



Srini Science Mind
Abdul Kalam Physical Science Group



NEW

8th class

PHYSICAL SCIENCE

MODEL LESSON PLAN



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MODEL LESSON PLAN

CLASS: 08

SUBJECT: PS

Name of the Teacher: M.SRINIVASA RAO

Name of the School: A.G.K.M.H.School, Gudivada

| Name of the Lesson/Unit | Topic | No.of Periods Required | Timeline for teaching | | Any specific information |
|--|--|------------------------|-----------------------|------------|--------------------------|
| | | | From | To | |
| Combustion and Flame (Chapter-10) | What is combustion? | 4 | xx/xx/xxxx | xx/xx/xxxx | |
| | How do we control fire? | 1 | xx/xx/xxxx | xx/xx/xxxx | |
| | Types of combustion? | 1 | xx/xx/xxxx | xx/xx/xxxx | |
| | Flame | 1 | xx/xx/xxxx | xx/xx/xxxx | |
| | Structure of a flame | 3 | xx/xx/xxxx | xx/xx/xxxx | |
| | What is a fuel – Fuel efficiency and calorific values. | 2 | xx/xx/xxxx | xx/xx/xxxx | |
| | Burning of fuels leads to harmful products. | 2 | xx/xx/xxxx | xx/xx/xxxx | |

Prior Concept/Skills:

1. What fuels are used for cooking in your home?
2. What is needed to burn fuels?
3. Currently, what kind of fuels are used in vehicles for environmental protection?

Learning Outcomes:

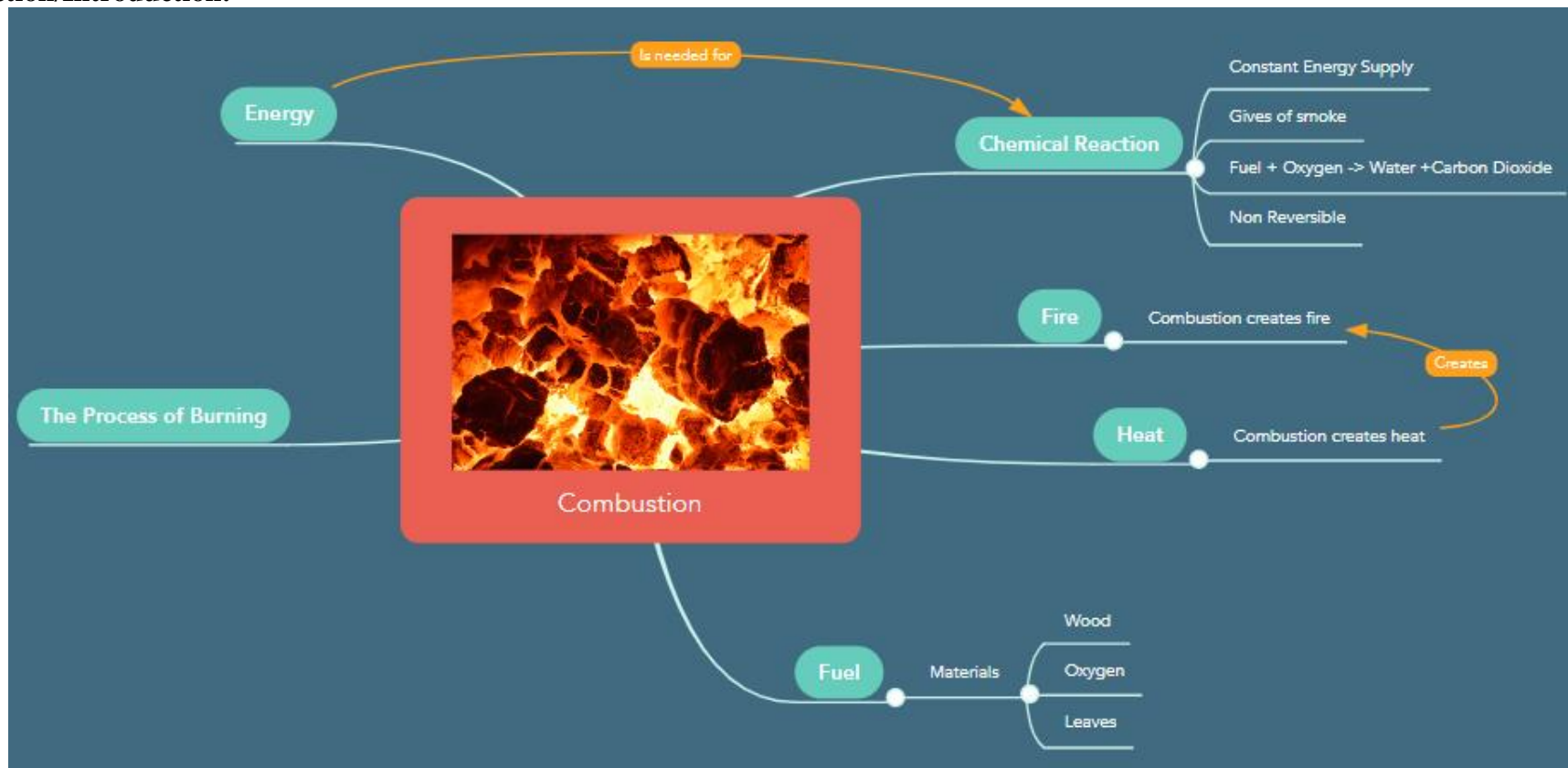
1. Differentiates materials as combustible and non-combustible substances based on chemical properties.
2. Differentiates materials as fuels based on their chemical properties.
3. Conducts simple investigations to seek answers to queries on the colours of a candle flame.
4. Conducts simple investigations to seek answers to queries, "What are the conditions required for combustion"?
5. Relates processes and phenomena with causes of formation of smoke when burning of fuels.
6. Constructs models using materials from surroundings and explains their working of fire extinguisher.
7. Applies learning of scientific concepts in day-to-day life of taking precautions when catching fire.
8. Explains processes of the structure of flame
9. Draws labelled diagram of different zones of candle flame
10. Draws a flow chart of calorific values of different fuels.
11. Makes efforts to protect environment about the burning of fuels leads to harmful products.
12. Classifies materials as forms flame and does not form flame based on the properties.

