

केन्द्रीय विद्यालय उडुपि
KENDRIYA VIDYALAYA UDUPI

शरद कालीन अवकाश गृहकार्य
HOLIDAY HOMEWORK AUTUMN BREAK
[11-10-2021 TO 20-10-2021]

CLASS : III

Subject	Homework
ENGLISH	1. Write 5 page cursive handwriting 2. Learn lessons 'Trains and The story of the road' 3. Read a story book Write 20 new words from any story book. 4. Write a paragraph on the topic ' My train journey experience'
HINDI	1. बंदर बाँट पाठ को ध्यानपूर्वक पढ़ें और 10 कठिन शब्द लिखें । 2. "मेरा परिचय" शीर्षक पर पाँच वाक्य लिखिए । 3. नीचे दिए गए शब्दों के विलोम शब्द लिखिए । (i) श्रीमान् (ii) भारी (iii) मूर्ख (iv) ऊपर (v) काली (vi) पीछे (vii) इधर
MATHS	1. Learn tables form 2 to 15. 2. Find the sum of following questions. (a) $\begin{array}{r} \boxed{100} \quad \textcircled{10} \quad \triangle 1 \\ 2 \quad 4 \quad 2 \\ + 4 \quad 2 \quad 5 \\ \hline \end{array}$ (b) $\begin{array}{r} \boxed{100} \quad \textcircled{10} \quad \triangle 1 \\ 2 \quad 6 \quad 7 \\ + 4 \quad 3 \quad 2 \\ \hline \end{array}$ (c) $\begin{array}{r} \boxed{100} \quad \textcircled{10} \quad \triangle 1 \\ 3 \quad 5 \quad 1 \\ + 3 \quad 3 \quad 2 \\ \hline \end{array}$ (d) $\begin{array}{r} \boxed{100} \quad \textcircled{10} \quad \triangle 1 \\ 2 \quad 5 \quad 5 \\ + 5 \quad 3 \quad 0 \\ \hline \end{array}$ (e) $\begin{array}{r} \boxed{100} \quad \textcircled{10} \quad \triangle 1 \\ 4 \quad 3 \quad 4 \\ + 1 \quad 6 \quad 4 \\ \hline \end{array}$ (f) $\begin{array}{r} \boxed{100} \quad \textcircled{10} \quad \triangle 1 \\ 4 \quad 3 \quad 2 \\ + 4 \quad 3 \quad 2 \\ \hline \end{array}$ 3. Draw different shapes on a A4 sheet .
EVS	1) Learn the question and answer from lesson WORK WE DO . 2) Paste the picture of any 5 buildings and write the work done in them. 3) Read next lesson "The story of food". Name some food items and categorise them as leaves, flowers , stem and fruits. For e.g. we eat cauliflower which is the flower of the plant .

CLASS : IV

Subject	Homework
ENGLISH	1) Learn exercise and question answers of lesson HELEN KELLER 2) Write 20 difficult words from lesson HELEN KELLER and HIAWATHA 3) Write a paragraph on a) My Country b) Good food habits
HINDI	1. Classroom app में भेजी गई वीडियो को ध्यान से देखें। और पाठ 14 से ववशेषण शब्द छांटो। 2. वणणमाला, बारहखडी और एक से सौ तक गगनती याद करो और ललखो। 3. ककनहहां 10 शब्दों के ललांग बदलो। 4. पाठ-13 पढो। 5. पाठ 9 से 12 याद करें।
MATHS	1) Learn and write tables from 11 to 20 2) Do any 10 sums of additions 2 digits (5 sums) and 3 digit (5 sums). 3) Explain RADIUS , DIAMETER and CHORD in a circle through figures.
EVS	1. Draw a map of India and identify West Bengal, New Delhi, Jammu & Kashmir, Tamilnadu, Assam And Gujarat. 2. Draw a labelled diagram of a FLOWER to show the different parts And write the uses of flowers. 3. Write different birds name in your notebook.

CLASS : V

Subject	Homework
ENGLISH	1) Learn exercise of lesson RIP VAN WINKLE and CLASS DISCUSSION 2) Write 20 difficult words from RIP VAN WINKLE and CLASS DISCUSSION . 3) Write a paragraph on a) Diwali / Eid b) My school
HINDI	1. Classroom app में भेजी गई वर्कशीट (पर्यायवाची,विपरीत शब्द) को नोटबुक में लिखे और याद करे। 2. वर्णमाला, बारहखडी और एक से सौ तक गिनती याद करो और लिखो। 3. पाठ-11 पढो।
MATHS	1. Write table from 1 to 25 in holiday homework notebook. 2. Practice the chapters in holiday homework notebook ' Be my multiple, I will be your factor' ' can you see the pattern?' 3. Make pattern with the help of matchsticks and take photograph
EVS	1. Read some reference book which is related to space ,solar system , Planet, Star, natural satellite & man- made satellite, Astronaut ,globe etc. 2. Fill all the continents and ocean names in the world map. Paste it in your notebook. 3. Read 12th lesson & Saudi Arabia is the country which has largest Oil reserves . Oil is called 'liquid gold' there. Shade Saudi Arabia in the world map.

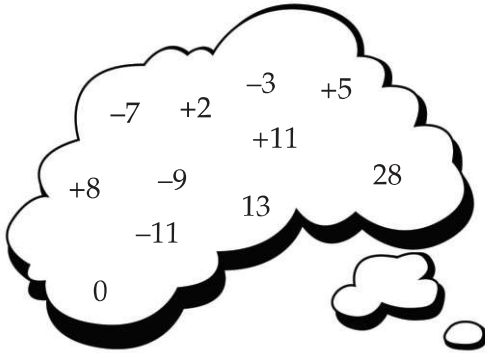
CLASS : VI

Subject	Homework
ENGLISH	1. Write a paragraph about anyone of the following a. A Festival b. My Country 2. Write a story of your own. 3. 'You lost your golden watch in the playground' – Write a lost notice about it.
HINDI	1. संसार पुस्तक है इस पाठ के सारांश। 2. हेलेन केलर के जीवन के बारे में जानकारी लिखना।
SANSKRIT	'सूक्तिस्तबकः' इति पाठे विद्यमानान् सर्वानपि श्लोकान् लिखत । 'कृषिकाः कर्मवीराः' इति पाठे विद्यमानान् सर्वानपि श्लोकान् लिखत । संस्कृते 5 सरलवाक्यानि रचयत ।
SOCIAL SCIENCE	1. Read your textbook carefully and prepare 01 marks questions for all the lessons covered. 2. Prepare one project on Ek Bharat Shrestha Bharat". 3. Complete your notebook.
SCIENCE	Project work: scrap book on topic: "water".
MATHS	

Unit 1 : Messy Integers

Surabhi has been studying Integers in class. She even had a restless night trying to sort integers in her dreams.

1.1 Can you help her sort the integers?



There is one integer in her dream which is bothering her the most. Can you point out that number?
Hint : The troubling number goes neither in column A nor in column B, but, in the circle in between.

Column A	Column B
Positive Integers	Negative Integers
○	

1.2 Decode the secret message.

If **RISE** is coded as 6 8 2 1, **TEAR** is coded 9 1 4 6 and **REACH** is coded as 6 1 4 7 3.
What will be the code for **TEACHER**?

