thanked the wise man

UNIT FRACTION

A unit fraction is a rational number written as a fraction where the numerator is one and the denominator is a positive integer. A unit fraction is therefore the reciprocal of a positive integer, $1/n$.

Examples are $1/1$, $1/2$, $1/3$, $1/4$, $1/5$, etc.

EXERCISE-2

Answer the following questions:

Q1) Write 5 equivalent fractions of each of the following:

i. $\frac{3}{4}$

i. $\frac{4}{5}$

Q2) Change each of the following fractions in to equivalent fractions having denominator 24:

i. $\frac{6}{12} = \frac{\underline{6 \times 2}}{12 \times 2} = \frac{12}{24}$

ii. $\frac{3}{8}$

iii. $\frac{2}{6}$

iv. $\frac{4}{6}$

Q3) Which of the following pair of fractions are equivalent and which are not:

i. $\frac{2}{3}$ and $\frac{8}{12}$

ii. $\frac{3}{7}$ and $\frac{12}{28}$

iii. $\frac{5}{9}$ and $\frac{15}{27}$

iv. $\frac{36}{44}$ and $\frac{8}{11}$

ANSWER KEY

Q1

- i. $\frac{6}{8}, \frac{9}{12}, \frac{12}{16}, \frac{15}{20}, \frac{18}{24}$
- ii. $\frac{8}{10}, \frac{12}{15}, \frac{16}{20}, \frac{20}{25}, \frac{24}{30}$

Q2 ii. $\frac{9}{24}$ iii. $\frac{8}{24}$ iv. $\frac{16}{24}$

Q3 Equivalent fractions – part i, ii and iii and not equivalent fraction is part iv.

SCENE-3

Hey wise man, you must be hungry after solving our huge problems

No, I'm already full.

We have 5 chapattis let's eat them.

Now I will distribute these chapattis

Nandan you can take $\frac{8}{5}$ parts of chapattis
Chandan you can take $\frac{7}{5}$ parts of chapattis
And my friend Ravinder $\frac{3}{5}$ parts of chapattis
Is yours, as you are full
And rest is mine that is $\frac{7}{5}$ of chapattis.

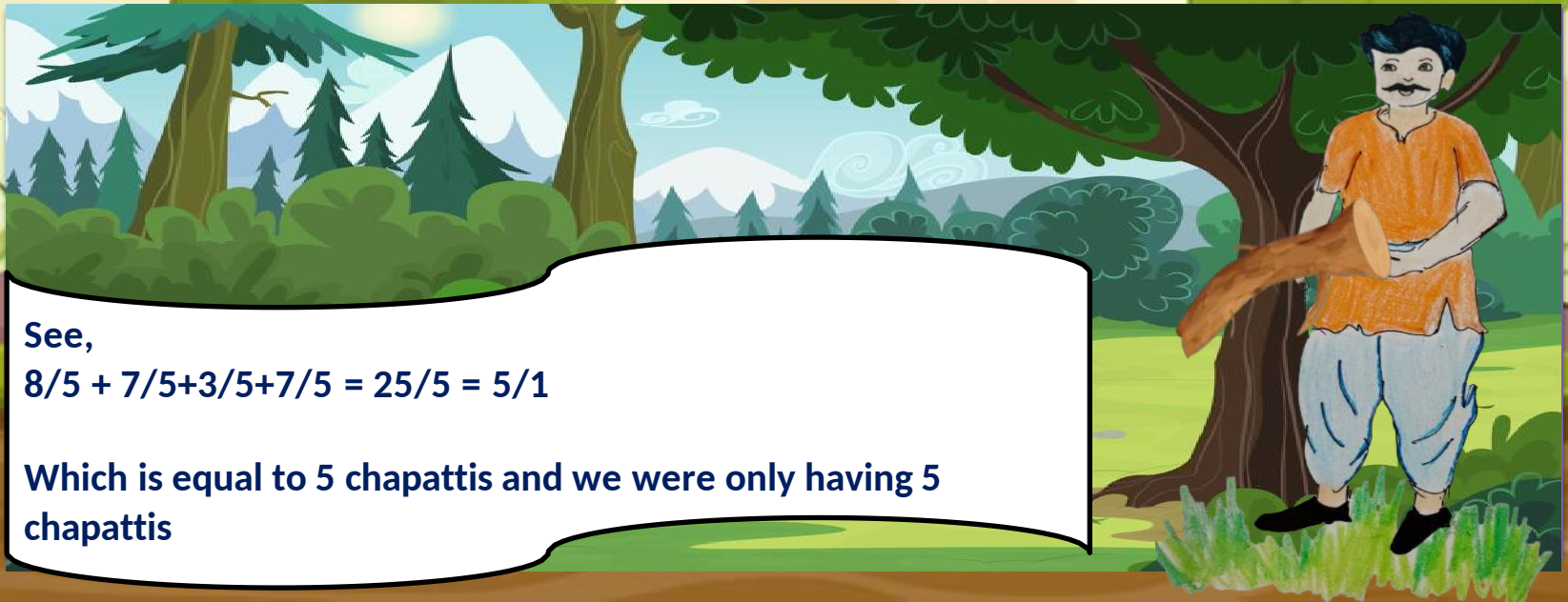
How can you say that distribution of these
chapattis is equal to 5?



