



Master Lesson Plan

For

Blow Hot Blow Cold

Board	Standard	Subject	Chapter	Language	Reference Link	Creation date
CBSE	STD V	EVS	Blow Hot Blow Cold	English	Blow Hot, Blow Cold	2020-07-20 17:35:25

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Blow Hot Blow Cold

1. MS_Objectives _Blow Hot, Blow cold

Students will be able to ..

- take delight in the story by Dr. Zakir Hussain
- describe the story of 'Blow Hot, Blow Cold'
- explore the various conditions that influence the temperature of the air blown out
- investigate the reasons for the various changes in the condition of air
- relate blowing of air to the various day to day activities
- connect the observations to the flow of air
- realise that their parents love them despite showing anger on them at times
- demonstrate the production of sound through a musical instrument
- summarise scientifically the reasons behind various concepts covered in the chapter

Time to teach	Asset Type	Theme	SubTheme
2 Minutes	Main Script	EVS_Education	Experiments with air , Experiments with air

2. Story by Dr. Zakir Hussain



- Our third President Dr. Zakir Hussain narrated a wonderful small story about a woodcutter's magical breath which opens the mystery of the simplest things in life.
- Dr Zakir was a doctor of economics. Though being an economist he came down to the level of children to explain difficult concepts of science in simple terms.
- The name of the book is 'Blow hot Blow cold'.
- This book is about how you can blow on one thing to warm it up, and blow on another thing to cool it down! It was translated into English by the author's great-granddaughter Samina Mishra.

Image source:

https://commons.wikimedia.org/wiki/File:DR._ZAKIR_HUSAIN_-_PICTORIAL_BIOGRAPHY_0005.jpg: Public domain

Time to teach	Asset Type	Theme	SubTheme
2 Minutes	Interesting Asides	EVS_Education	Experiments with air , Experiments with air

3. Blow hot blow cold

Do you know the story of Blowing Hot, Blowing Cold written by Dr Zakir Hussain, the former President of India?

The story goes like this.....

There was a woodcutter. He went to the forest to cut some wood. He was feeling cold in the deep forest and so he blew on his hands. Little Mian Balishtiye watched the woodcutter. Little Mian Balishtiye was curious. So he went and asked the wood cutter why he was doing so. The wood cutter told Little Mian Balishtiye, "...I blow on them to warm them up,". Mian Balishtiye was surprised. He silently went back and hid behind the trees to observe the wood cutter again.

In the afternoon the wood cutter felt hungry. He made chulha with stone and dried leaves. He lit the fire, and put on the vessel with potatoes to boil. The wood was little wet and so it did not catch fire quickly. So the wood cutter blew out air through his mouth and the wood caught fire. Mia was shocked to see this. He thought that the wood cutter blew out fire from the mouth. A little later, the woodcutter took out the cooked potato for himself and blew on it to cool it down. The little man is confused. "...the potato is already hot. he asked the wood cutter, Why do you want to make it hotter?" The woodcutter told him that he was blowing on it to cool it down.

Blow hot, blow cold – with the same breath? Impossible! Little Mian Balishtiye was worried and begins to tremble with fear, thinking that the woodcutter was either a ghost or a djinn and ran away.

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Main Script	EVS_Education	Experiments with air , Experiments with air

4. Air blown out

[Notes to the teacher - Teacher may enable the students to think and come out with as many answers as possible before giving out the right answer/ answers]

Question1: Why is the child blowing air while drinking hot milk?



Suggested Answer: The child is blowing over the hot milk to cool it down quickly.

When the milk is hot, the steam that comes out from the hot milk heats up the air around it. The water vapour from our mouth blows away the warm air, and cooler air takes its place. This helps the hot milk to cool faster.

Question 2: Why do we blow into our hands in winter?

Suggested Answer:

We blow into our hands in the winter to keep them warm. Our hands are cool but our breath is warm. When we blow the warmer breath from our mouth it warms our cold hands. By blowing into our hands, we trap a pocket

of hot air and use that to transfer heat to our cold fingers.

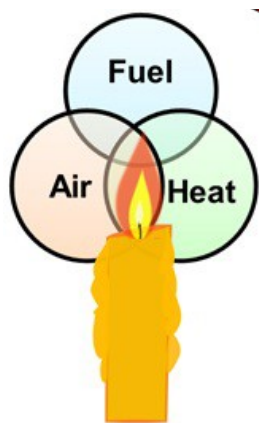


Question 3: What happens when you blow hard on a burning candle?



Suggested Answer:

(Teacher Notes: Teacher to elicit the answers from the students and then play the video embedded in the PPT) It gets blown out.



