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ISLINGTON COMPUTING

COMPUTER SCIENTIST

PATHWAYS





SPARK YOUR FUTURE IN TECH AS A COMPUTER SCIENTIST BY BUILDING SKILLS IN CODING, LOGICAL THINKING, AND PROBLEM-SOLVING. LEARN HOW TO CREATE PROGRAMS, EXPLORE HOW SOFTWARE SHAPES THE WORLD, AND DISCOVER PATHWAYS INTO EXCITING FIELDS LIKE APP DEVELOPMENT, AI, AND CYBERSECURITY.

CYBER SECURITY



EXPLORE THE WORLD OF CYBERSECURITY BY LEARNING HOW TO PROTECT SYSTEMS, SPOT DIGITAL THREATS, AND KEEP INFORMATION SAFE. BUILD SKILLS IN CRITICAL THINKING, PROBLEM-SOLVING, AND DIGITAL RESPONSIBILITY AS YOU UNCOVER HOW HACKERS THINK AND HOW TO DEFEND AGAINST THEM. IT'S A GREAT STARTING POINT FOR ANYONE CURIOUS ABOUT ONLINE SAFETY, ETHICAL HACKING, AND SECURING THE TECH WE ALL RELY ON.

GRAPHIC DESIGNER

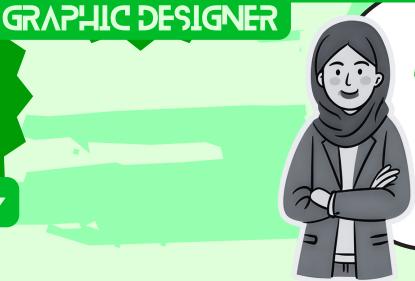


CYBER SECURITY

BRING YOUR CREATIVITY TO LIFE BY EXPLORING THE WORLD OF GRAPHIC DESIGN.

DEVELOP SKILLS IN VISUAL STORYTELLING, BRANDING, AND DIGITAL DESIGN AS YOU CREATE LOGOS, POSTERS, AND 3D MODELS. WHETHER YOU'RE DESIGNING FOR PRINT OR SCREEN, IT'S A GREAT WAY TO TURN YOUR PASSION FOR ART AND DESIGN INTO A FUTURE CAREER IN CREATIVE INDUSTRIES LIKE MEDIA, MARKETING, ANIMATION, OR

PRODUCT DESIGN.



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LESSON PLAN OVERVIEW: CAREER PATHWAY - CYBER SECURITY

AGE GROUP: PRIMARY (8-11 YEARS)

FOCUS RESOURCE: BAREFOOT + SCRATCH

PHISHERMAN

EXPLORE THE WORLD OF CYBERSECURITY BY PLAYING THE PHISHERMAN, A FUN INTERACTIVE GAME WHERE YOU'LL LEARN HOW TO SPOT ONLINE SCAMS AND KEEP PERSONAL INFORMATION SAFE. AS YOU WORK THROUGH CHALLENGES AND UNCOVER CLUES, YOU'LL BUILD YOUR UNDERSTANDING OF PHISHING, DIGITAL SAFETY, AND HOW TO THINK LIKE A CYBERSECURITY EXPERT AN EXCITING FIRST STEP TOWARD PROTECTING THE DIGITAL WORLD.

CYBER SECURITY EXPERT

STEP INTO THE ROLE OF A CYBERSECURITY EXPERT BY EXPLORING HOW TO PROTECT SECRET CODES AND CREATE STRONG PASSWORDS. THROUGH HANDS-ON CHALLENGES, YOU'LL LEARN HOW CRIMINALS MIGHT TRY TO CRACK A PADLOCK CODE AND DISCOVER HOW CODING CONCEPTS LIKE VARIABLES AND LOOPS HELP BUILD STRONGER, SAFER SECURITY SYSTEMS. THIS ACTIVITY DEVELOPS YOUR UNDERSTANDING OF ALGORITHMS, DECOMPOSITION, AND DIGITAL SAFETY IMPORTANT SKILLS FOR A FUTURE IN CYBERSECURITY.