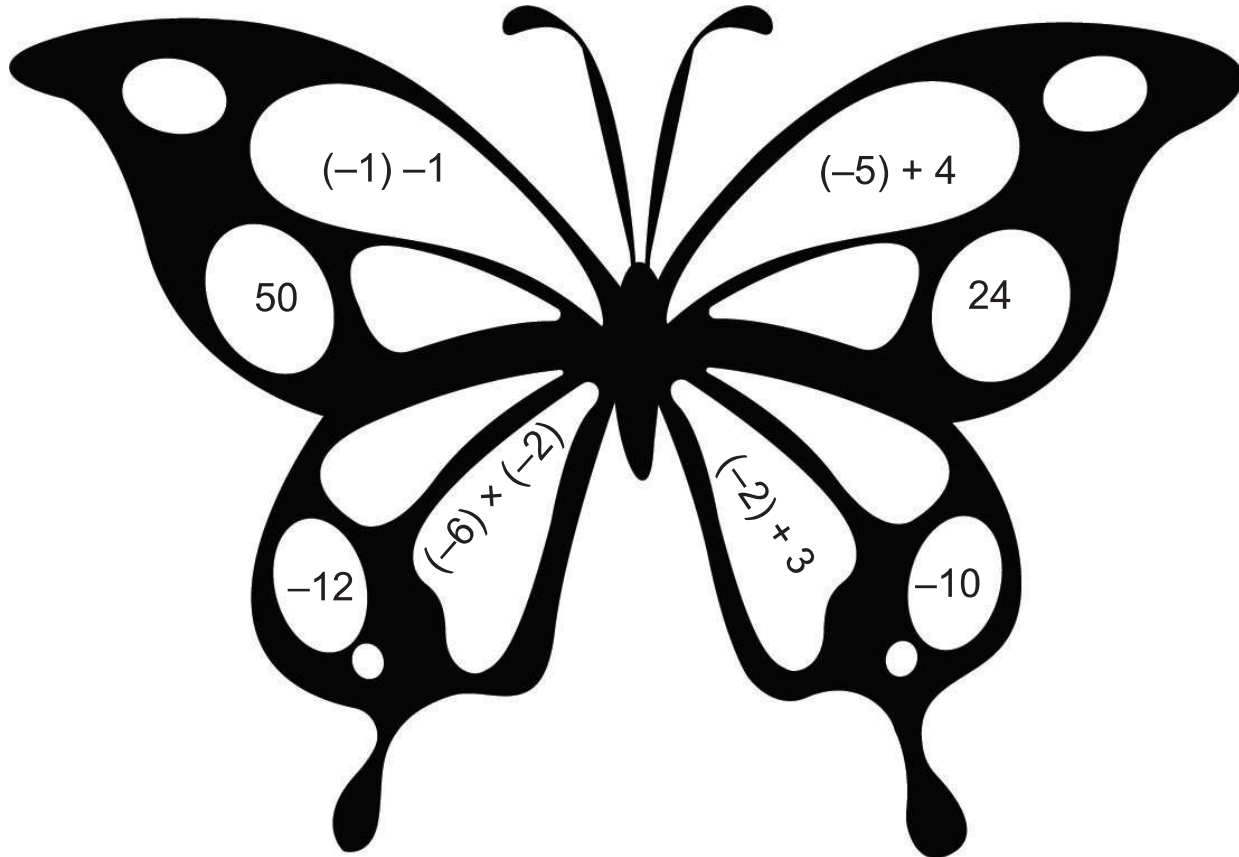
Did you know?

We forget 50% of our dreams within 5 minutes of waking up and 100% within 10 minutes.
And, not everyone dreams in colour. 14% people dream in black and white!



Unit 2 : Rainbow Integers

- 2.1 Solve the questions in the image below. Next, identify the integers and then colour all sections with positive integers yellow, and all sections with negative integers as red.



- 2.2 Adwaita a tortoise in Alipore Zoo in Kolkatta has the longest recorded life span in the world. She lived for more than 200 years.

I am Tapu, the tortoise. Although I am not as old as Adwaita was, can you guess my age with the help of clues given below :

- (a) Both my digits are odd.
- (b) One of my digits is 3
- (c) My ten's place is three times the digit at one's place.
- (d) I am more than 50 years old, but less than 100 years.

years



Butterflies use ants as babysitters? Really?

Yes! Many members of a butterfly family Lycaenids depend on ants to take care of their babies. In some species, like the Alcon blue, ants carry the babies back to their nest, and heartily protect them from parasites too!

How's that for insect solidarity!



Unit 3 : Magic Squares

A Magic Square is a square with a special arrangement of numbers such that the numbers in each row, each column and the diagonals adds up to the same number.

For example:

A 3×3 Magic Square of numbers 1 to 9, can be arranged as following.

2	7	6	→ 15	
9	5	1	→ 15	
4	3	8	→ 15	
↙ 15	↓ 15	↓ 15	↓ 15	↘ 15

Now, look at the arrangement of the numbers carefully.

If you arrange the given numbers in an ascending order, you get

1, 2, 3, 4, 5, 6, 7, 8, 9 where 5 is the number that lies exactly in the middle.

In the above magic square notice that 5 is right in the middle of the square.

Let us now look at the diagonals 2, 5, 8

$$5 - 2 = 3; 8 - 5 = 3$$

Similarly, the other diagonal: 6, 5, 4

$$6 - 5 = 1; 5 - 4 = 1$$

And, the second row

$$9 - 5 = 4; 5 - 1 = 4$$

Do you see a pattern?

Also, the sum in each case is 15, which is called the **Magic Constant**. And in this case it is $5 \times 3 = 15$

But why is it called a Magic Square?

It seems that since ancient times, squares have been connected to the supernatural and the magical world.

3.1 Complete the Magic Square, using numbers from 7 to 21, given that the Magic Constant = $14 \times 3 = 42$.

10	?	?
?	14	?
11	?	18

3.2 The magic square, given below uses all integers from 7 to 15. The sum of the numbers in each row, column and the two main diagonals are the same. Which number would replace * in the given square, once completed?

*		
		7
		14

Creative Corner

Choose 9 consecutive numbers of your choice and create a Magic Square by following these steps.

- (a) Write the consecutive numbers chosen by you.
- (b) What is the middle most number chosen by you?
- (c) What is your Magic Constant (the sum of the numbers rows, columns or the diagonals)?
(Magic Constant = Middle most number \times 3)

[Hint: Start with putting the middle most number at its right place]

'Square' isn't just for Maths, is it? Let's explore. A square is . . .

- an open, four-sided, area surrounded by buildings in a village, town, or city. (e.g. Meet me at the market-square.)
 - an L-shaped or T-shaped instrument used for obtaining or testing right angles. (e.g. The carpenter misplaced the square.)
 - a person considered to be old fashioned. (e.g. He's such a square!)
 - being upright and honest. (e.g. I'm trusting you to be square with your decision.)
 - paying or settling (an account): (e.g. Please square up the bill before you leave.)
- So, now you can go ahead and make many sentences with 'square'!