The 3 essential factors for fire to burn are: Air, heat and fuel. If any one of these factors is removed, it will put out the fire.

The flame and heat of the fire come from burning fuel i.e. wax. When you blow hard on a burning candle, your breath blows away some of the hot air around the flame. The candle won't get enough heat and air. The liquid wax cools down enough (below the temperature required for burning) and the flame gets blown out.

Question 4: In winter we put our hands inside the pocket of our woollen coat. Give reason.



Answer. The cool air supply is cut off as wool is a bad conductor of heat.

Question 5. When we place our hands at a distance and blow on them, does the air from the mouth feel warm? Why?

Answer: When we put our hands at some distance from the mouth and blow on them, it does not feel much warm because when air travels from our mouth to the hands, gets mixed with the outside air, it gets cooled.

Image Source:

Girl blowing tea : OS (USING PHOTOSHOP/HAND DRAWN SKETCH)
ABC Author: Ms. Dimple Anand

ABC ITV: Ms. Divya

Boy blowing candle: Original Contribution: VAST Dig-

Original Contribution

Candle -CC- <https://pixabay.com/en/candle-flame-fire-heat-light-149785/>

Girl putting hand in pocket: ORIGINAL (SELF CLICKED) ABC

Author: Ms. Dimple Anand

ABC ITV: Ms. Divya

Time to teach	Asset Type	Theme	SubTheme
10 Minutes	Inquisitive Questions	EVS_Education	Experiments with air , Experiments with air

5. Effects of air blown

Aim: To investigate the effects of hot and cold air on an object.

Materials required:

1. Circular sheet of paper - 10-15 cm wide
2. Thread
3. Burning candle
4. Pair of scissors
5. Stationery (Pencil, scale and compass)

Setting for the Activity: **[Indoor]**

Type of Activity: **[Experiment]**

It is an experiment which will be conducted by students only under the supervision and guidance of teacher.

Procedure:

- Divide the class into groups of 4 students.

- For this take a circular sheet of paper having radius of 10 cms wide. Cut this paper in a spiral shape To hold this snake tie a thread on both sides.
- Tie a knot or a button to make it hang. Now the snake is ready to move.
- Hang this snake near a hot object. For this you can take hot tea, water or a burning candle. Now see from the top, in which direction the snake moves.
- Hang the snake under a moving fan.
- Let the child note down his observations in both the situations.



Observation: The spiral snake starts moving when it is taken near the burning candle. It also moves when under the fan.

Conclusion: Hot air rises up, being lighter. Cold air moves downwards being denser.

Instructions to Teacher: (If any – Optional)

If round paper is not available teacher can take a square sheet of paper and then cut it to a round shape taking radius of 10 cm with scale and compass.

Other options for hot air could be

- Hot water or hot tea

Precautions:

Be careful while using hot objects like burning candle or hot tea.

Instructions to Teacher include:

- It will be a group based activity.
- Materials should be arranged beforehand on a table
- Students should be first shown the power point presentation to give a clear idea of activity.

Please play the video attached. The video is 1 minute 56 seconds.

I. Post discussion questions.

1) How does the snake move when it is taken near the candle?

Answer: The snake moves upwards when it is taken near the hot candle. It will move in a clockwise direction.

2) What happens when the snake is under the fan?

Answer: The snake moves downwards i.e. it will move anti clockwise.

Image source:

OC: Author: Ms. Shalini
 Dewan ITV: Ms. Divya
 Video source:
 OC: Author: Ms. Shalini
 Dewan ITV: Ms. Divya

Time to teach	Asset Type	Theme	SubTheme
20 Minutes	Suggested Activity	EVS_Education	Experiments with air , Experiments with air

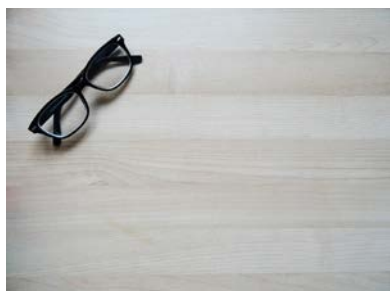
6. Benefits of blowing air

A few day to day relevant activities which involves blowing air are

- 1) Blowing air to cool the coffee or tea we have early in the morning.



- 2) Spectacles are sometimes cleaned by blowing air onto it.



When we blow air 2-3 times on the glasses, the glasses of the spectacles become hazy because the water vapour present condenses and becomes water drops on the glasses. It becomes easy to clean them.

- 3) Remember we rub our hands during winter to warm ourselves.