Kundan solves the problem on ground



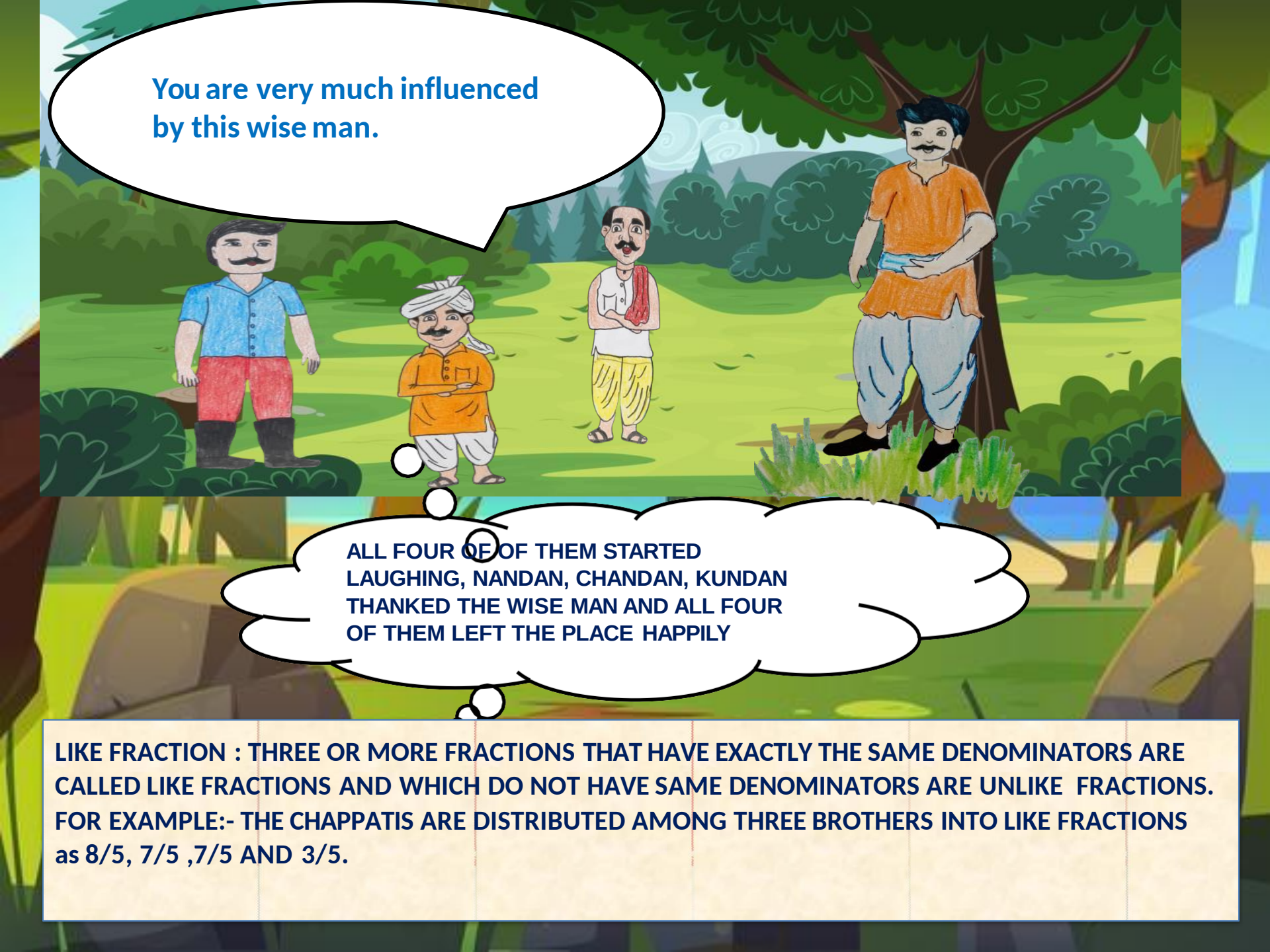
Kundan holds a piece of stick and he solves the fraction.



See,

$$8/5 + 7/5 + 3/5 + 7/5 = 25/5 = 5/1$$

Which is equal to 5 chapattis and we were only having 5 chapattis



You are very much influenced
by this wise man.

ALL FOUR OF THEM STARTED
LAUGHING, NANDAN, CHANDAN, KUNDAN
THANKED THE WISE MAN AND ALL FOUR
OF THEM LEFT THE PLACE HAPPILY

LIKE FRACTION : THREE OR MORE FRACTIONS THAT HAVE EXACTLY THE SAME DENOMINATORS ARE CALLED LIKE FRACTIONS AND WHICH DO NOT HAVE SAME DENOMINATORS ARE UNLIKE FRACTIONS. FOR EXAMPLE:- THE CHAPPATIS ARE DISTRIBUTED AMONG THREE BROTHERS INTO LIKE FRACTIONS as $\frac{8}{5}$, $\frac{7}{5}$, $\frac{7}{5}$ AND $\frac{3}{5}$.

EXERCISE-3

Answer the following questions:

Q1) Add $\frac{2}{3}$ and $\frac{5}{3}$.

Q2) Fractions having same denominator are called _____.

Q3) There are some group of like fractions. Write three or more like fractions in front of each group.

i. $\frac{2}{9}, \frac{5}{9}, \frac{7}{9}$ _____, _____, _____.

ii. $\frac{1}{7}, \frac{3}{7}, \frac{4}{7}$ _____, _____, _____.

Q4) Which is the greater fraction?

i. $\frac{7}{17}, \frac{11}{17}$

ii. $\frac{5}{6}, \frac{7}{6}$

iii. $\frac{11}{12}, \frac{7}{12}$

ANSWER KEY

Q1 $\frac{7}{3}$

Q2) Like fraction

Q3)i. $\frac{9}{9}, \frac{11}{9}, \frac{13}{9}$ ii. $\frac{6}{7}, \frac{9}{7}, \frac{11}{7}$

Q4) i. $\frac{11}{17}$ ii. $\frac{7}{6}$ iii. $\frac{11}{12}$