Ch 8 Reels – Captions

Class 12 Biology Ch 8: Microbes in Human Welfare

Simple Learning Hub • 10 reels • Instagram + YouTube Shorts

REEL 01

Scientist ne plate nahi dhoyi... aur duniya ko mil gayi Penicillin! 🧫

📸 Instagram caption

Scientist ne plate nahi dhoyi... aur duniya ko mil gayi Penicillin! 🧫

✅ Penicillin duniya ki first antibiotic thi, aur ye chance discovery thi.

✅ Alexander Fleming ne Staphylococci ki unwashed culture plate mein mould dekha, jiske around bacteria grow nahi kar pa rahe the. Mould tha Penicillium notatum, chemical ka naam rakha Penicillin.

✅ Iska full potential Ernest Chain aur Howard Florey ne establish kiya. 1945 mein Fleming, Chain aur Florey ko Nobel Prize mila.

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TITLE: Scientist ne plate nahi dhoyi... aur duniya ko mil gayi Penicillin! 🧫 | Penicillin #shorts

DESCRIPTION:

👉 Penicillin duniya ki first antibiotic thi, aur ye chance discovery thi.

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REEL 02

Swiss cheese mein bade bade chhed... banata kaun hai? 🧀

📸 Instagram caption

Swiss cheese mein bade bade chhed... banata kaun hai? 🧀

✅ Swiss cheese ke large holes carbon dioxide ki large amount se bante hain.

✅ Ye CO_2 banata hai bacterium Propionibacterium sharmanii.

✅ Roquefort cheese ko specific fungi grow karke ripen kiya jaata hai, jo use particular flavour dete hain. Galti mat karna: Swiss = bacterium, Roquefort = fungi.

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TITLE: Swiss cheese mein bade bade chhed... banata kaun hai? 🧀 | Swiss Cheese Class 12 #shorts

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DESCRIPTION:

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👉 Ye CO2 banata hai bacterium Propionibacterium sharmanii.

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REEL 03

Aapke kitchen mein chupchaap bacteria ki factory chal rahi hai! 🥛

📸 Instagram caption

Aapke kitchen mein chupchaap bacteria ki factory chal rahi hai! 🥛

✅ Lactobacillus aur dusre lactic acid bacteria (LAB) doodh ko curd mein badal dete hain.

✅ LAB acids banate hain jo milk proteins ko coagulate aur partially digest karte hain. Thoda sa curd jo fresh milk mein daalte hain, use inoculum ya starter kehte hain.

✅ Curd banne se vitamin B12 badhta hai, aur stomach mein LAB disease-causing microbes ko check karte hain.

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▶️ YouTube Shorts

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TITLE: Aapke kitchen mein chupchaap bacteria ki factory chal rahi hai! 🥛 | Curd & LAB Class 12 #shorts

DESCRIPTION:

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REEL 04

Idli bhi phoolti hai, bread bhi... par microbe alag alag! 🍞

📸 Instagram caption

Idli bhi phoolti hai, bread bhi... par microbe alag alag! 🍞

✅ Idli aur dosa ka dough bacteria se ferment hota hai. Puffed-up look carbon dioxide gas ki wajah se.

✅ CO_2 banane wala pathway: fermentation.

✅ Bread ka dough baker's yeast Saccharomyces cerevisiae se ferment hota hai. Galti mat karna: idli = bacteria, bread = yeast.

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▶️ YouTube Shorts

TITLE: Idli bhi phoolti hai, bread bhi... par microbe alag alag! 🍞 | Idli vs Bread Class 12 #shorts

DESCRIPTION:

👉 Idli aur dosa ka dough bacteria se ferment hota hai. Puffed-up look carbon dioxide gas ki wajah se.

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REEL 05

4 acids, 4 microbes... yaad karne ki sabse easy trick! 🍋

📸 Instagram caption

4 acids, 4 microbes... yaad karne ki sabse easy trick! 🍋

✅ Aspergillus niger: citric acid. Trick "Na ja, na ja": niger, nimbu, citric acid.

✅ Acetobacter aceti: acetic acid (sirka). Clostridium butylicum: butyric acid. Lactobacillus: lactic acid.

✅ Galti mat karna: inme sirf Aspergillus niger fungus hai, baaki 3 bacteria hain.

