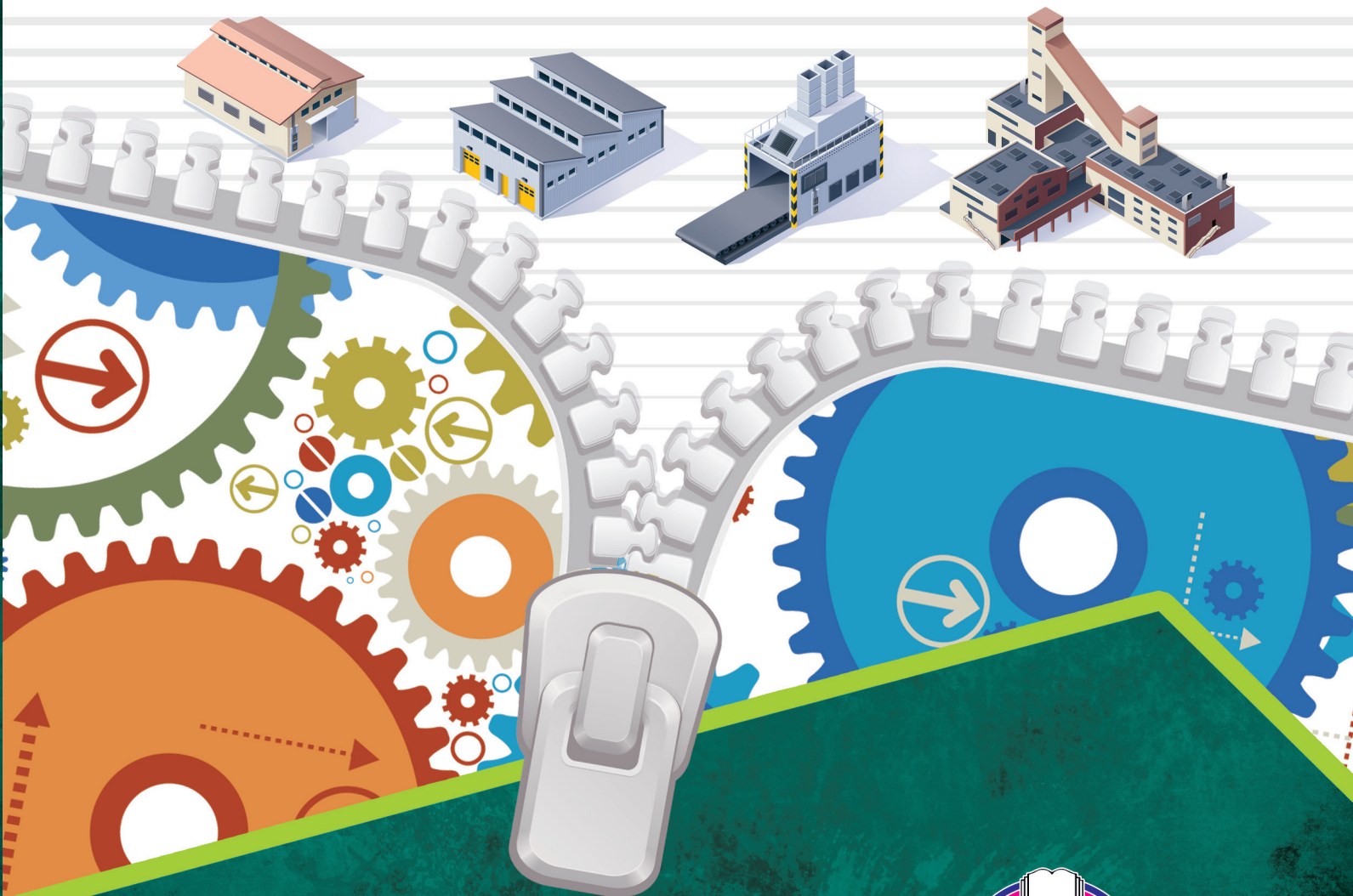


**CAREER  
PATHS**

# INDUSTRIAL Assembly

Craig Gleason - Jenny Dooley



Express Publishing

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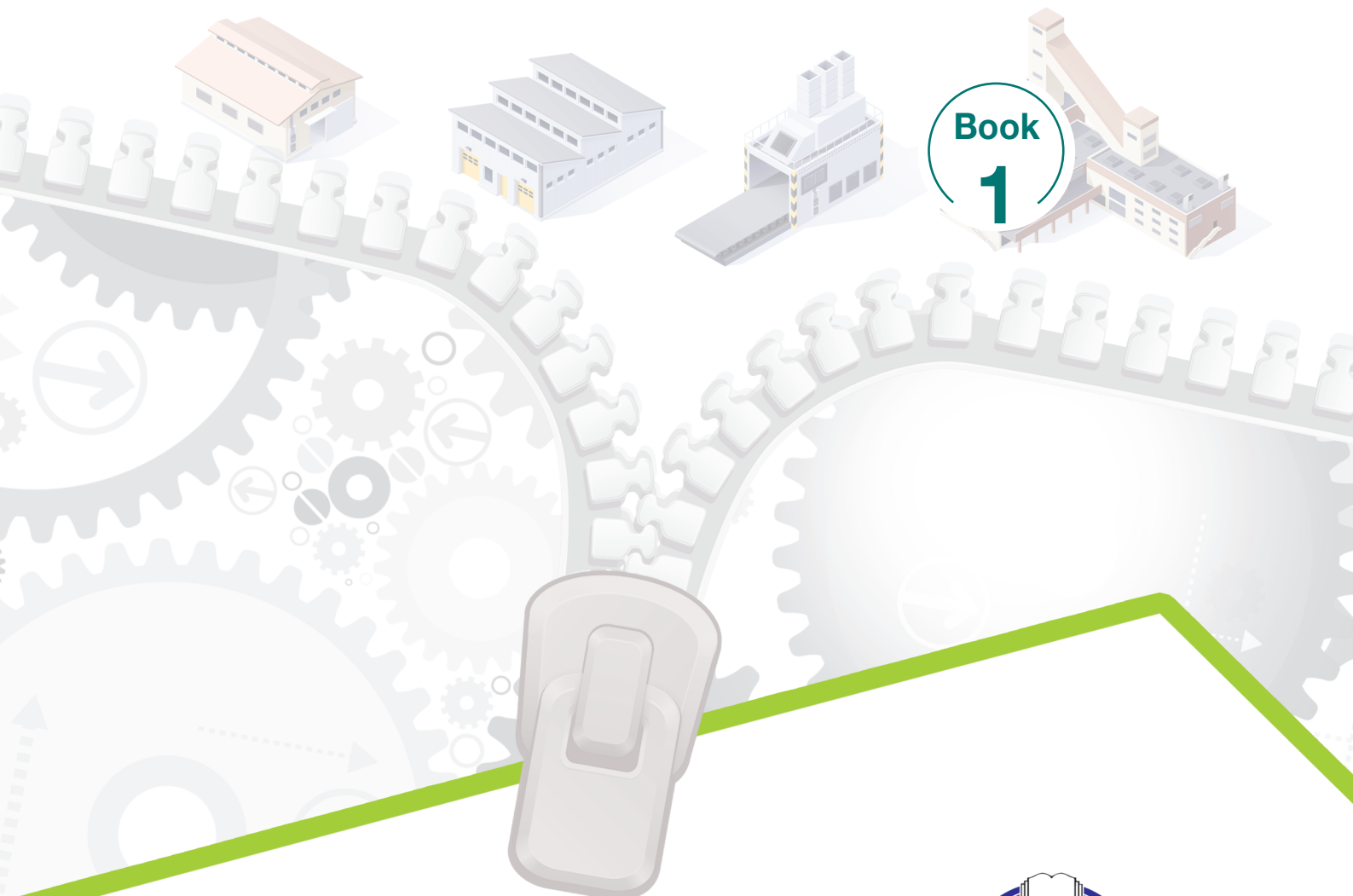
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## Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Parts of a Factory	Manual	assembly line, break room, control room, factory, factory floor, loading dock, locker room, office, plant, production line, shipping and receiving	Repeating a point
2	Types of Industries	Email	automobile, construction, electronics, factory farming, industry, manufacturing, medical, metalworking, product, textile, woodworking	Asking for more information
3	Common Materials 1	Webpage	alloy, aluminum, concrete, copper, glass, lumber, metal, particle board, rubber, steel, stone	Remembering something
4	Common Materials 2	Note	acrylic, blend, cotton, fiber, nylon, plastic, polyester, silicone, silk, wool	Relaying bad news
5	Properties of Materials	Textbook chapter	brittle, conductor, ductile, hardness, insulator, luster, malleable, natural, synthetic, tensile	Restating an idea
6	Hand Tools	Memo	caliper, clamp, cutter, hammer, hand tool, pliers, saw, screwdriver, tool crib, wrench	Making a promise
7	Fasteners	Email	adhesive, bolt, fastener, nail, nut, rivet, screw, sealant, staple, washer	Making an assumption
8	Machines 1	Report	band saw, chainsaw, drill, drill press, edgebander, honing machine, lathe, machine tool, power nut runner, sander, soldering iron	Expressing concern
9	Machines 2	Webpage	air compressor, boiler, CNC, dryer, forklift, generator, heat sink, kiln, mill, mixer	Asking for an opinion
