**PAI PARVAAZ DIVISION**

**YEAR 2018 - 2019**

 **Links of Science and Technology**

**CLASS - IX (ENGLISH MEDIUM)** **Teacher’s Name: Fahim Ara Sk.**

|  |  |  |  |
| --- | --- | --- | --- |
| Sr.no | Names of Lesson | Sub topic | Link |
| 1 | Laws of Motion | * -Displacement and distance
* Speed and velocity
* Acceleration
* -Uniform circular motion

-Newton’s laws of motion-Law of conservation of momentum  | <https://www.youtube.com/watch?v=rOC2poJHSFY><https://www.youtube.com/watch?v=KQPQOVLoXpg><https://www.youtube.com/watch?v=vxFYfumAAlY><https://www.youtube.com/watch?v=CuLJLM0g94Y><https://www.youtube.com/watch?v=-ZbKiuoypd4><https://www.youtube.com/watch?v=xEl2AcnyvC4><https://www.youtube.com/watch?v=Onmfi-yt9DM> |
| 2 | Work and Energy | -Work-Energy-Mechanical energy-Law of conservation of energy-Free fall | <https://www.youtube.com/watch?v=i2MFGYuYm8E><https://www.youtube.com/watch?v=IqV5L66EP2E><https://www.youtube.com/watch?v=agwoD6ttNRg><https://www.youtube.com/watch?v=wBprdpu8z-k><https://www.youtube.com/watch?v=CmttxT1Wl1M><https://www.youtube.com/watch?v=6tiLCYDl3OI><https://www.youtube.com/watch?v=QLw1kk6p_sM><https://www.youtube.com/watch?v=rK71PSOxM_s><https://www.youtube.com/watch?v=KT6y1kn_xeU><https://www.youtube.com/watch?v=OkyUsF1MoCw><https://www.youtube.com/watch?v=coj7uRiqqf4><https://www.youtube.com/watch?v=z_sJ15feNGw> |
| 3 | Current Electricity | * Potential and potential difference
* conductors and insulators

electrical resistance and Ohm’s Law-connection of resistors and effective resistance | <https://www.youtube.com/watch?v=YHl3-n21xXI><https://www.youtube.com/watch?v=UHkLV3YRQnQ><https://www.youtube.com/watch?v=ZgDIX2GOaxQ><https://www.youtube.com/watch?v=kNuikunCt7I><https://www.youtube.com/watch?v=kBPbx3zMUwg><https://www.youtube.com/watch?v=iLzfe_HxrWI&t=32s><https://www.youtube.com/watch?v=F_vLWkkOETI><https://www.youtube.com/watch?v=lMWoDXJJugQ><https://www.youtube.com/watch?v=ZpQxHeEZjDM> |
| 4 | Measurement of Matter | * Laws of chemical combunation
* Law of constantproportion
* Atom- shape, mass,valency
* Molecular mass and the concept of mole
* radicals
 | <https://www.youtube.com/watch?v=KSZuSHX--Vw><https://www.youtube.com/watch?v=KSZuSHX--Vw><https://www.youtube.com/watch?v=pEX8S-s5VCw><https://www.youtube.com/watch?v=qT2LvbiprKg>[www.youtube.com/watch?v=XIxS2C\_0tPc](http://www.youtube.com/watch?v=XIxS2C_0tPc)<https://www.youtube.com/watch?v=FcIVPVLt2L4><https://www.youtube.com/watch?v=QLw1kk6p_sM><https://www.youtube.com/watch?v=AsqEkF7hcII><https://www.youtube.com/watch?v=brmP4jOrRiE><https://www.youtube.com/watch?v=-1kKUvfZRRs> |
| 5 | Acids, Bases and Salts | * Arrhenius theory of acids and bases
* Concentration of an acid or a base
* pH of a solution
* pH of an acid and a base
* Salts
* Water of crystallization
* Electrolysis of water
 | <https://www.youtube.com/watch?v=vwDSeabSd1M><https://www.youtube.com/watch?v=ej_8DABEVMQ><https://www.youtube.com/watch?v=J9JOrwUF7II><https://www.youtube.com/watch?v=Xeuyc55LqiY><https://www.youtube.com/watch?v=3x6X-YBBcfs><https://www.youtube.com/watch?v=gW9hUBB5Rl4><https://www.youtube.com/watch?v=suqmTWqC7Fw><https://www.youtube.com/watch?v=wDbB1v3A1SY> |
| 6 | Classification of Plants | * Kingdom plantae
* Basis of classification
* Cryptogams
* Thallophyta
* Bryophyta
* Pteridophyta
* Phanerogams
* Sub-kingdom: Gymnosperms
* Sub-kingdom: Angiosperms
 | <https://www.youtube.com/watch?v=vNdVlSqJojw><https://www.youtube.com/watch?v=kvtjFVgbicg><https://www.youtube.com/watch?v=SIxOqJWEYII><https://www.youtube.com/watch?v=Mvtm-215N5E><https://www.youtube.com/watch?v=AVzrTSbLXOU><https://www.youtube.com/watch?v=FmBZGx8fkp0><https://www.youtube.com/watch?v=zrTwihS89so><https://www.youtube.com/watch?v=30dxEVDtZ20><https://www.youtube.com/watch?v=NZASNyRWERk><https://www.youtube.com/watch?v=ufWWuHB3Ej4><https://www.youtube.com/watch?v=IenWODuqRtg><https://www.youtube.com/watch?v=AeRJ_JcQFc8><https://www.youtube.com/watch?v=n6daVHikI7Y> |
| 7 | Energy Flow in an Ecosystem | * Food chain and foodweb
* The energy pyramid
* Bio-geo-chemicalcycle
* Carbon cycle
* Oxygen cycle
* Nitrogen cycle
 | <https://www.youtube.com/watch?v=PWp_ju4nZg0>ttps://[www.youtube.com/watch?v=Cd1M9xD482s](http://www.youtube.com/watch?v=Cd1M9xD482s)<https://www.youtube.com/watch?v=0glkXIj1DgE><https://www.youtube.com/watch?v=GL84S6G5ft0><https://www.youtube.com/watch?v=E8Y6L5TI_94><https://www.youtube.com/watch?v=mUVX5rg1E0I><https://www.youtube.com/watch?v=GANUtrndL_U><https://www.youtube.com/watch?v=LbBgPekjiyc><https://www.youtube.com/watch?v=HOpRT8BRGtk> |
| 8 | Useful and Harmful Microbes | * Useful Microorganisms

