



HOUSES - CONSTRUCTION - SANITATION

We need house to live in. Villages and towns have different kinds of houses. Look at the houses in the picture given below.



Discuss in groups



- ◆ What are the different kinds of houses in the picture?
- ◆ What are the different kinds of houses in your village?
- ◆ What are the reasons for the existence of different kinds of houses?

8.1. Houses - yesterday and to day

The present day houses have been subjected to many changes compared to the houses in the past. Where did the people live in the past? Do you know, what kind of houses they lived in?

Yadagiri is a mason. He has been constructing houses for the last 20 years. He constructed different kinds of houses in villages and towns. Let us observe some of the houses constructed by Yadagiri. We know that Yadagiri has been constructing hundred of houses for the past 20 years. Let us see what he says about the changes in construction style.

"My parents constructed our house during my childhood. Our house is constructed with mud. My mother and I also helped in constructing the house. We brought the mud, mixed it with water and made plumps. My parents arranged these plumps one on top of the other in rows and constructed the wall. After raising four walls to 6 feet height we made a frame of bamboo sticks on black wooden logs. We covered the frame with palm leaves. Doors and windows were made with neem log by Satyam. They were fixed to the walls. My mother coated the walls and floor with dung and put rangoli. We would white wash the walls during festivals. My mother used to cook on fire wood. These days, the materials used for construction of houses are available locally. Our house used to be very cool.



Discuss in groups



- ◆ Which materials were used by Yadagiri to construct the house? Of these, which materials would they have purchased?
- ◆ What are the differences between the mud houses in the past and those in the present?
- ◆ Do people construct houses with mud now a days also? Why?

8.2. Mud roofs:

"I became a mason at the age of 18 years. I constructed roofs with mud in the beginning. Do you know? we constructed the walls also with mud. We used to mix sand and lime in the mortar and then used the mix to build the walls. The walls of the ancient forts were also built with stones and lime."

"I build so many buildings with baked bricks and lime these days. These buildings contain kitchen and storeroom for grains. We did the plastering of walls with the mix of sand and lime. The roof was built with teak logs and covered with Bangalore tiles. For flooring stones of Tandur, Betamcharla, Macharla were used. We left more empty space around the house. Every house grew neem tree. All the houses would have sitouts in the front. Many people slept outside the houses on cots."

What is the use of sit outs in front of the houses?

The rich people used to construct buildings with slabs and brick walls. Plastering is done by cement. The roof is laid with cement concrete which contains steel, cement and sand. Many changes have taken place in the construction of houses in the present.



Discuss in groups



- ◆ How are the bricks laid while constructing the walls?
- ◆ What material were used to build the slabs? Where are these materials available?
- ◆ Who might have helped in construction?

“I constructed a duplex house recently. The owner is Chakrapani. The area of the site is (length) 36 feet by (breadth) 30 feet. The plan was drawn by an engineer”.



Think..

Observe the plan of Chakrapani's house. What is there on the first floor? Say and write.

“We made bed with cement concrete and constructed pillars with steel and concrete. Walls were built using cement bricks. Interesting thing is that the cement bricks floated on water. We used lifts and vibrators to construct the slab. We did cement plastering to the walls and smoothend them with wall care putty. The ceiling of the rooms were done using sheets of plaster of paris this keeps the rooms cool. Flooring was laid using marble stones brought from Rajasthan and Uttar Pradesh. Ceramic tiles were laid in the kitchen and bathrooms.”

“I didn't have the skill to do all the work alone. Workers with different skills were called for various work like laying of tiles and stones, ceiling painting, fitting pipes etc., the current was generated with solar panels arranged on the roof of the house. Water gets heated using solar panels. The whole plot was used to construct the building. The roof was filled with mud to grow vegetables and flowers. The whole roof was covered with plastic sheets. This is called 'Roof Garden'.”

Think...

- What are the differences between a duplex house and a building?
- What is the aim of growing a roof garden?

8.3. Let us know, how a house is constructed!

Visit any house that is being constructed near you. Collect the information and write.

Collect the information



- ◆ What type of house is being constructed?
- ◆ How many people are working? What are the various types of work and who are involved is doing them.
- ◆ What are the daily wages? (Ask any three)
- ◆ What different types of material and tools are used for construction?
- ◆ How did they bring the materials? (tractor / lorry / auto / bullock-cart/ rikshaw etc.,)
- ◆ How many bricks and bags of cement is required to construct a room?
- ◆ How much money is spent on the construction of one room?

