



CHEMISTRY

NCERT - NCERT Chemistry(TELUGU)

METALS AND NON-METALS

Example

1. Explain the physical properties of metals with suitable examples.



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2. You are given two samples. How do you distinguish which one is metal and which is non-metals?



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3. Which metals are used in making jewellery?
Why?



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4. Which substance liberates hydrogen when reacts with metals?



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5. In a chemical reaction iron is unable to displace zinc from zinc sulphate. Why?



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6. Why cooking pans don't have metal handles?



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7. Sulphur dioxide is.....

A. basic oxide

B. acidic oxide

C. neutral oxide

D. amphoteric oxide

Answer:



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8. Match the following.

- | | | |
|----------------------------|-----|-----------------|
| 1) Making into thin sheets | () | a) ductility |
| 2) Shining materials | () | b) conductivity |
| 3) Making into wires | () | c) sonority |
| 4) Transmission of heat | () | d) lustrous |
| 5) Making ringing sound | () | e) malleability |



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9. Which gas makes a pop sound if exposed to lighted matchstick?



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10. Why are bells made up of metals instead of wood?



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11. Write any three physical characteristics of non-metals.



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12. What is lustrous?



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13. What is ductility?



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14. What is malleability?



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15. What is sonorous?



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16. What is an element?



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17. What is an alloy? Describe any one alloy.



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18. Non metals not react with water. How does this fact is utilized to store reactive non-metals?



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19. What are the elements present in our body?



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20. What is corrosion? How does it effect different metals?



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21. Imagine the human life without metals, write briefly about the consequences.



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22. After completion of metals and non metals chapter. Raheem understood that metals are hard and non metals are soft. During the discussion with his brother he came to know that Diamond is a hardest material and it is a non metal. Similarly mercury is a soft material

and it is a metal. These findings from the discussion raised some questions in Raheem's mind. Can you guess those questions? Write them. (AS_2)



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23. Is all lustrous materials are metals?



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24. Do you think coal is sonorous?



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25. Silver is the best conductor of electricity. Can you say why silver electric wires are not made?



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26. Discuss the acidic and basic nature of the metals and non-metals with suitable experiments.



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27. Why aluminium is used to make electrical wires?



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28. Why do we use iron in constructing bridges and houses?



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29. Explain the reactivity of metals?



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30. How do different metals react with water?



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31. Why does an iron gain weight on rusting?



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32. Copper cannot displace zinc from its salt solution. Give reason.



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33. Sodium and potassium are stored in kerosene. Why?



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34. Can you store pickles in metal utensils? Explain.



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35. Explain the condition of heat.



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36. What will happen when iron nails dipped in copper sulphate solution?



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37. Mirror is not a metal. Why?



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38. Do you think coal is sonorous?



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39. what is terricot?



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40. What do you mean by malleability of metals?



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41. What do you mean by ductility?



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42. Name two metals which are both malleable and ductile.



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43. Name a metal which exists in liquid state.



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44. Which metal is the best conductor of electricity?



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45. Name a non-metal which is good conductor of electricity and heat.



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46. Which metal foil used in packing of some medicine tablets?



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47. Name the hardest material.



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48. Oxides of non-metals generally of which nature?



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49. How do non-metals generally react with acids?



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50. State three reasons for counting coal and sulphur amongst non-metals.



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51. How do you appreciate wide range utility of aluminium right from utensils to space craft?



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52. What are the uses of non-metals?





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53. How is malleability of metals used in our daily life?



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54. Dumping of waste material made up of metals and non metals leads to environment pollution. Do you support the statement? Give your justification with suitable examples.



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55. Which of the samples did not shine even after you cleaned them with sand paper ?



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56. Observing appearance and colour of some materials:

Generally metals are lustrous. Do all lustrous materials are metals?



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57. Observing appearance and colour of some materials:

We all know that mirror is lustrous. Can a mirror be called metal?



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58. Depending on sonorous property, fill the empty box.

Material Sample that Produce sound	Material Sample that do not Produce sound.



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59. what is the full form of PET and HDPE,LDPE



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60. Identifying malleability of material:

What is the property of drawing material to make wire is called?



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61. Identifying malleability of material:

What is the property of drawing material to make wire is called?

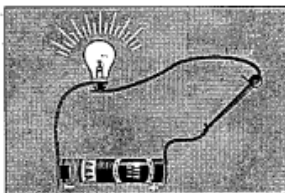


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62. Identifying the electric conductivity of a material:

Arrange an electric circuit with a battery and bulb. Close and circuit using an iron nail as shown in figure. Observe whether the bulb glows or not. Record your observations in table Repeat the same experiment using the other samples and record your observation in the same table.

Sample	Bulb glows (yes/no)
Iron	
Zinc	
Copper	
Sulphur	
Aluminium	
Carbon	
Magnesium	
Iodine	





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63. Observing heat conduction by metals:

Take an iron rod. Stick pins on it with the help of wax. Now fix the rod to a stand. Heat one end rod with a spirit lamp and see how the pinds fall off.