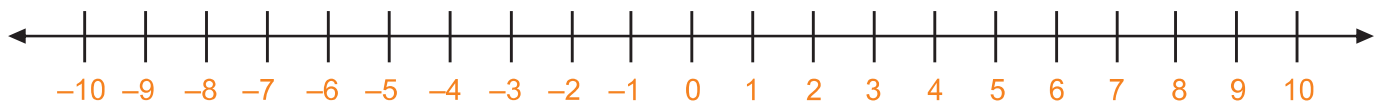
Unit 4 : Climatic Diversity of India

The world is divided into a number of climatic zones. The climate of India is described as 'Monsoon' type. There is a lot of variation in temperature across India. In Summer, the mercury occasionally touches 50°C in some parts of the Rajasthan desert, whereas it may be around 20°C in Pahalgam in Jammu and Kashmir. On a winter night, temperature at Drass in Jammu and Kashmir may be as low as -45°C on the other hand, Churu in Rajasthan may have a temperature of 22°C .

The average monthly temperatures of Drass and Churu were recorded. The table given below shows this information from January to June.

	January	February	March	April	May	June
Average Temperature in Drass ($^{\circ}\text{C}$)	-32	-20	-6	2	14	21
Average Temperature in Churu ($^{\circ}\text{C}$)	22	25	32	35	40	44

4.1 Show the increase in temperature in Drass from March to April on the number line below.



4.2 Find the difference in temperature between Churu and Drass in January.

Let's get to know about some weather-measuring instruments.

The instrument that ...

- measures the water vapor content of air or the humidity - Hygrometer.
- indicates wind direction and relative wind speed - Wind Cock.
- measures weather conditions higher up in the atmosphere - Wind Balloon.
- measures the height of the base of clouds (called the ceiling) above the ground- Ceiling Projector/ Ceilometer.



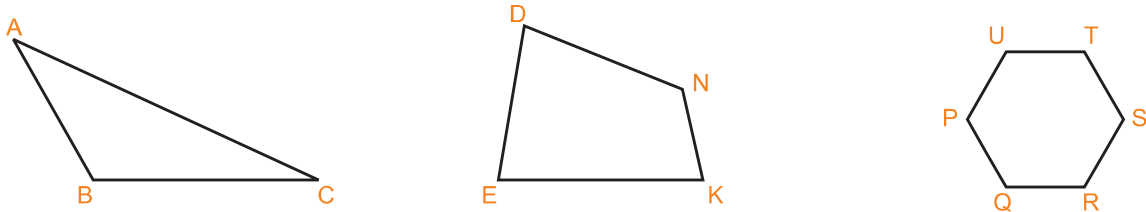
Unit 5 : Hit the Boundary

The word Perimeter is used either to indicate path or length. This word comes from two Greek words '**Peri**' (which means around) and '**Meter**' (which means measure).

Perimeter is the total length of the boundary of a closed figure.



The perimeter of a simple closed figure is the sum of the measures of line-segments, binding the figure.

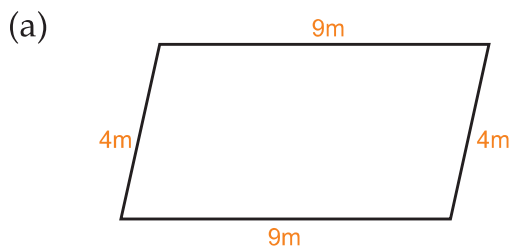


Perimeter of $\Delta ABC = \text{length } (AB + BC + CA)$

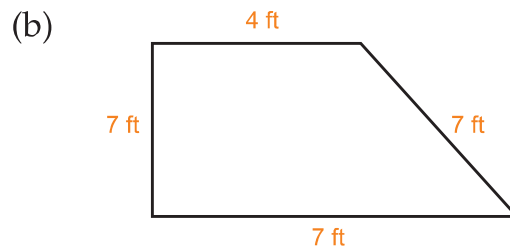
Perimeter of the quadrilateral $DEKN = \text{length } (DE + EK + KN + ND)$

Perimeter of the hexagon $PQRSTU = \text{length } (PQ + QR + RS + ST + TU + UP)$

5.1 Calculate the perimeters of the figures given below:



Perimeter =

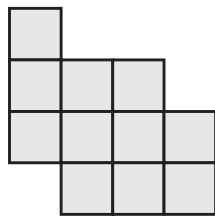


Perimeter =

Perimeter can also be found by counting the outer sides of a grid. But remember you must know which sides to take!

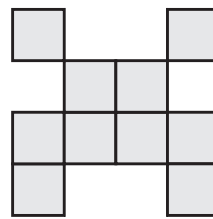
5.2 What are the perimeters of the figures given below?

(a)



Perimeter = unit

(b)

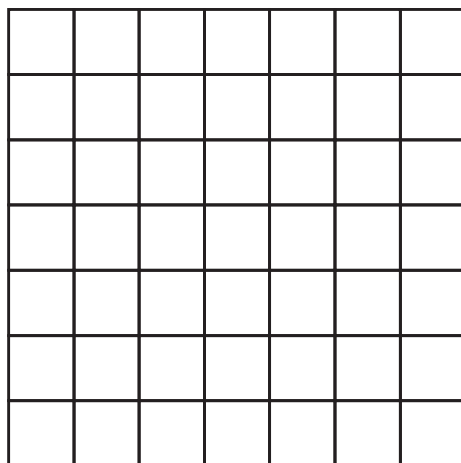


Perimeter = unit

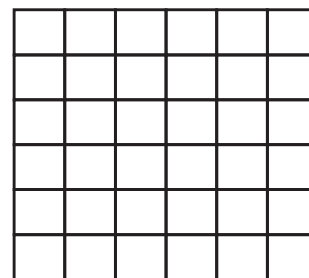
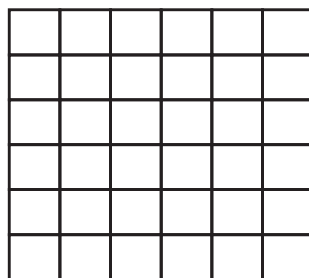
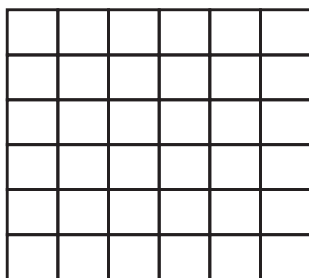
Creative Corner

Create your own figures of the given perimeters and colour them according to your choice.

(a) Draw a closed shape with a perimeter of = 24 units.



(b) Draw three different closed shapes with a perimeter of 18 units.



The Peri in 'perimeter' is special!

This is because Peri is a prefix that means "about", "around", "enclosing" or "surrounding".