Lactobacilli,RhizobiumYeast* Harmful micro-organism:

Clostridium and Other | <https://www.youtube.com/watch?v=vKveGmvBFqk> <https://www.youtube.com/watch?v=eiMyUl2E5Q8><https://www.youtube.com/watch?v=z-x12sUNVYg><https://www.youtube.com/watch?v=dCXdhczavGo><https://www.youtube.com/watch?v=vKveGmvBFqk&t=199s> |
| 9 | Environmental Management | Weather and climateMeteorologySolid waste managementDisaster management | [www.youtube.com/watch?v=7qLIAHXrP1g](http://www.youtube.com/watch?v=7qLIAHXrP1g)<https://www.youtube.com/watch?v=KDkeC4eOp3c><https://www.youtube.com/watch?v=iL74V3RZ6eo><https://www.youtube.com/watch?v=BGXTy3na8so><https://www.youtube.com/watch?v=ADMQOXnW3Sk> |
| 10 | Information Communication Technology(ICT) | * Important components of a computer
* Importance of information communication in science and technology
* Different types of software
* Opportunities in the field of computers
 | <https://www.youtube.com/watch?v=V9O2Jiqg5hE><https://www.youtube.com/watch?v=tXs5O1yGlg4><https://www.youtube.com/watch?v=tpR3JMnsOWo><https://www.youtube.com/watch?v=N70tyKDuIyE><https://www.youtube.com/watch?v=aLjRwg4otoA> |
| 11 | Reflection of Light | * Mirrors and types of mirrors
* Spherical mirrors and images formed by them
* Magnification due to spherical mirrors
 | <https://www.youtube.com/watch?v=plVN_Ef7dkk><https://www.youtube.com/watch?v=eY_VoB5VaGw><https://www.youtube.com/watch?v=T5sspQR4TIs&t=18s><https://www.youtube.com/watch?v=hyjDHxyMSCY><https://www.youtube.com/watch?v=7gIvYGeqnjw> |
| 12 | Study of Sound | * Sound waves
* Velocity of sound
* Reflection of sound
* Sonar
* Human ear, audible sound infrasound and ultrasound
 | <https://www.youtube.com/watch?v=KTzbt0NeCNc><https://www.youtube.com/watch?v=OtSpQoQE7BE><https://www.youtube.com/watch?v=1qw655p1zm0><https://www.youtube.com/watch?v=_H1abPcHFwk><https://www.youtube.com/watch?v=rYFydXHoK98><https://www.youtube.com/watch?v=C6ZQUmBg1eU><https://www.youtube.com/watch?v=4OC_2kgvNiI><https://www.youtube.com/watch?v=_tSiuRf-nTQ> |
| 13 | Carbon: An Important element | * Carbon : occurrence, properties, allotropes