- 4) A blow dryer or hair dryer is used to dry the wet hair. It is a device designed to blow hot air and dry your hair.



- 5) Blowing of conches during pujas.



- 6) It's your friend's birthday party. You blew air to inflate a balloon, to blow the candles out, play with bubbles /pin wheel make sound using paper whistles.



- 7) In villages chullas are used to kindle the fire for cooking food.



- 8) A few common Indian musical instruments work on the principle of blowing air.

The snake charmers' pipe or been is a practice of pretending to hypnotise a snake by playing an instrument called PUNGI. The pungi, also called the been or bin, is a wind instrument played by snake charmers in India and Pakistan.



A flute is a musical instrument that produces sound when a stream of air is directed against the edge of a hole, causing the air within the body of the instrument to vibrate.



The nadaswaram or the shehnai



The nadaswaram and shehnai are wind instruments.

SAXOPHONE and **Trumpet**: These wind instruments are becoming very popular nowadays. Do you remember the band master playing the latest songs using the trumpet in the marriage procession?



Have you heard the song **JAANEWALON ZARA, MUDKE DEKHO MUJHE** (Film: **DOSTI** of 1964), . The tune of the song is played on the mouth organ also known as **HARMONICA**. Remember Amitabh Bachchan playing mouth organ in **Sholay**.

Image source:

Girl blowing tea : OS (USING PHOTOSHOP/HAND DRAWN SKETCH)

ABC Author: Ms. Dimple

Anand ABC ITV: Ms. Divya

<https://pixabay.com/photos/background-glasses-wood-background-2551501/>

Rubbing Hands: SSSVV Gallery (Keyword: Rubbing Hands)

<https://www.pexels.com/photo/person-holding-grey-hair-dryer-973406/>

<https://pixabay.com/photos/shell-puja-hindu-hinduism-culture-4718198/>

<https://pixabay.com/vectors/soap-bubbles-soap-bubbles-child-154127>

Woman Cooking: SSSVV Gallery (Keyword: Cooking)

Snake Charmer: SSSVV Gallery (Keyword: Snake Charmer)

Flute: SSSVV Gallery (Keyword: Musical Instrument)

Playing Nadaswaram: SSSVV Gallery (Keyword: Musical Instrument)

Trumpet: SSSVV Gallery (Keyword: Musical Instrument)

Time to teach	Asset Type	Theme	SubTheme
5 Minutes	Day-to-day Relevance	EVS_Education	Experiments with air , Experiments with air

7. Flow of air

Aim: To understand the concept that the direction of flow of air is same as that of movement of an object.

Resources Required: Two papers (thick papers, not the notebook paper), tub/big tray, water, cello tape.

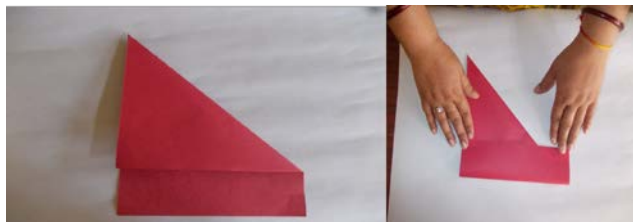
Setting for the Activity: Indoor

Type of Activity: Experiment Procedure:

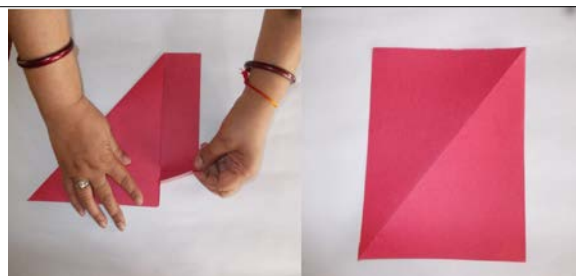
- To make a paper boat: - 1. Take a sheet of paper.



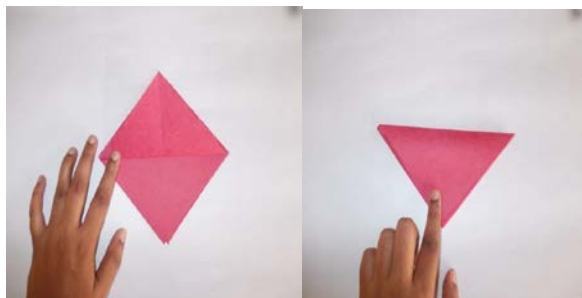
1. Make the following folds:-



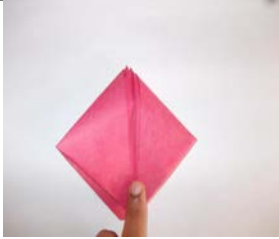
2. Make the paper in the following manner:-