There is a rich beauty of words starting with peri-

- Peri + meter
- Peri + scope
- Peripheral

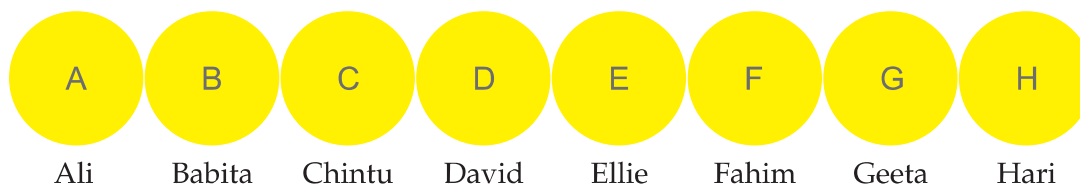


CLASS : VII

Subject	Homework
ENGLISH	(1) Write a paragraph about any two of the following. (a) Mental Health. (2) Health is wealth. (3) Your favourite festival. (2) Write a letter to your uncle for thanking him for sending him a birthday gift on your birthday.
HINDI	1चिड़िया की बच्ची पाठ की प्रश्न उत्तर 2रहीम की दोहे का सारांश
SANSKRIT	'विद्याधनम्' इति पाठे विद्यमानान् सर्वानपि श्लोकान् लिखत । 1-50 संख्यावाचकशब्दान् संस्कृते लिखत । संस्कृते 10 सरलवाक्यानि रचयत ।
SOCIAL SCIENCE	1. Read your textbook carefully and prepare 01 marks questions for all the lessons covered. 2. Prepare one project on Ek Bharat Shrestha Bharat". 3. Complete your notebook.
SCIENCE	Project work: scrap book on topic:" Light/water/Forest".
MATHS	

Unit 1: Olympic Mathlete Competition

There were 8 contestants who competed in the Olympic mathlete competition



There are 3 medals available - Gold, Silver and Bronze. Each medal is awarded to one student only:

1.1 Gold medal being awarded first in the ceremony. How many candidates are there for the gold medal?

1.2 Once the gold medal is awarded, how many candidates are there for the silver medal?

1.3 Once the gold and silver medals are awarded, how many candidates are there for the bronze medal?

1.4 In how many ways can we award the medals among the 8 contestants?

[Hint: We have to choose 3 people out of 8. To do this, we start with all options (8), then take them away one at a time (7, then 6) until we ran out of medals].

Aah! So that's what happened!

- Lots of people accept that the medal (form and content), was invented by the Italian painter Antonio Pisano (1395–1455), called Pisanello.
- The gold, silver and bronze Olympic medals were first used at the 1904 Summer Olympics.
- At one time, Olympic gold medals were real solid gold. A solid gold medal was awarded at the 1912 Stockholm Olympics for the last time. After that, gold medals were made of sterling silver that were plated with gold.



Unit 2 : School Swimming Club

Seven students of Anand Public School want to join the swimming club of the school. Following information about the students is recorded in the table below.

Name	Month and Year of Birth	Height (in meters)	Distance each Student can swim (meters)
Ali	November 2004	1.62	200
Vibha	October 2006	1.43	500
Kiran	February 2006	1.53	1500
Daisy	January 2007	1.56	1000
Faizal	December 2005	1.64	600
Kuljeet	August 2006	1.52	1000
Ila	January 2006	1.46	1000

2.1 Can you identify the students who can join the club?

Remember
One meter = 100 Centimeter
One Kilometer = 1000 meter

- To join the swimming club you must be -
- at least 12 years old in March 2018
 - at least 150 centimetres tall
 - able to swim at least 0.5 Kilometres.

Let us complete the table given below to make our choices easier.

Name	Month and Year of Birth	Height (Meters)	Distance each student can swim (Meters)	Age on 31 st March 2018)	Height (cms)	Distance each student can swim (kilometers)
Ali	November 2004	1.62	200		162	0.2
Vibha	October 2006	1.43	500	11 years 5 months		
Kiran	February 2006	1.53	1500		153	
Daisy	January 2007	1.56	1000			
Faizal	December 2005	1.64	600			
Kuljeet	August 2006	1.52	1000			
Ila	January 2006	1.46	1000			

The following students can join the swimming club:

1. _____
2. _____
3. _____
4. _____

2.2 The swimming pool has a diving board, where the swimming coach trains the students to dive off boards that are placed at different heights. The speed, S m/s, when they enter the water from a board of height h metres, can be found using this formula.

$$s = \sqrt{1.96h}$$

a) Calculate the value of s when $h = 10$ m.

b) Find the value of h , when $s = 4.2$ m/s.

This is interesting . . .

- Diving has been a popular pastime across the world since ancient times but the first modern diving competitions were held in England in the 1880s.
- The 1877 edition to *British Rural Sports* by John Henry Walsh makes note of a 'Mr. Young' plunging 56 feet (17 m) in 1870.
- The Swimming Association of Great Britain first started a 'plunging championship' in 1883 but it was discontinued in 1937 when fancy diving began.



Unit 3 : My Calendar

I have had this lovely calendar that has cute cut out labels for each month, which I had assembled.

Yesterday my cat jumped on the desk and the calendar fell down, mixing up all the pages.

M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
			1	2	3	4	1	2	3	4	5	6						1	2	1	2	3	4	5	6		
5	6	7	8	9	10	11	7	8	9	10	11	12	13	3	4	5	6	7	8	9	7	8	9	10	11	12	13
12	13	14	15	16	17	18	14	15	16	17	18	19	20	10	11	12	13	14	15	16	14	15	16	17	18	19	20
19	20	21	22	23	24	25	21	22	23	24	25	26	27	17	18	19	20	21	22	23	21	22	23	24	25	26	27
26	27	28	29	30	31	28	29	30	24	25	26	27	28	29	30	28	29	30	31								
														31													

M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
1	2	3	4	5	6	7					1	2	3						1	2						1	2
8	9	10	11	12	13	14	4	5	6	7	8	9	10	3	4	5	6	7	8	9	3	4	5	6	7	8	9
15	16	17	18	19	20	21	11	12	13	14	15	16	17	10	11	12	13	14	15	16	10	11	12	13	14	15	16
22	23	24	25	26	27	28	18	19	20	21	22	23	24	17	18	19	20	21	22	23	17	18	19	20	21	22	23
29	30	25	26	27	28	29	30	31	24	25	26	27	28	24	25	26	27	28	29	30							

M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
1	2	3	4	5	6	7						1			1	2	3	4	5			1	2	3	4	5	
8	9	10	11	12	13	14	2	3	4	5	6	7	8	6	7	8	9	10	11	12	6	7	8	9	10	11	12
15	16	17	18	19	20	21	9	10	11	12	13	14	15	13	14	15	16	17	18	19	13	14	15	16	17	18	19
22	23	24	25	26	27	28	16	17	18	19	20	21	22	20	21	22	23	24	25	26	20	21	22	23	24	25	26
29	30	31	23	24	25	26	27	28	29	27	28	29	30	31	27	28	29	30	31								
							30																				

Please help me label the names of the month correctly.

3.1 Lets' first identify February from the above Calendar sheets.

Now that you know which one is February, can you figure out the following?

- (a) 1st of March is a _____.
- (b) 31st of January is a _____.
- (c) The Labour Day which falls on 1st of May is a Thursday. Then, the Independence Day falls on _____ day.
- (d) If 5th of September, Teacher's Day, falls on Friday, then, 2nd of October, Gandhi Jayanti is on _____ day.