 Diamond* Hydrocarbons
* Carbondioide and methane-occurrence, properties, uses
* Non crystalline form of carbon
* Preparation of carbon dioxide
* Physical and chemical properties of carbon dioxide
* Fire extinguisher
* Methane - occurence physical and chemical properties, uses
* Biogas plant
 | <https://www.youtube.com/watch?v=mGnC4BlsXEI><https://www.youtube.com/watch?v=w_3fvq4EYpE><https://www.youtube.com/watch?v=3fcNUoWuX2A><https://www.youtube.com/watch?v=1UE3hZ7cOP0><https://www.youtube.com/watch?v=Dx4504u6MBk><https://www.youtube.com/watch?v=j0suPpZAjwM><https://www.youtube.com/watch?v=8zF7nKX6wOY><https://www.youtube.com/watch?v=0sQCSB1j3cw><https://www.youtube.com/watch?v=kfe_72ysJYE><https://www.youtube.com/watch?v=rdKZLqTDeXA><https://www.youtube.com/watch?v=3kKC7uJ7pM4><https://www.youtube.com/watch?v=24Zxr2KHW6s> |
| 14 | Substances in Common Use | * Important salts in day to day life-Nacl, NaHCO3,Na2CO3
* Radioactive substances
 | <https://www.youtube.com/watch?v=tZ4lXxxcuwU><https://www.youtube.com/watch?v=6VT8eIMNLoU><https://www.youtube.com/watch?v=lbahel5bQDA><https://www.youtube.com/watch?v=VTHQYjkCqV0> |
| 15 | Life Processes in Living Organisms | * Transportation in Plant
* Excretion : Plants,
* Excretion Animals and
* Humans
* Co-ordination in human being
* Central nervous system
* Peripheral nervous system
* chemical control
 | <https://www.youtube.com/watch?v=bvPM6sfidY4><https://www.youtube.com/watch?v=J0hjnC14uM><https://www.youtube.com/watch?v=V44QlrTs7Mo><https://www.youtube.com/watch?v=7xDe2K8UFGM><https://www.youtube.com/watch?v=EhnRhfFLyOg&t=36s><https://www.youtube.com/watch?v=4ujRS5poCP8><https://www.youtube.com/watch?v=q9M2_0wwumo><https://www.youtube.com/watch?v=L6w0_j6mWbo><https://www.youtube.com/watch?v=DpKPBIncPvA><https://www.youtube.com/watch?v=HNk5JdMUmno> |
| 16 | Heredity and Variation | * Inheritance
* Heredity: characteristics and their appearance
* Types of chromosomes
* Mendel’s laws of inheritance
* Diseases due to chromosomal aberrations
* Albinism
* Sickle-cell anaemia
* Mitochondrial disorder
 | <https://www.youtube.com/watch?v=eEUvRrhmcxM><https://www.youtube.com/watch?v=AzKTatqhtMQ><https://www.youtube.com/watch?v=wcbc5LHHsDE><https://www.youtube.com/watch?v=oMvQSF2iVAk><https://www.youtube.com/watch?v=KDl8MN53jsA><https://www.youtube.com/watch?v=tnqO-mqfg8w><https://www.youtube.com/watch?v=V49g3Vj9RS8><https://www.youtube.com/watch?v=MLnJzs0BlhQ><https://www.youtube.com/watch?v=R4-c3hUhhyc><https://www.youtube.com/watch?v=p6IsPipOhjc><https://www.youtube.com/watch?v=QC_1kE4tsX><https://www.youtube.com/watch?v=yQiBXZenEkY> |
| 17 | Introduction to Biotechnology | * Tissues : animal tissues and plant tissues
* Types of epithelial tissues
* Types of connective tissue
* Types of muscular tissue
* Meristematic tissue
* Permanent tissue
* Types of simple permanent tissue
* Types of complex permanent tissues
* Biotechnoligy
* Tissue culture
* Agritourism
* Agri-business
 | <https://www.youtube.com/watch?v=otoiSr7lb88><https://www.youtube.com/watch?v=P3714_a3l0w><https://www.youtube.com/watch?v=Wa5cPlEzxr4><https://www.youtube.com/watch?v=GvU5bRQKgHc><https://www.youtube.com/watch?v=sfNBe9jCsT4><https://www.youtube.com/watch?v=lLnjo4Pf2JM><https://www.youtube.com/watch?v=KKgqNHaCxh8><https://www.youtube.com/watch?v=xSYLJIR6cGY><https://www.youtube.com/watch?v=euyvrLhmfJU><https://www.youtube.com/watch?v=xSYLJIR6cGY&t=53s><https://www.youtube.com/watch?v=caiv-O8c00E><https://www.youtube.com/watch?v=41CfMlpaRCQ><https://www.youtube.com/watch?v=yS_rg7rzkSQ><https://www.youtube.com/watch?v=BbmOA2HPYwo><https://www.youtube.com/watch?v=0lzOjd9Izn8><https://www.youtube.com/watch?v=xWUuDM1g4Rg><https://www.youtube.com/watch?v=B02jsCLwy1I><https://www.youtube.com/watch?v=LTDKgl8z6sA><https://www.youtube.com/watch?v=lg2Ub18XPs4> |
| 18 | Observing Space : Telescopes | * Forms of light
* Telescopes
* Optical telescopes
* Radio telescopes
* Telescopes in space
* Indian Space Research Organization(ISRO) Bengaluru
* Astrosat
 | <https://www.youtube.com/watch?v=CIWEJEYD-bg><https://www.youtube.com/watch?v=H-M_Td08aro><https://www.youtube.com/watch?v=LzII1f3pp-8><https://www.youtube.com/watch?v=o8scpyetXQE><https://www.youtube.com/watch?v=mL-BYWkY6m0><https://www.youtube.com/watch?v=yWxeSpZwF8s><https://www.youtube.com/watch?v=t3ta4uT0lWs&t=69s><https://www.youtube.com/watch?v=AxUR6UJalQw> |