CYBER SPRINTERS

RACE THROUGH CYBERSPACE AS A CYBERSPRINTER, COLLECTING CYBERSPHERES AND BOOSTING YOUR BATTERY BY ANSWERING QUESTIONS ABOUT STAYING SAFE ONLINE. AVOID CYBER-VILLAINS LIKE HACKERS, CLONES, AND TROJANS, AND COMPLETE MINI-GAMES TO PROTECT YOUR POWER. THIS FAST-PACED GAME HELPS YOU LEARN ABOUT STRONG PASSWORDS, SUSPICIOUS MESSAGES, AND DEVICE SECURITY IN A FUN AND INTERACTIVE WAY.



KEY VOCABULARY & TOOLS: PHISHING, SCAM, PERSONAL INFORMATION, CYBERSECURITY

THE PHISHERMAN GAME (BAREFOOT COMPUTING) INTERACTIVE STORY-BASED GAMEPLAY, DECISION-MAKING CHALLENGES, EMBEDDED DIGITAL SAFETY TIPS.



KEY VOCABULARY & TOOLS: ALGORITHM, VARIABLE, LOOP, DECOMPOSITION, PASSWORD SECURITY

BAREFOOT COMPUTING: INTERACTIVE CODING CHALLENGES, PROBLEM-SOLVING ACTIVITIES.

KEY VOCABULARY & TOOLS: CYBERSECURITY, PHISHING, MALWARE, PASSWORDS, TWO-STEP VERIFICATION

CYBERSPRINTERS GAME ONLINE RUNNER GAME, INTERACTIVE QUIZZES, MINI-GAMES.



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SPARK YOUR FUTURE IN TECH AS A COMPUTER SCIENTIST BY BUILDING SKILLS IN CODING, LOGICAL THINKING, AND PROBLEM-SOLVING. LEARN HOW TO CREATE PROGRAMS, EXPLORE HOW SOFTWARE SHAPES THE WORLD, AND DISCOVER PATHWAYS INTO EXCITING FIELDS LIKE APP DEVELOPMENT, AI, AND CYBERSECURITY.

LESSON PLAN OVERVIEW: CAREER PATHWAY - COMPUTER SCIENTIST

AGE GROUP: PRIMARY (8-11 YEARS)

FOCUS RESOURCE: RASPBERRY PI, CODER DOJO & CODECOMBAT

CODE CLUB PROJECTS

EMBARK ON A CODING ADVENTURE WITH RASPBERRY PI'S CODE CLUB PROJECTS, DESIGNED TO BUILD YOUR SKILLS STEP BY STEP. CHOOSE A PATHWAY THAT INTERESTS YOU, SUCH AS SCRATCH, PYTHON, OR UNITY, AND WORK THROUGH A SERIES OF SIX ENGAGING PROJECTS. WHETHER YOU'RE CREATING ANIMATIONS. BUILDING GAMES. OR EXPLORING 3D WORLDS, THESE PROJECTS HELP YOU DEVELOP PROBLEM-SOLVING, CREATIVITY, AND CODING SKILLS PERFECT FOR ANYONE CURIOUS ABOUT TECHNOLOGY AND DIGITAL CREATION.



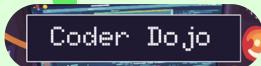


KEY VOCABULARY & TOOLS: ALGORITHM, LOOP, VARIABLE, SPRITE, FUNCTION

RASPBERRY PI PROJECTS: INTERACTIVE TUTORIALS, CODING CHALLENGES, CREATIVE DESIGN.

JOIN A CODE CLUB

JOIN A LOCAL CODE CLUB TO START YOUR JOURNEY INTO CODING AND DIGITAL CREATION. WHETHER YOU'RE INTERESTED IN BUILDING GAMES WITH SCRATCH, CREATING WEBSITES WITH HTML/CSS, OR LEARNING PYTHON, CODE CLUB OFFERS FREE, FUN, AND SUPPORTIVE SESSIONS LED BY MENTORS. IT'S A GREAT WAY TO DEVELOP PROBLEM-SOLVING SKILLS, BOOST CREATIVITY, AND CONNECT WITH OTHER YOUNG DIGITAL CREATORS IN YOUR COMMUNITY.



KEY VOCABULARY & TOOLS: ALGORITHM. LOOP. VARIABLE. DEBUGGING, DIGITAL LITERACY

CODE CLUB PROJECTS: SCRATCH, PYTHON, HTML/CSS, UNITY, RASPBERRY PI, BBC MICRO:BIT.