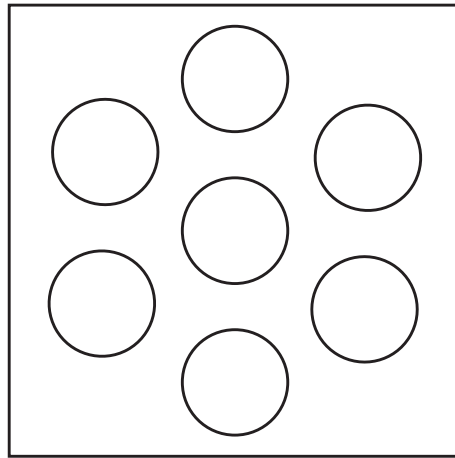
Now figure out this Calendar for the rest of the year

This is interesting...

- Today's records of time are split into two major units: BCE (Before Common Era) and CE (Common Era), whereas the previously used terms were BC (Before Christ) and AD (Anno Domini, or in the year of our Lord).
- The term calendar is taken from *calendae*, the term for the first day of the month in the Roman calendar, related to the verb *calare* 'to call out', referring to the 'calling' of the new moon when it was first seen.



4.2 There was a king who owned a large plot of land that he wanted to leave for his seven princes. It was a square piece of property with seven gold mines on it. The king really liked puzzles and decided to give all seven gold mines to the first prince who could divide the land with three and only three lines such that each section has one gold mine. Here is how the mines were situated.



Months went by and no one could solve the puzzle until one day a young farmer wrote a letter to the king with a sketch of how it could be done.

The king was so impressed that he gave the land to the young farmer and appointed her in the royal treasury as an accountant.

Can you draw the lines, such that there is only one mine in each of the seven sections?
(Remember the seven sections do not have to be equal in area).

Unit 5 : Mental Athletics

And now, time for some mental athletics.

5.1 Two shapes are given such that each shape represents a natural number.

$$\triangle + \text{house} + \text{house} = 20$$

$$\text{house} < \triangle$$

$$\text{house} + \text{house} = 10$$

(a) Write the value of the shapes.

$$\triangle = \dots\dots\dots$$

$$\text{house} = \dots\dots\dots$$

(b) Once you know the value, do the following questions by replacing the shape with its value.

(i) $\text{house} + \triangle = \underline{\hspace{2cm}}$

(ii) $\triangle + \text{house} \times \triangle = \underline{\hspace{2cm}}$

(iii) $\triangle + \text{house} \times \triangle - \text{house} = \underline{\hspace{2cm}}$

$$(iv) \triangle \times \triangle \times \triangle \times \triangle + \triangle = \underline{\hspace{2cm}}$$

$$(v) \triangle + \text{house} \times \text{house} + \triangle = \underline{\hspace{2cm}}$$

5.2 Analogy puzzles helps us to think about the relationship between two things. The symbol '::' means 'is the same as' or 'is analogous to'.

For example, $5 : 25 :: 6 : ?$ would be read as 5 is to 25 as 6 is to what?

The answer is 36 because 5 times itself is 25 and 6 times itself is 36.

Use the example above to answer these analogy puzzles.

(i) $7 : 49 :: 10 : ?$

- (a) 12
- (b) 32
- (c) 25
- (d) 100

(ii) Triangle : Hexagon :: Rectangle : ?

- (a) Square
- (b) Pentagon
- (c) Line
- (d) Octagon

(iii) $270^\circ : \frac{3}{4} :: 300^\circ : ?$

(iv) $4 : \text{Square} :: ? : \text{Decagon}$

(v) $180^\circ : \text{Triangle} :: 540^\circ : \dots\dots? \dots\dots$

(vi) $B : H :: D : \dots\dots? \dots\dots$

5.3 Unscramble the words in the column on the right and write them correctly in the spaces provided. The first letter of each unscrambled word, reading from top to bottom spells out the answer to the following question.

What is a closed plane figure formed by three line segments known as?

_____ N E S T

_____ G I R T H

_____ S S O I L E E C S

_____ N G L E A

_____ R E B N U M

_____ H P A R G

_____ L E I N

_____ G H T E I

CLASS : VIII

Subject	Homework
ENGLISH	<ol style="list-style-type: none">1. you found a wallet in the playground. Write a found notice about it.2. You are the Sports Club Secretary of your school. A chess competition is going to be conducted in your school. Write a notice about it.3. Write a paragraph<ol style="list-style-type: none">A. Indian IndependenceB. Importance of English Language.
HINDI	<ol style="list-style-type: none">1. कामचोर पाठ के प्रश्न - उत्तर 2. सुधाम और कृष्ण पाठ के सारांश
SANSKRIT	'नीतिनवनीतम्' इति पाठे विद्यमानान् सर्वानपि श्लोकान् लिखत । 50-100 संख्यावाचकशब्दान् संस्कृते लिखत । संस्कृते 15 सरलवाक्यानि रचयत ।
SOCIAL SCIENCE	<ol style="list-style-type: none">1. Read your textbook carefully and prepare 01 marks questions for all the lessons covered.2. Prepare answers for all the questions dictated in class.3. Complete your notebook.
SCIENCE	Project work: scrap book on "comparison of flora and fauna of Karnataka and Uttarakhand".
MATHS	

Unit 1 : For the Love of Books

Old books have a unique smell. If you don't believe that, check out some old books at your home or in the library. They will certainly smell good!



Tarun asked 60 students in his school about their favourite category of books. He represented the information using a pictogram.

Genre of book		Frequency
Non-Fiction		
Science fiction		10
Poetry		
Humour		
Horror		8
Adventure		14

Key: represents books.

The science fiction row in the pictogram is complete.

- 1.1 Now, why don't you complete the key.
- 1.2 Complete the pictogram as well.
- 1.3 What is the mode of the given frequency table ?
(Hint: book liked by maximum number of students)

- 1.4 How many more students prefer adventure books to humour books?

The typical smell is due to the breakdown of two chemical components of paper-cellulose and lignin. In fact, the chemicals responsible for the smell of a book can be used to figure out its age, just like carbon dating.



Unit 2 : Homeward Bound

Geetali is travelling back home by train from Mumbai to Pune.



- 2.1** The price of a ticket is Rs.1350. Geetali being a student gets a rebate of one-third on her ticket. Calculate the amount that she pays for her ticket.

- 2.2** Geetali travels by two trains. The first train goes from Mumbai to Lonavala. The second train goes from Lonavala to Pune. Look at some information that she has written down about the schedule of the trains.

First train

Mumbai	departs	13 45 hrs.
Lonavala	arrives	16 39 hrs.

Second train

Lonavala	departs	17 12 hrs.
----------	---------	------------

Express the time 13 45 hrs. using the 12-hour clock.

2.3 Find the time that the first train would take to travel from Mumbai to Lonavala. Give your answer in hours and minutes.

2.4 The first train arrives 46 minutes late at Lonavala. By how many minutes has Geetali missed her second train?

2.5 The next train from Lonavala to Pune is at 18 12 hrs. The journey is 76 km and the train travels at an average speed of 48km/h. Find the time at which the train arrives in Pune.

Mumbai local trains: Facts that'll blow your mind!

- The Mumbai suburban railway system is spread over 400 km.
- It carries more than 7.5 million commuters daily.
- The railway tracks are silent only for about 90 minutes a day.
- Without the Mumbai local trains, many Mumbaikars would go hungry, thanks to the dabbawallahs who bank on these locals to operate one of the most enterprising food delivery system.