8.4. Making of bricks

In construction, bricks made with mud are used widely. The bricks which are light, strong and red in colour will have more demand. Do you know how the bricks are made? Let us know the different stages of making bricks.



Bricks are made in the following stages



- ◆ Collecting clay
- ◆ Mixing clay with ash
- ◆ Adding water to the mixture and making it into a smooth paste by making cattle to walk / tramp on it.
- ◆ Filling the moulds with mud plums, drying the bricks for two days under the sun.
- ◆ Arranging the dried bricks in a kiln in layers and blocking them with firewood and husk for 30 days.
- ◆ When the bricks burn and turn red in colour, they will be sold to people.

Discuss in groups



You have learnt how the bricks are made. Observe the pictures given below. Write the different stages of making bricks in the pictures given below.



1. _____



2. _____



3. _____



4. _____



5. _____



6. _____

In addition to bricks we need stones, teak, cement, concrete, kankar (pieces of Granite), steel, tiles etc: to construct a house. Let us know about them.

8.5. Construction of house - Other materials

To construct a house, besides bricks, materials like foundation stones, flooring stones eg: Tandur, Betamcharla, Khammam are available in different colours in our state.



Tandur stones



Betamcharla stones



Shabad stones



Khammam granite

Kankar stones are required to prepare concrete mix. For this, crushers are used. Huge rocks will be put in machines and cut into smaller pieces. Workers who do this work live at the place of work. Their children also live with them.

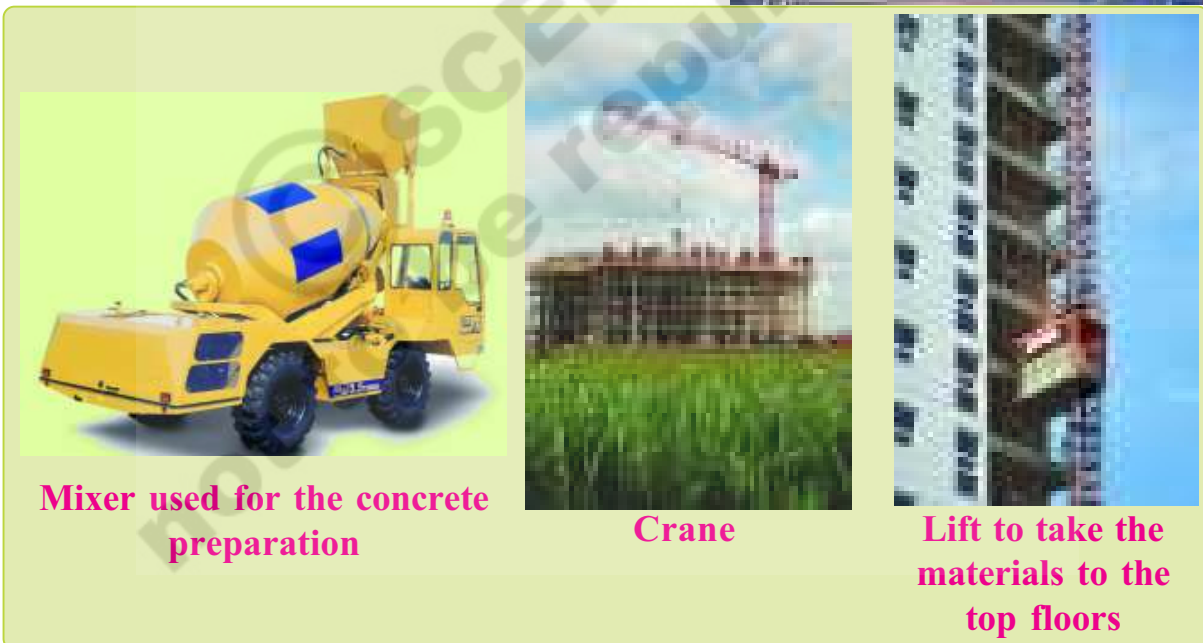


Think...

- Do the children of workers go to school? What would happen if they don't study?
- What facilities are needed by the workers of kilns and construction labourers? How are the facilities provided.

8.6. Construction of apartments.

The cost of land in towns is very high. So, apartments with many flats are constructed on smaller sites. Apartments are constructed to accommodate 25 to 30 families. The residence of each family is called a flat. Nowadays, apartments are constructed to accommodate more than 50 families. Do you know what tools and machines are used to construct apartments? Observe the pictures given below.