CODE COMBAT

DIVE INTO CODING WITH CODECOMBAT, AN ENGAGING GAME WHERE YOU LEARN PYTHON, JAVASCRIPT, AND HTML BY SOLVING PUZZLES AND DEFEATING ENEMIES. AS YOU PROGRESS THROUGH LEVELS, YOU'LL WRITE REAL CODE TO CONTROL YOUR CHARACTER'S ACTIONS, GAINING HANDS-ON EXPERIENCE WITH LOOPS, CONDITIONALS, FUNCTIONS, AND MORE. THIS INTERACTIVE APPROACH MAKES CODING FUN AND ACCESSIBLE, OFFERING A PRACTICAL INTRODUCTION TO PROGRAMMING CONCEPTS.

KEY VOCABULARY & TOOLS: ALGORITHM, LOOP, FUNCTION, VARIABLE, SYNTAX

CODECOMBAT: GAME-BASED CODING CHALLENGES, REAL-TIME CODING EDITOR, MULTIPLAYER MODE.



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BRING YOUR CREATIVITY TO LIFE BY EXPLORING THE WORLD OF GRAPHIC DESIGN. DEVELOP SKILLS IN VISUAL STORYTELLING, BRANDING, AND DIGITAL DESIGN AS YOU CREATE LOGOS, POSTERS, AND 3D MODELS. WHETHER YOU'RE DESIGNING FOR PRINT OR SCREEN, IT'S A GREAT WAY TO TURN YOUR PASSION FOR ART AND DESIGN INTO A FUTURE CAREER IN CREATIVE INDUSTRIES LIKE MEDIA, MARKETING, ANIMATION, OR PRODUCT DESIGN.

LESSON PLAN OVERVIEW: CAREER PATHWAY - CYBER SECURITY

AGE GROUP: PRIMARY (8-11 YEARS)

FOCUS RESOURCE: BAREFOOT + SCRATCH

CODE CLUB PROJECTS

STUDENTS WILL CREATE A SHORT VIDEO REEL (15 30 SECONDS) TO INTRODUCE THEIR E-SPORTS TEAM AND SHOWCASE ITS STRENGTHS, SUCH AS TEAMWORK, ACHIEVEMENTS, OR EXCITEMENT DURING GAMEPLAY. THE FINISHED REEL WILL BE DESIGNED TO ATTRACT NEW FANS AND BUILD TEAM RECOGNITION, FEATURING TEXT, TRANSITIONS, AND MUSIC TO MAKE IT DYNAMIC AND SHAREABLE ON SOCIAL MEDIA PLATFORMS.

JOIN A CODE CLUB

STUDENTS WILL DESIGN A VISUALLY APPEALING POSTER TO PROMOTE AN UPCOMING E-SPORTS MATCH OR TOURNAMENT FEATURING THEIR TEAM. THE POSTER WILL HIGHLIGHT KEY DETAILS (E.G., TIME, DATE, TEAM NAME) AND INCLUDE A CALL-TO-ACTION ENCOURAGING PEOPLE TO ATTEND OR FOLLOW THE TEAM ONLINE. THE FINAL PRODUCT WILL SERVE AS BOTH A DIGITAL AND PRINTABLE RESOURCE TO ENGAGE THE SCHOOL AND COMMUNITY.

CODE COMBAT

STUDENTS WILL DESIGN A SINGLE-PHOTO POST SHOWCASING A MOMENT OF TEAM PRIDE, SUCH AS A WIN, PRACTICE SESSION, OR A TEAM MEMBER'S SPOTLIGHT. THE POST WILL INCLUDE HASHTAGS, AN ENGAGING CAPTION, AND DESIGN ENHANCEMENTS TO MAKE IT SOCIAL-MEDIA READY. THE FINAL PRODUCT WILL DEMONSTRATE HOW TO CELEBRATE THE TEAM AND BOOST ENGAGEMENT WITH FOLLOWERS.

KEY VOCABULARY & TOOLS:
STORYBOARD, TRANSITION,
TIMELINE
CANVA: VIDEO TEMPLATES, MEDIA
LIBRARY, TRIM TOOL, ANIMATED
TEXT/STICKERS.