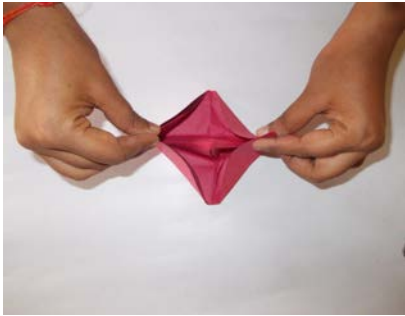
3. Make the following folds:-



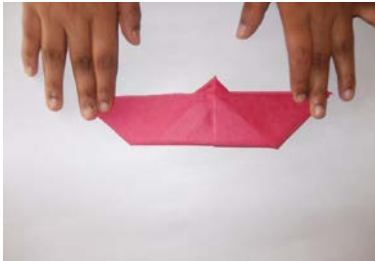
4. Take this last fold:-



5. Stretch the two ends in the following manner:-



6. Crease it.



7. The boat is ready.



8. Take the thick paper sheet and roll it in the form of a pipe and stick the edge with the cello tape.



9. Take a water filled tub/tray (water should be filled till the top of the tub) and put the paper boat on the water (Paper boat will start floating on the water).



Blow air through the paper pipe in one direction. Blow air through the paper pipe in another direction.

Observation: The paper boat is seen moving when air is blown through the pipe.

Conclusion: The direction of flow of air is responsible for the flow of any object in that direction.

Instructions to Teacher:

- 1) This activity can be a group activity. Teacher can do it and show it to the children.
- 2) We can use the front cover of an old book to make the boat. Since the front cover has a plastic lamination on one side of the paper, the paper boat can float for a longer time.

Precautions:

When the student/teacher blows the air, the inclination of the paper pipe should be towards the bottom of the boat (as shown in the picture), otherwise the boat will lose its balance.

Post discussion questions:

- 1) In what direction does the paper boat move?

Suggested Answer: In whichever direction the air is blown, the paper boat moves in that direction.

OC:Archana malviya

Time to teach	Asset Type	Theme	SubTheme
20 Minutes	Suggested Activity	EVS_Education	Experiments with air , Experiments with air

8.Love for Parents

You cool your hot tea by blowing on it. At the same time, you warm your cold hands by blowing on it. From this we understand that the air coming out of our mouth can be cold or hot as compared to the temperature outside.

It is the same with your parents and you. Your parents might become hot and scold you at times. They might show their anger on you perhaps because you did not listen to them or you did something wrong. Does it mean that they do not love you? Not at all. They care for you. They want you to become good human beings. They are the ones who love you and hug you when you make them feel proud. Be assured, they are the ones who would support you till their lifetime.

Let us learn a song today.

Song: My parents really love me

My parents really love me I know that this is right
 And when they say do this do that I should do it without a fight
 Sometimes I may not listen I may think it's unfair
 But what I must try to understand Is they do it because they care

Audio link: <http://sssbpt.org/audio/EHV/Track1.mp3>

Time to teach	Value Type	Value Sub Type	Value Attribute
10 Minutes	Love		Songs

9. Production of sound

Aim: To demonstrate the production of sound through flute.

Materials required:

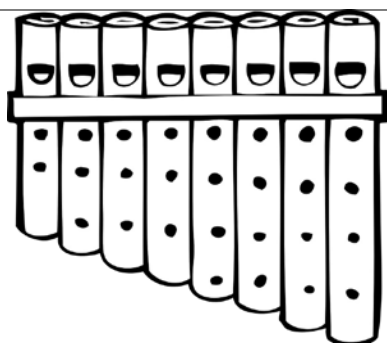
- 8 plastic drinking straws sticky tape
- scissors a ruler
- pen or pencil

Setting for the Activity: [Indoor]

Type of Activity: [Project]

Procedure:

1. Arrange all your materials on the table.
2. Start by cutting first straw at 20 cm.
3. Then the next straw will be 2 cm shorter, at 18 cm.
4. Cut each straw 2 cm shorter than the last until you have cut them all.
4. Line up your straws from longest to shortest.
5. Tape all the straws together in the pan flute formation with the help of sticky tape.



Observation:

- The longest straw will be the deepest, will produce softest sound.
- The shortest straw will produce the highest sound.
- The order for sound production will be as follows: Softest to loudest sound.

Conclusion: Sound will be produced from the activity in increasing levels of loudness.