Mixer used for the concrete preparation

Crane

Lift to take the materials to the top floors

Discuss in groups



- ◆ Why do we use them?
- ◆ How are the top floors constructed?
- ◆ How do they transport the material to top floors?

Think...

Differentiate between apartments and independent houses.

Generally marbles or tiles are laid on the floors of apartments. These are available in your region. Find out how that material has reached your place? And from where?

The important parts of a house are doors, windows and frames. Usually, people use wood. Nowadays, some are using doors made with iron. In apartments, they make doors with plywood. Glass is used for windows.

Think...

Why people started using other materials instead of wood for doors and windows?

8.7. Houses - different regions:

Houses are constructed keeping in mind heat, rainfall and the materials available. Let us learn about the different types of houses in various regions of our country.

Rain-fall is more in the north-east regions, such as Assam, Meghalaya, Nagaland etc., wet weather prevails always. The Britishers started constructing houses here in the year 1826. We find more wooden houses here. Bamboo sticks are used as walls. They are coated with clay mixed with cow dung. The roofs of the houses are slanting, made with sheets. The lower part is constructed on stilts. The passage that allow the rain water to drian off is called stilt.



Think...

Why the sheets covering the roof is laid slantingly?

Kashmir has a cooler climate place. Sometimes the temperatures fall to 0 degree centigrade. Here houses are constructed on mountains. In Srinagar, tourists live in boat houses called 'Donga' on the river Jhelum.



Do you know?

Coloured stones are available at Tandur in our state. Stones are very cheap here. So, people construct the walls, slab, flooring every thing with stones only. Stone roof! Is it not amazing? Similarly coconut leaves in coastal regions, bamboo in Nallamala Manyam forests are widely used for the construction of houses.



8.8. Houses - problems

We all need house to live in. But most of the people do not have their own houses. There are many poor people in our state. These people live in rent houses or in temporary houses.

Discuss in groups



- ◆ Do you all have own houses? Why every body does not have own houses?
- ◆ What problems people face when they don't have a own house?
- ◆ What facilities do you have in your houses?
- ◆ What are the reasons for the differences in housing facilities?

Poor people live in huts, beside streams, river banks and in open places in towns. Observe a slum area in Hyderabad. Why do people live in slums?



Think...

Why slums look dirty?

8.9. Excretion in open places



Many rural villages don't have toilet facilities. Some people, though they have toilets go to open places for excretion. This is a bad habit. Many problems arise due to this. The house flies that sit on the stools, spread harmful bacteria and diseases. When the faeces (stools) is excreted near lakes and streams it mixes with water when it rains. When we drink this water cholera and typhoid attack us. Worms spread due to open excretion. Anaemia is caused due to worms in the stomach. The food taken is absorbed by the worms and the person remains weak. De-worming tablets should be taken yearly twice.

8.10. Complete sanitation to be provided

The government is trying to provide toilet facilities to all. It is providing an economic help of Rs. 7500 to all weaker sections.



Anitabai demanded toilet to stay at her husband's house :`

The woman in the photo is Anitabai. She belongs to Chichowli village in Betul district of Madhya Pradesh. She was married to Sivaram of Ratanpur village in the year 2011. She was embarrassed to enter the house of her husband, because, there was no toilet in it. She returned to her village. When questioned, she told, she would enter the house if a toilet is constructed. Discussion started on this matter in the family and in the village. Every one accepted Anitabai's opinion. Then a toilet was constructed in her mother-in-law's house. On seeing this, all the families in the village constructed toilets in their houses. In this way, Anitabai became the reason for the sanitation movement. The whole country took interest in it. The rural development minister Mr. Jai Ram Ramesh honoured Anitabai with 'Sulabh Sanitation Award' and presented a cheque of Rs. 5,00,000. The then president Mrs. Pratibha Patil and Prime Minister Dr. Manmohan Singh also appreciated her.



Anitabai receiving cash award from the Central Minister Sri Jai Ram Ramesh

Do you know?

The villages that have 100 percent sanitation facilities and toilet in all the houses will get Nirmal Puraskar. The president of India will present this award. Find & say how many villages in your mandal / district has been awarded Nirmal Puraskars.



Receiving Nirmal Puraskar from the President of India

8.11. Sanitation - a compulsory requirement



Health is wealth. Most of the diseases spread through unhygienic conditions. Dirty surroundings is the main enemy of our health. Observe the picture given. What is happening in the picture. What harm results due to this?

Discuss in groups



- ◆ Is it right to throw / dispose the garbage in this manner? Think...
- ◆ How is it harmful?
- ◆ What do you do with the trash at your home and the school?
- ◆ Is all the trash / garbage use-less?
- ◆ Can we re-use it?