KEY VOCABULARY & TOOLS:
FONT, COLOR PALETTE,
CALL-TO-ACTION (CTA)
CANVA: TEXT TOOL,
ELEMENTS TAB, DRAGAND-DROP INTERFACE,
BACKGROUNDS.

KEY VOCABULARY & TOOLS: FILTER, OVERLAY, HASHTAG CANVA: PHOTO EDITOR, FILTERS, TEXT STYLES, FRAMES.











STEP INTO THE TEAM AS A GRAPHIC DESIGNER! YOU'LL GET TO UNLEASH YOUR CREATIVITY BY DESIGNING THE TEAM'S LOGO, CRAFTING 3D MODELS, AND PRODUCING EYE-CATCHING MERCHANDISE LIKE T-SHIRTS AND POSTERS. YOUR DESIGNS WILL MAKE THE TEAM STAND OUT AND REPRESENT THEIR IDENTITY BOTH IN COMPETITIONS AND TO FANS. THIS ROLE IS PERFECT FOR ANYONE WHO LOVES ART, DESIGN, AND BRINGING IDEAS TO

LIFE.

LESSON PLAN OVERVIEW: CAREER PATHWAY - GRAPHIC DESIGNER AGE GROUP: PRIMARY (8-11 YEARS)

FOCUS RESOURCES: ADOBE EXPRESS (LESSON 1), TINKERCAD (LESSONS 2 & 3)

DESIGN A LOGO

STUDENTS WILL DESIGN A UNIQUE LOGO FOR THEIR MARIO KART E-SPORTS TEAM USING ADOBE EXPRESS. THE LOGO WILL REPRESENT THEIR TEAM'S IDENTITY, INCORPORATING ELEMENTS LIKE TEAM COLORS, SYMBOLS, AND THEMES INSPIRED BY MARIO KART. THE FINAL PRODUCT WILL SERVE AS THE TEAM'S BRANDING FOR POSTERS, MERCHANDISE, AND SOCIAL MEDIA, FOSTERING TEAM PRIDE AND RECOGNITION.



KEY VOCABULARY & TOOLS:

- LOGO, ICON, BRANDING
- ADOBE EXPRESS: LOGO TEMPLATES, TEXT TOOLS, SHAPE OVERLAYS, COLOR PALETTES

CREATE A TROPHY

STUDENTS WILL CREATE A 3D TROPHY DESIGN IN TINKERCAD TO CELEBRATE THE ACHIEVEMENTS OF E-SPORTS TEAMS IN A MARIO KART TOURNAMENT. THE DESIGN WILL INCLUDE CREATIVE SHAPES, UNIQUE DETAILS (E.G., A KART MOTIF), AND A CUSTOMIZABLE BASE FOR ADDING THE WINNER'S NAME. THE FINAL PRODUCT CAN BE IMAGINED AS A PHYSICAL TROPHY, BUILDING EXCITEMENT FOR THE EVENT.

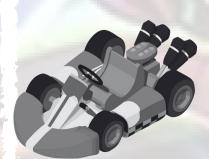


KEY VOCABULARY & TOOLS:

- 3D MODELLING,
 SHAPES, RENDER
- TINKERCAD: SHAPE
 GENERATOR, GROUPING
 TOOL, SCALING,
 ALIGNMENT.

BUILD A KART

STUDENTS WILL USE TINKERCAD TO DESIGN EITHER A MEDAL TO AWARD PLAYERS OR A NEW KART FOR THEIR MARIO KART E-SPORTS TEAM. THE MEDAL WILL INCORPORATE THEMATIC DESIGNS (E.G., TEAM LOGOS OR MARIO KART ITEMS), WHILE THE KART CAN SHOWCASE CREATIVE FEATURES AND ENHANCEMENTS. THE FINISHED PRODUCT WILL DEVELOP THEIR IMAGINATION AND HIGHLIGHT HOW 3D DESIGN APPLIES TO GAMING AND COMPETITIONS.



KEY VOCABULARY & TOOLS:

- PROTOTYPE,
 CUSTOMIZATION,
 TEXTURE
- TINKERCAD: SHAPE
 LIBRARY, DUPLICATION,
 ROTATION, TEXT TOOL.