Unit 3 : Prize Money

Three school students Ved, Mallika and Juhi bagged the First Prize in a model making competition based on Artificial Intelligence. The prize money of Rs. 18000 was distributed equally among them by the Principal.



3.1 Ved spends 40% of his prize money of Rs 6000. He spends the money in the following ratio:- clothes : books : music CDs = 10 : 2 : 3.

(i) Find the amount he spends on music CDs.

(ii) Find out how much more he spends on clothes as compared to books.

3.2 Malika invests her Rs.6000 for 1 year at a rate of 4% per year simple interest. Calculate the interest Malika receives at the end of the first year.

- 3.3** Juhi goes on holiday to Europe with her family and converts her Rs. 6000 into euros (€). She spends €25 to buy souvenirs for her friends. When she gets home, she changes the remaining euros into Indian Rupees. The exchange rate was €1 = Rs 80. Find the amount of money that she is left with.



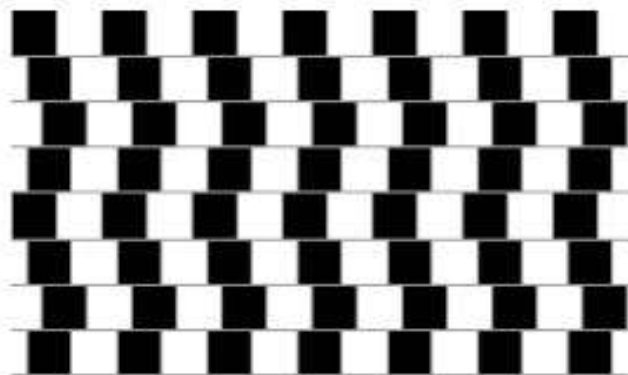
Whoever said money can't buy happiness simply didn't know about the prize money of these shows!

- Kaun Banega Crorepati- The prize money of the show was raised from Rs. 1 crore in season 1 to Rs. 7 crores in season 7.
- Bigg Boss- Rs. 50 lakhs cash prize.
- Indian Idol- The winner gets a chance to create own music album along with a prize money of Rs. 25 lakhs.
- Master Chef India- Rs. 25 lakhs cash prize.



Unit 4 : Optical Illusions

Optical Illusions are arrangements of images and colour to create interesting visual effects. Let's see one to experience it.



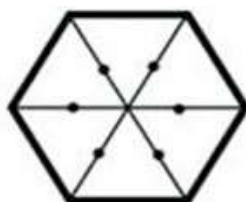
Now, let's create one-

Step 1. Draw a regular hexagon of convenient size. A **regular figure** is a figure in which all the sides are equal and all the interior angles are also equal.

For example, an equilateral triangle is a **regular shape** because all the sides are equal and all the angles are equal.



Step 2. Mark midpoints on each line as shown in the figure.



Step 3. Connect the points as shown below.



Step 4. Erase those lines as shown in the fig below.



Step 5. Now colour according to your own choice, keeping in mind the different shades. You can use three different colours or three different shades of the same colour to colour each pair of opposite side.



Now you look at the cube that you have just created.

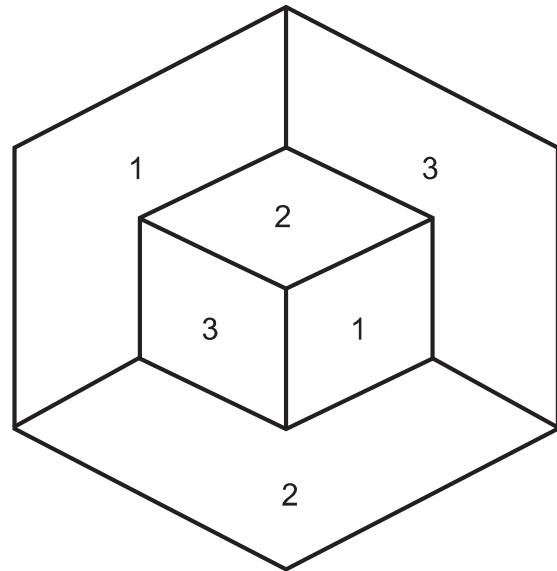
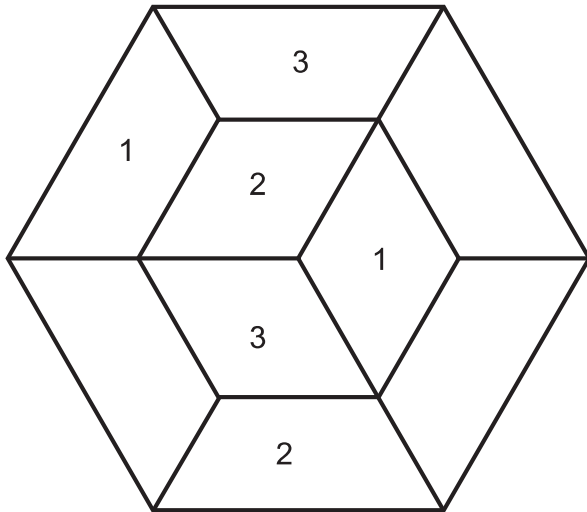
4.1 What is the ratio of the surface areas of the smaller cube and the bigger cube?

4.2 What is the ratio of the volumes of the smaller cube and the bigger cube?

4.3 What would be the changes in the ratios of volumes, instead of midpoints, you take the points $1/3$ and $1/4$ distance from the center?

Creative Corner

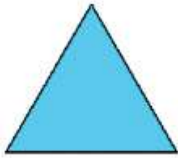
A few figures for you to explore your artistic side. Choose any 3 colours of your choice. Colour the areas which have the same number, in the same shade.



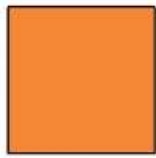
Unit 5 : Shapes and Patterns

Let's explore our creative side by learning how to inscribe and circumscribe regular figures using geometrical constructions.

Regular Figures or Regular Polygons are those which are equiangular (all angles equal), as well as equilateral (all sides equal). For example,



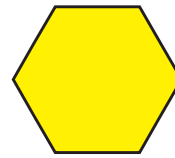
Triangle



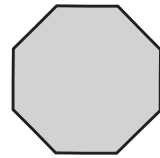
Square



Pentagon



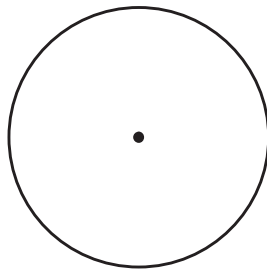
Hexagon



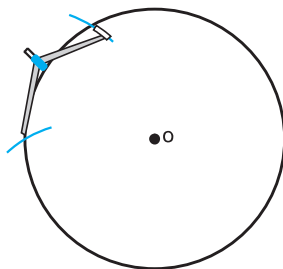
Octagon

5.1 Let's learn to inscribe a regular hexagon in a circle. Follow the instructions and create your own regular hexagon.

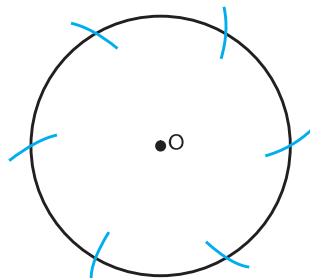
Step 1 : Draw a circle of a suitable radius.