8.12. How is garbage collected at our homes?

Observe the garbage collected at your house. What does it comprise of? There is left over food, leaves, peel of fruits, wet garbage, covers, papers etc., Wet trash decays quickly and mixes with mud. We should throw this into compost pit. We can recycle the dry trash. We should give away this to the rag pickers. The municipality in the towns collect wet and dry garbage separately. You should collect the wet and dry trash separately and give them to municipal people when they bring the collecting van.

We should not burn the garbage in heaps. Air gets polluted due to this. Iron sheets, glasses remain unburnt. This is harmful to the environment.

Think...

What types of trash would be there in your house? What is the reason behind the dirt in your house. What do you do to the garbage? What is wet trash and what is dry trash?

Do you know?

Lekh Chand of Chandigarh collected garbage and used it to construct a beautiful 'ROCK Garden'.



Making environment clean by removing away garbage is very important. Think how can we reduce garbage. We should practise the following three principles to protect the environment.

- 1. Reducing garbage :** We should purchase the goods according to requirement and reduce wastage. We should not use plastic glasses, plates, bags and spoons. When we use and throw them away, they become strewn every where. They pollute the atmosphere, and when thrown into water it also get polluted. Due to this fishes and plants die. Instead of plastic, we should use crockery / cutlery made of steel. We can use them for a long time and permanently. No need to throw them away.
- 2. Re-use :** Using the repaired goods and re-filled goods reduce the usage of plastic.
- 3. Re-cycling :** New things are prepared by re-cycling iron, plastic, glasses paper and electronic goods. We can reduce the garbage by re-cycling.

Think...

Prepare a compost pit in your school. Throw the garbage and leaves into it. Cover it with mud. After one month take out the compost and use it as a fertilizer for the plants.

8.13. Requirements of a good house.

A house looks beautiful when it has plants, is clean and has light and free air. What are the characteristics of a good house? Observe the house in the picture.



Key words:

- | | | |
|--------------------------|--------------------|-------------------|
| 1. Mason | 6. Apartment | 11. Brick klin |
| 2. Construction of house | 7. Mud slab | 12. Stone crusher |
| 3. Tiled house | 8. House plan | 13. Slums |
| 4. Building | 9. Cement concrete | 14. Garbage |
| 5. Duplex house | 10. Roof garden | 15. Sanitation |

What have we learnt?

1. Conceptual understanding

- List our different houses present in your village or region?
- List the construction materials available locally and those brought from out side in a table.
- Who all participate in constructing a house? What are they called?
- Why do many people don't have own houses?
- Why do people construct apartments? What are the uses of apartments?
- What do you do to keep your house clean?
- Can we judge a person to be rich or poor by seeing his residence? How?

2. Questioning - hypothesis

- Sridhar toured India recently on his motor bike. What questions would you ask to know about the different types of houses in our country?
- Bilal wants to construct a house. What questions he might have asked the mason?

3. Experiments - field observations

Observe any one 'Indiramma Illu' and fill the table with the particulars..

- Height of basement _____ feet.
- No.of Rooms _____
- Water facility Available / Not available
- Toilet Available / Not available
- Compound wall Available / Not available

If available, length _____ feet

4. Information skills, projects

- ◆ Visit any five houses in your surrounding. Collect the information and fill the table with the particulars.

Sl.No.	Name of the head of the family	Where is the garbage dumped?			
		Garbage heap	Dustbin	Near the wall	On the street

5. Communication through mapping skills, drawing pictures and making models

- Draw the plan of your house. Mark the different rooms. Describe your house
- Imagine a beautiful house. Draw its picture on a chart, colour it. Write five lines about it. Exhibit it in class.

6. Appreciation, values and awareness towards bio-diversity

- How do you appreciate the work of construction workers?
- Whose house in your village is good. Why? Write the reasons.
- How do you make your house beautiful with plants, birds and animals.

Can I do this?

- | | |
|-----------------------------------------------------------------------------------------------|----------|
| 1. I can explain about the construction of a house, materials required and types of houses. | Yes / No |
| 2. I can ask a mason questions about the construction of houses. | Yes / No |
| 3. I can collect, tabulate and explain the information on houses. | Yes / No |
| 4. I can draw and explain the plan of our house. I can draw the picture of a beautiful house. | Yes / No |
| 5. I can appreciate the hard work of workers. I can work for bio- diversity. | Yes / No |