No. of Periods

- 1
- 1
- 1
- 1
- 2
- 1
- 1
- 2
- 1
- 1
- 1
- 1

TEACHING LEARNING PROCESS

Induction/Introduction:



Experience and Reflection:

1. Students know the dangers of burning fossil fuels and play their part in saving the environment.
2. Students will perform the precautions and duties to be taken in case of fire.
3. Students choose the best fuel for their daily life without polluting the environment.

| Explicit Teaching/Teacher Modelling (I Do) | Group Work (We Do) | Independent Work (You Do) | Notes for: |
|--|---|---|---|
| <ol style="list-style-type: none"> 1. Discussion and explain the concepts of combustion and fuel. 2. Conduct an activity on combustible and non-combustible substance like straw, matchsticks, kerosene oil, | <ol style="list-style-type: none"> 1. Students conduct an activity of burning of magnesium. 2. Collect information on combustible and non-combustible substances. | <ol style="list-style-type: none"> 1. Students will give examples of fuels. 2. Students investigate conditions under which combustion takes place | <ol style="list-style-type: none"> 1. How does combustion take place? 2. Why some substances are non-combustible in nature? |

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| <p>paper, iron nails, stone pieces, glass etc.</p> <p>3. Explain and conduct an experiment about air is essential for burning with help of candle, chimney and wooden blocks.</p> <p>4. Discussion and explain the forest fire and precautions to be taken when a person is exposed to fire.</p> <p>5. Explain the concepts of Ignition Temperature and inflammable substances.</p> <p>6. Discussion and explain How do we control fire</p> <p>7. Explain the working and importance of fire extinguishers.</p> <p>8. Explain types of combustion.</p> <p>9. Conduct experiment on Candle, Magnesium, Camphor, Kerosene stove and Charcoal materials forming flame on burning.</p> <p>10. Explain and conduct an activity on the Structure of a flame with help of light a candle.</p> <p>11. Explain the concepts of fuel and ideal fuel.</p> <p>12. Discussion and explain fuel efficiency.</p> | <p>3. Students conduct experiments in presence of the teacher.</p> <p>4. Group discussion on “forest fire and prevention steps”.</p> <p>5. Students will read the history of the matchstick.</p> <p>6. Students collect the phone numbers of the nearest fire services.</p> <p>7. Students visit to nearest fire services.</p> <p>8. Students will draw the flow charts of combustible and non-combustible substances.</p> <p>9. Students observe the different zones of flame by lighting a candle.</p> <p>10. “Difference between fuel and ideal fuel” – Group discussion.</p> <p>11. Students draw a flow chart of calorific values of different fuels.</p> | <p>3. Students will give reasons, why air or oxygen is essential for burning.</p> <p>4. Students complete the homework.</p> <p>5. Students will give examples of inflammable substances.</p> <p>6. Students will give reasons, Why water is used by firemen</p> <p>7. Students explain the working of fire extinguisher.</p> <p>8. Students write the definitions of types of combustion.</p> <p>9. Students complete the homework.</p> <p>10. Students draw the structure of flame.</p> <p>11. List out the ideal fuel characteristics.</p> <p>12. What is the calorific value of fuel?</p> | <p>3. How the air is important for burning?</p> <p>4. Which type of combustion is forest a fire?</p> <p>5. Define ignition temperature.</p> <p>6. How can you control fire?</p> <p>7. What gas is inside fire extinguisher?</p> <p>8. What are the 3 types of combustion?</p> <p>9. Why is the innermost zone of flame not hot?</p> <p>10. Which fuel is known as ideal fuel?</p> <p>11. Write the S.I unit of the calorific value of a fuel.</p> |
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| 13. Discussion and explain global warming and acid rain among the results of burning fuels. | 12. Discuss on “Global warming “ | 13. Students will expand CNG. | 12. What is acid rain? |
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| Check For Understanding Questions | TLM’s (Digital + Print) |
| <p>1. Factual:</p> <ol style="list-style-type: none"> 1. What are the properties of an ideal fuel? 2. Do all the fuels burn with flame? 3. What is the significance of calorific value of fuel? <p>2. Open Ended/Critical Thinking:</p> <ol style="list-style-type: none"> 1. Why coal does not produce flame on burning? 2. Why do flames change color? 3. Why are fire extinguishers red? <p>3. Student Practice Questions & Activities:</p> <ol style="list-style-type: none"> 1. Give reasons. <ol style="list-style-type: none"> (a) Water is not used to control fires involving electrical equipment. (b) LPG is a better domestic fuel than wood. (c) Paper by itself catches fire easily whereas a piece of paper wrapped around an aluminium pipe does not 2. Explain how CO₂ is able to control fires. 3. Which zone of a flame does a goldsmith use for melting gold and silver and why? 4. List conditions under which combustion can take place. | <ol style="list-style-type: none"> 1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App. 4. You Tube video’s link |
| <p>Assessment:</p> <ol style="list-style-type: none"> 1. Make a labelled diagram of a candle flame 2. Explain the term “global warming” 3. Give two examples each for a solid, liquid and gaseous fuel along with some important uses. 4. Why is the wood used as a fuel in villages? What are the disadvantages of using wood as a fuel? | |

SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEADMASTER

VISITING OFFICER WITH REMARKS