Instructions to Teacher:

1. Your child should blow across the top of the straws to get a sound.
2. Teacher could go around and help children in cutting straws.
3. it's better if the venue of the activity would be the classroom itself.

Precautions:

Children should cut straws appropriately and carefully.

Note to the teacher:

This video is for reference of teacher:

Here is a song played on straw pan pipes. The video is 36 seconds. It is attached. YouTube

Link: <https://www.youtube.com/watch?v=UHtJaFQdRos>

License: [Creative Commons Attribution license \(reuse allowed\)](#)

Source videos: [View attributions](#)

Joy to the World played on homemade pan pipes

Image source:

<https://pixabay.com/vectors/pan-pipes-flute-musical-instrument-33831/>

Time to teach	Asset Type	Theme	SubTheme
20 Minutes	Suggested Activity	EVS_Education	Experiments with air , Experiments with air

10. Blow hot blow cold - A recap

1.Choose the right answer from the following:

- 1) How many times does your heart beat in one minute?
a) 65 b) 80 c) 72 d) 60
- 2) Our breath is__than a hot soup.
a) Colder b) Hotter c) Ice cold d) None of the above
- 3)_____is used to listen to our heartbeat.
a) Barometer b) Stethoscope c) Thermometer d) All of the above
- 4) Whenever the air flows upward, the paper snake will move_____.
a) clockwise b) anticlockwise c) It won't move d) All of the above
- 5) Dr. Zakir Hussain was the___of India.

a) Prime Minister b) Chief Minister c) Home Minister d) President

Suggested Answer:

- 1) 72
- 2) Colder
- 3) Stethoscope
- 4) clockwise
- 5) President

a. Say whether True or False

- i. The cold air rises up while the hot air comes down.

Suggested Answer: False. The hot air rises up while the cold air comes down.

- ii. The air blown from our mouth is warm during winter season.

Suggested Answer: True

- iii. The chulha (a wood- or coal-burning kitchen stove) used for cooking is blown with air to decrease the supply of air.

Suggested Answer: False. The chulha used for cooking is blown with air to increase the supply of air.

- iv. Rice cools down when we spread it on a big plate.

Suggested Answer: True

- v. Tabla is a wind instrument.

Suggested Answer: False. Tabla is a percussion instrument.

b. Match the following:

When dal is kept under the fan	Wind instruments
Flute, Saxophone	Water vapours
The air we breathe out contains	It cools down
Breaths per minute	cold
	12-18

Suggested Answer

When dal is kept under the fan	It cools down
Flute, Saxophone	Wind instruments
The air we breathe out contains	Water vapours
Breaths per minute	12-18
	Cold

c. Answer the following questions:

- 1) Can you think where do we use the warmth from our breath?

Suggested Answer: When something enters our eyes we blow on our handkerchief and press it gently on the eyes.

- 2) Name any two instruments that produce sound when we blow into them?

Suggested Answer:: Flute, Clarinet

3) In what ways can you cool payasam/kheer?

Suggested Answer:

- i) By keeping under fan
- ii) By blowing air over it
- iii) By spreading on a big plate

4) Suresh blew hard on the mirror. The mirror turned hazy. Why?

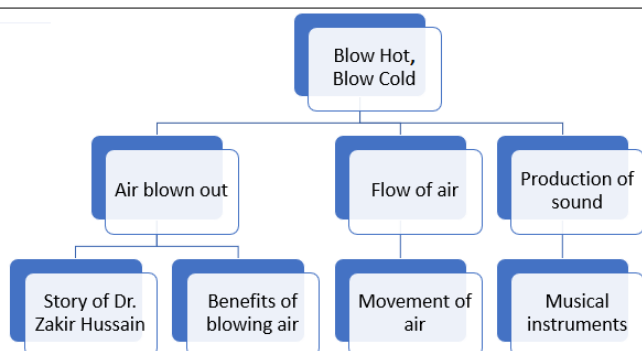
Suggested Answer: The water vapours from Suresh's mouth fell on the mirror and made the mirror hazy.

5) Naveen went to take a hot water shower. After he took his shower he observed water droplets on the mirror of his bathroom. Why?

Suggested Answer: When Naveen took a hot water shower, the water vapours from the hot air settled on the cold surface of the mirror. When the water vapours cooled they were seen as drops of water on the mirror.

Time to teach	Asset Type	Theme	SubTheme
15 Minutes	Assessments	EVS_Education	Experiments with air , Experiments with air

11. MS_Summary_Blow hot, Blow cold



Time to teach	Asset Type	Theme	SubTheme
2 Minutes	Main Script	EVS_Education	Experiments with air , Experiments with air