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▶️ YouTube Shorts

TITLE: 4 acids, 4 microbes... yaad karne ki sabse easy trick! 🍋 | Acids Trick Class 12 #shorts

DESCRIPTION:

👉 Aspergillus niger: citric acid. Trick "Na ja, na ja": niger, nimbu, citric acid.

👉 Acetobacter aceti: acetic acid (sirka). Clostridium butylicum: butyric acid. Lactobacillus: lactic acid.

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REEL 06

Iss chapter ka sabse important sawaal... BOD kya hai? 💧

📸 Instagram caption

Iss chapter ka sabse important sawaal... BOD kya hai? 💧

✅ BOD = Biochemical Oxygen Demand: 1 litre paani ka saara organic matter bacteria oxidise karein, to jitni oxygen consume hogi.

✅ Zyada organic kachra = zyada oxygen ki demand = zyada BOD.

✅ Golden rule: the greater the BOD of waste water, more is its polluting potential.

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#simplelearninghub #bod #biochemicaloxygendemand #sewagetreatment #waterpollution #environment

▶️ YouTube Shorts

TITLE: Iss chapter ka sabse important sawaal... BOD kya hai? 💧 | BOD Class 12 #shorts

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REEL 07

Shehar ka gandaa paani... saaf kaun karta hai? 🚰

📸 Instagram caption

Shehar ka gandaa paani... saaf kaun karta hai? 🚰

✅ Sewage ka treatment koi chemical nahi, heterotrophic microbes karte hain jo sewage mein naturally present hote hain.

✅ Primary treatment = physical removal: floating debris sequential filtration se, grit (soil, pebbles) sedimentation se.

✅ Neeche settle hue solids = primary sludge, upar ka paani = effluent, jo secondary treatment mein jaata hai.

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TITLE: Shehar ka gandaa paani... saaf kaun karta hai? 🚰 | Sewage Treatment Class 12 #shorts

DESCRIPTION:

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REEL 08

Gaay ka gobar... aur usse jalta hai chulha! 🔥

📸 Instagram caption

Gaay ka gobar... aur usse jalta hai chulha! 🔥

✅ Biogas mein mainly methane hoti hai. Cellulosic material par anaerobically grow karne wale bacteria methane banate hain: methanogens, jaise Methanobacterium.

✅ Ye anaerobic sludge aur cattle ke rumen mein milte hain, isliye gobar inse rich hota hai: gobar gas.

✅ India mein biogas technology mainly IARI aur KVIC ke efforts se develop hui.

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TITLE: Gaay ka gobar... aur usse jalta hai chulha! 🔥 | Biogas Class 12 #shorts

DESCRIPTION:

👉 Biogas mein mainly methane hoti hai. Cellulosic material par anaerobically grow karne wale bacteria methane banate hain: methanogens, jaise Methanobacterium.

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REEL 09

Caterpillar ne patta khaaya... aur khud hi mar gaya! Kyon? 🐛

📸 Instagram caption

Caterpillar ne patta khaaya... aur khud hi mar gaya! Kyon? 🐛

✅ Bacillus thuringiensis (Bt) butterfly caterpillars ka microbial biocontrol agent hai. Dried spores sachets mein milte hain.

✅ Larvae spray kiye gaye spores khaate hain, gut mein toxin release hota hai aur larvae mar jaate hain. Other insects ko

harm nahi.

✅ Bt ke toxin genes plants mein daalkar pest-resistant plants bane, jaise Bt-cotton.

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TITLE: Caterpillar ne patta khaaya... aur khud hi mar gaya! Kyon? 🐛 | Bt Biocontrol Class 12 #shorts

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REEL 10

Mitti ke andar chhupi hai fertiliser ki factory! 🌱

📸 Instagram caption

Mitti ke andar chhupi hai fertiliser ki factory! 🌱

✅ Biofertilisers = organisms jo soil ki nutrient quality enrich karte hain. Sources: bacteria, fungi, cyanobacteria.

✅ Rhizobium leguminous plants ki root nodules mein atmospheric nitrogen fix karta hai.

✅ Glomus jaise fungi mycorrhiza banate hain: soil se phosphorus absorb karke plant ko dete hain.

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▶️ YouTube Shorts

TITLE: Mitti ke andar chhupi hai fertiliser ki factory! 🌱 | Biofertilisers Class 12 #shorts

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