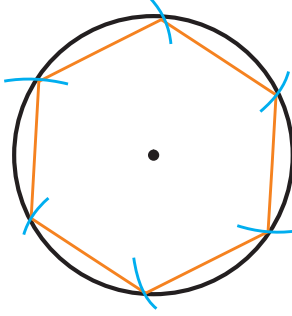
Step 2 : Without changing the radius and keeping the needle of the compasses on the circumference (boundary) draw a small arc on the circle.



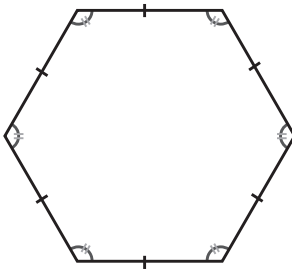
Step 3 : Again, with the same radius draw arcs on the circle, as shown in the figure, till you reach the first arc.



Step 4 : Join the points marked by the arcs.



Step 5 : Erase the circle outside.

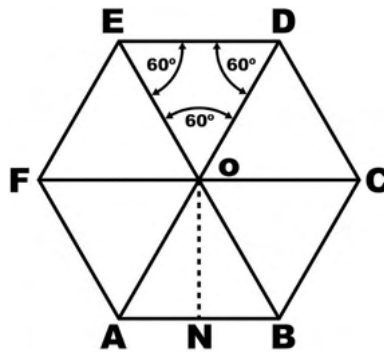


Hexagon is Ready!

(a) Given the radius of the circle, how will you find the area of the inscribed hexagon?

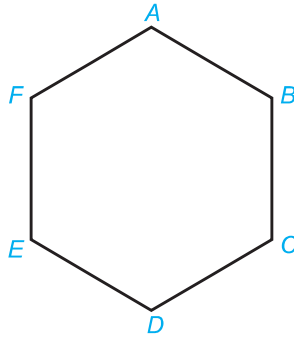
(b) Find the areas of both the circle and the hexagon.

(Hint: What kind of triangle is $\triangle EOD$?)

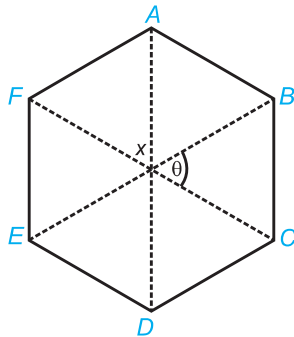


5.2 How to inscribe a circle inside a hexagon:

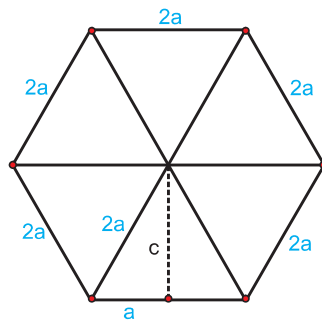
Step 1 : Draw a hexagon.



Step 2 : Join AD, BE & CF. These are called the main diagonals of a hexagon.

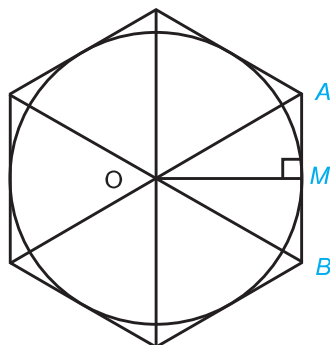


Step 3 : Draw the apothem c from the centre of the hexagon to a side.



New Word!
Apothem – A perpendicular from the center of a regular polygon to any of its side.

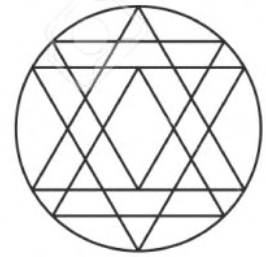
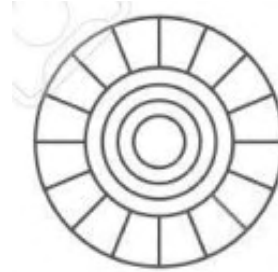
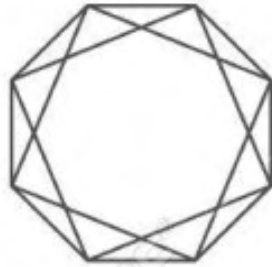
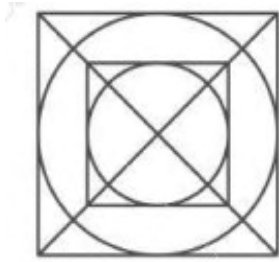
Step 4 : With the apothem as the radius and centre as O, draw a circle as shown below.



Circle is Ready!

Creative Corner

- (a) Draw 2 circles, one circumscribing and one inscribed in the same hexagon.
(b) Create more such patterns and colour them.



The hexagon is everywhere!

The simple hexagon with six sides is actually fascinating. And, if you look closely, you will find it in many places!

- The eyes of a dragonfly are a collection of tiny eyes called compound eyes, each forming the shape of a hexagon.
- Carbon has a molecular structure of a hexagon too.
- You must have seen the hexagonal nuts and bolts. This shape makes the tools grip the bolt easily.

And finally, your pencil : check, if it too has a hexagonal shape.



Unit 6 : Honeybees and their Family Tree

There are over 30,000 species of bees and most of these bee species live solitary lives. However, the one that we know best, honeybee, lives in a colony called a beehive and they have a unique family tree.



In a colony of honeybees, there is one special female called the queen.



There are many worker bees who are females as well, but unlike the queen bee, they produce no eggs.



There are some drone bees who are males and do no work.

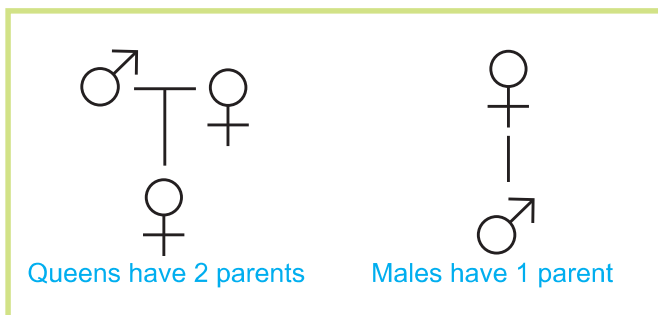


Males are produced by the queen's unfertilized eggs, so male bees only have a mother but no father!



All the females are produced when the queen has mated with a male and so they have two parents. Females usually end up as worker bees but some are fed with a special substance called royal jelly which makes them grow into queens ready to go off to start a new colony when the bees form a swarm and leave their home (a hive) in search of a place to build a new nest.

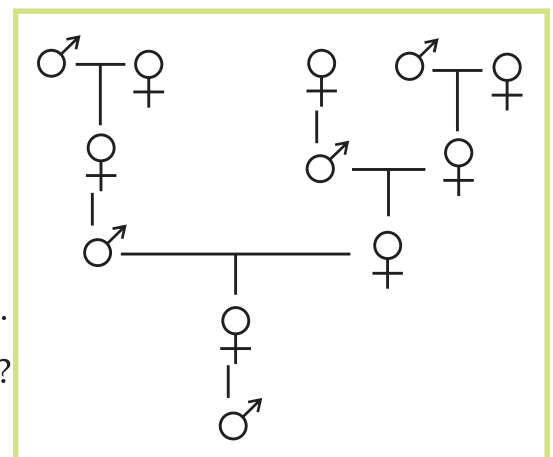
So female bees have 2 parents, a male and a female. Whereas, male bees have just one parent, a female.