Why did the pins fall from iron rod?



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64. Observing heat conduction by metals:

Take an iron rod. Stick pins on it with the help of wax. Now fix the rod to a stand. Heat one end rod with a spirit lamp and see how the pinds fall off.

Pin of which end fell first?



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65. Observing heat conduction by metals:

Take an iron rod. Stick pins on it with the help

of wax. Now fix the rod to a stand. Heat one end rod with a spirit lamp and see how the pinds fall off.

Pin of which end fell first?



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66. Write an experiment to know the reaction of oxygen with metals and non-metals.



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67. How will you close the circuit using sulphur, carbon or iodine ? They may be in powder form. Try to tightly pack the powder in a straw and use it . Think of other ways!



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68. Can you name some objects made of metals?



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69. Did any of your friends add steel to the list of metals?



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70. Do you think that steel is a metal



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71. Now observe carefully all the materials that you have listed above as metals: Do all these

look alike ?



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72. Now observe carefully all the materials that you have listed above as metals: Do all of them shine ?



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73. Now observe carefully all the materials that you have listed above as metals: Are they hard

or soft ?



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74. Now observe carefully all the materials that you have listed above as metals: Do they break easily?



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75. Now observe carefully all the materials that you have listed above as metals: Can you group

materials into two categories by looking at their properties ?



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76. Have you observed material used to make school bell or bells in temple?



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77. Why are wooden bells not used in schools?



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78. Do all materials produce sound when they dropped on hard surface?



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79. Which property of metals first attracted the attention of human beings?



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80. Do you bring a similar change in the shape of a clay material by beating it?



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81. Is ductility the only property of metal to use them as connecting wires in electric circuits?



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82. You might have seen an electrician while using the screwdriver.

What materials does it contain?



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83. You might have seen an electrician while using the screwdriver.

Why does a screwdriver used by electricians not have metal handle?



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84. When do you notice a pop sound is a chemical reaction?



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85. What are metals?



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86. Explain the term sonority





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87. Why are metals good conduction of heat and electricity?



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88. Why some metals are used for making cooking vessels?



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89. What are non-metals?



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90. State the four important physical properties of non-metals.



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91. List three difference in the physical properties of metals and non-metals.



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92. Give an example of a metal which:

Is a liquid at room temperature



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93. Give an example of a metal which:

Can be easily cut with a knife.



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94. Explain the meanings of malleable and ductile.



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95. Between copper and sodium which metal is more reactive? Why?



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96. Which is an amphoteric oxide ?



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97. Write any two chemical properties of metals.



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98. Give reasons for the following.

Platinum, gold and silver are used to make jewellery.



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99. Give reasons why copper is used to make hot water tanks and not steel (an alloy of iron).



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100. Which metals do not corrode easily?



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101. Choose the acidic oxides, basic oxides and neutral oxides from the following $\text{NO}_2, \text{Na}_2\text{O}, \text{CO}_2, \text{CO}, \text{SO}_2, \text{H}_2\text{O}, \text{MgO}, \text{CaO}$



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102. Name any two metalloids



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103. Name the non-metal which is liquid.



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104. Name one non-metal which is quite hard.



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105. Which is the most abundant non-metal on the earth's crust?



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106. Name one non-metal with metallic lustre.



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107. Name the metals which are both good conductors of heat and electricity.



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108. Name the best malleable metals.



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109. Why is copper used in silver coins?



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110. Name one non-metal that is kept in water.



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111. Out of silver and copper, which is better conductor of electricity?



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112. Name a metal that burns in air?



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113. Which gas makes a pop sound if exposed to lighted matchstick?



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114. Which substance liberates hydrogen when reacts with metals?



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115. Name a non-metal which is good conductor of electricity and heat.



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116. Is coal sonorous?



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117. Do all metals react with water?



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Exercise

1. You are given two samples. How do you distinguish which one is metal and which is non-metals?



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5. What do you mean by malleability of metals?



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7. How is malleability of metals used in our daily life?



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8. The metal which is liquid at room temperature

A. Sodium

B. Bromine

C. Calcium

D. Mercury

Answer:



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9. A non-metal which is liquid at room temperature

A. Bromine

B. Chlorine

C. Iodine

D. Carbon

Answer:



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10. The most reactant metal

A. Copper

B. Silver

C. Calcium

D. Potassium

Answer:



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11. The metal which is stored in kerosene

A. Calcium

B. Magnesium

C. Sodium

D. Zinc

Answer:



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12. Metal which is used to make jewellery

A. Platinum

B. Silver

C. Gold

D. All the above

Answer:



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13. Metals are generally

A. Soft and brittle

B. Hard and solid

C. Liquid

D. Brittle

Answer:



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14. Bells are made of

A. Metalloids

B. Metals

C. Non-metals

D. All

Answer:



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