Exploratory Tasks:
Where will your journey take you?

INFORMATION TECHNOLOGY

Are you an analytical problem solver? Do you have a creative or inventive spirit? If so, you may want to consider a career in information technology. These specialists work across all areas of business and industry to provide the technology support needed to communicate with others.

NETWORK SYSTEMS PATHWAY

Specialist in this pathway design, install, maintain and manage network systems, such as those that allow multiple doctors to view the same patient's X-rays in real-time to determine diagnosis and the best course of treatment. These experts are critical to the success of almost every organization.

EXPLORATORY TASK: What is meant by the term **computer network**? Understanding this term is critical to understanding this pathway. Create an informational poster that describes a computer network. Be sure to include the:

- Purpose
- Components and their function
- Uses

EXTENSION: How is a network used in your school? Use the information from the Exploratory Task to create a video or photographic tour of these components in your school.

INFORMATION SUPPORT & SERVICES PATHWAY

Professionals in this pathway provide technical assistance and manage information systems for a wide variety of organizations, including businesses, industries, schools and medical facilities. Their work enables employees to share information between locations and provide quality service to customers.

EXPLORATORY TASK: What can go wrong with computers, computer components and networks? Research **common computer issues**, e.g., unable to connect to the Internet, computer iruses, slow performance, etc., and how to correct them. Create a troubleshooting guide to share with others.

EXTENSION: Preventing computer or network crashes is critical in today's world. What can you do to prevent these from happening? **Research how to keep your computer and network running efficiently**. Create a infographic explaining the "Top 10 Ways to Keep Your Computer Running Efficiently."

What is a Career Cluster?

Career Clusters are a way to organize career options. There are **16 Career Clusters** in the National Career Cluster Framework. They are further divided into specific pathways that can lead you to a successful future.

What are Career Pathways?

Each of the 16 Career Clusters are divided into approximately 80 Career Pathways. The pathways are further divided into specific careers that share similar skills.

A Career Pathway offers a range of entry options, from entry level positions that require a high school diploma or industry certificate to those that require a professional degree.

WEB & DIGITAL COMMUNICATIONS PATHWAY

Web and digital communication experts create, design and produce interactive multimedia products and services. Organizations of all types and sizes use digital media (the internet, DVD) to communicate with existing and potential customers, to track transactions and to collaborate with colleagues.

EXPLORATORY TASK: Creating an effective, user-friendly website is critical to the success of business, industry, education, etc. Does the purpose or function of a website determine its design? Create a flipbook that describes *different types of websites*, including:
- Purpose or function
- Characteristics
- Design features or considerations
- Examples

EXTENSION: Use one of the types of websites from the Exploratory Task to create a *mock-up* or paper draft of a website. Consider:
- What is the purpose of the website?
- Who will be the primary audience?
- What design features would capture the user's attention or make the site easier to use?

PROGRAMMING & SOFTWARE DEVELOPMENT PATHWAY

Individuals in this pathway design, develop, implement and maintain computer systems and software. They are experts in computer operating systems, programming languages and software development. They work with cutting-edge technologies to develop tomorrow's products for use by businesses and consumers.

EXPLORATORY TASK: Can you write in binary? Binary is the language spoken by computers that consists of the numerals 0 and 1 and is read by a computer as on or off. This electrical on/off code allows computers to store and transmit messages. But how is this translated into everyday language? That's where the binary alphabet becomes useful.
- Find and print a *binary alphabet chart* on the internet. Use it to encode, or convert, a message into binary code.
- Share the message and chart with a peer for them to decode or convert into English.

EXTENSION: How do we make sure that all computers speak the same language? That's exactly why the American Standard Code for Information Interchange, or ASCII was created. It ensures that documents and files can be shared across different computing devices.
- Search the internet for an *ASCII code to binary chart*. Use it to encode, or convert, a message into ASCII code.
- Share the message and chart with a peer for them to decode or convert into English.