Here we follow the convention of family trees that parents appear above their children, so the latest generations are at the bottom and the higher we go, the older people are. Such trees show all the ancestors (predecessors, forebears, antecedents) of the person at the bottom of the diagram.

Let's look at the family tree of a male drone bee.

1. He had 1 parent, a female.
2. He has 2 grand-parents, since his mother had two parents, a male and a female.
3. He has 3 great-grand-parents: his grand-mother had two parents but his grand-father had only one.
4. How many great-great-grand parents did he have?



Number of	Parents	Grand Parents	Great Grand Parents	Great Great Grand Parents	Great Great Great Grand Parents
Male Bee	1	2	3	5	8
Female Bee	2	3	5	8	13

Now if you notice the family tree of a bee follows the **Fibonacci Sequence**.

A Fibonacci sequence is a sequence of numbers where after the first two terms, each term is the sum of the previous two terms.

e.g. 2, 3, 5, 8, 13,

$$5 = 2 + 3, \quad 8 = 5 + 3, \quad 13 = 8 + 5$$

Fibonacci Numbers occur at an amazing number of places. They are very common in plants.

Here is a daisy with 21 petals (but expect a few more or less, because some may have dropped off or are just growing)



6.1 Write down the next three terms of this Fibonacci sequence.

5, -1 4, _____, _____, _____

6.2 For the Fibonacci sequence

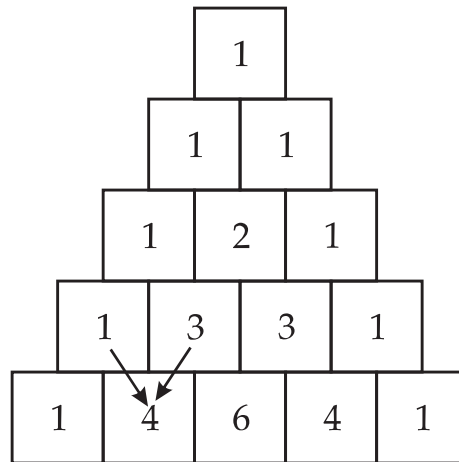
4, -3, 1, -2, -1, -3, -4,

Show that the sum of the first six terms is equal to four times the fifth term.

6.3 One of the most interesting Number Patterns is Pascal's Triangle (named after *Blaise Pascal*, a famous French Mathematician and Philosopher.)

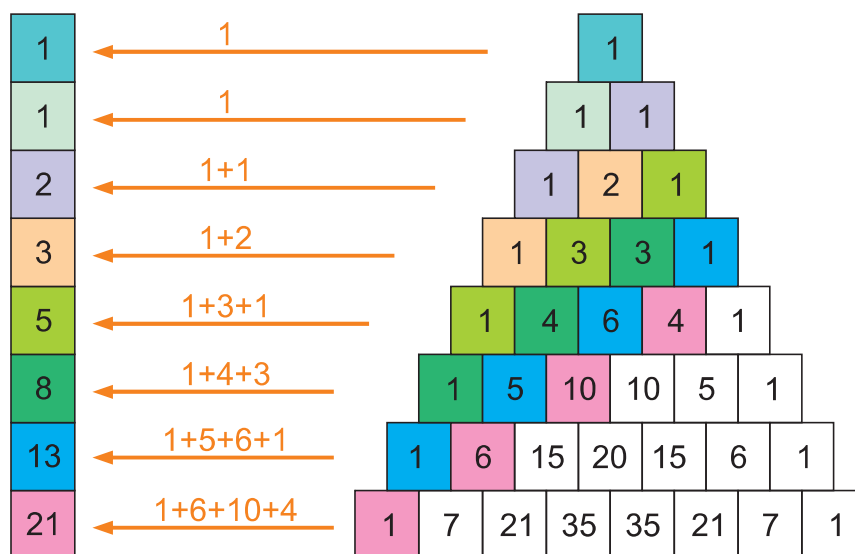
To build the triangle, start with "1" at the top, then continue placing numbers below it in a triangular pattern such that each number is the sum of the numbers directly above it.

(Look carefully, we have shown that $1 + 3 = 4$)



The numbers of the Fibonacci sequence can be obtained from the numbers in Pascal's Triangle by adding the diagonals as shown in the adjoining figure.

Following the same pattern, which numbers of Pascal's triangle can be added together to give the next number of the Fibonacci sequence?



CLASS : IX

Subject	Homework
ENGLISH	1. Story Writing - Write a story of your own. 2. You noticed a lot of stray dogs in your area. Write a letter to the Municipal Chairman about the inconvenience regarding and to control it.
HINDI	1. Chapter 14 चंद्र गहना से लौटती बेर के प्रश्न - उत्तर 2. Chapter 15 मेघ आए कविता का सारांश 3. 'समास' का अर्थ प्रकार और उदाहरण लिखना
SANSKRIT	नवरात्रोत्सवः इति विषयम् अधिकृत्य एकम् अनुच्छेदं लिखत । १-१०० संख्याः संख्यावाचकशब्दांश्च संस्कृते लिखत ।
MATHS	MCQs of all Term- 1
SOCIAL SCIENCE	1. Read your textbook carefully and prepare 01 marks questions for all the lessons covered. 2. Prepare one project on "Disaster Management". 3. Complete your notebook. 4. Prepare one flow chart representing "Indian electoral system".
SCIENCE	I. Project work:PPT on " Health and disease ".

CLASS : X

Subject	Homework
ENGLISH	1. Outdoor games occupy a prominent place in the life of people. They not only help in keeping them healthy and fit but also play an important part as recreational events. Write an article in 150 words on importance of outdoor games. You are Raju or Rani. 2. You are Sohan or Sapna resident of 12 Mall road, Agra. You have noticed that a majority of the water taps in your colony keeps on licking. Also drips from the various joints in the supply pipes. All these lead to a big wastage of portable water. Write a letter of complaint to the Agra municipal commissioner, request him to get the necessary repairs done (100 to 150 words) 3. What are the 4 types of sentences explain it with two examples each. 4. Write two examples for each parts of speech.
HINDI	1. Chapter 7 छाया मत छूना कविता का सारांश 2. Chapter 13 मानवीय करुणा की दिव्या चमक के प्रश्न - उत्तर
SANSKRIT	प्रश्नकोषे विद्यमानान् सर्वानपि प्रश्नान् सोत्तरं लिखत ।
MATHS	MCQs of all Term- 1
SOCIAL SCIENCE	1. Read your textbook carefully and prepare 01 marks questions for all the lessons covered. 2. Prepare one project on "Disaster Management". 3. Complete your notebook. 4. Practice sample papers for 1st term exam.
SCIENCE	I. Project work: PPT on " Biodegradable and non-biodegradable substances". II. Science magazine.