10	Parts of a Machine 1	Manual	belt, button, calibrate, component, die, gear, housing, mechanism, regulator, switch, valve	Posing an indirect question
11	Parts of a Machine 2	Log	bearing, cam, coolant, engine, feeder, fuel, gasket, intake, motor, sprocket, tooth, wheel	Describing cause and effect
12	Measurements 1	Chart	centimeter, diameter, foot, imperial, inch, kilogram, length, meter, metric, pound, ton, tonne, weight	Expressing confusion
13	Measurements 2	Memo	Celsius, convert, cubic centimeter, degree, Fahrenheit, fluid ounce, gallon, liter, milliliter, temperature, volume	Describing a problem
14	Basic Actions	Manual	adhere, bore, cut, dry, feed, fit, join, monitor, sort, stamp, wire	Correcting someone
15	Assembly Operations	Email	assembly, automated, compensate, jam, manual, mass produce, misalignment, special-purpose machine, variation, workstation	Making a recommendation



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# 1 Parts of a Factory

## Get ready!

- Before you read the passage, talk about these questions.
  - What are some types of jobs in a factory?
  - What are the different areas in a factory?



EMPLOYEE MANUAL



## Welcome!

Welcome to Carrington Electronics Factory

The **plant's** main entrance leads immediately to the **factory floor**. Most employees work on the **production lines** there. These **assembly lines** are the center of our operations. Most new employees start their jobs here.

Their supervisors manage production from the **control room**. They monitor output and report to the main **office**. This is on the second floor. The offices for payroll and human resources are there, too.

The **break room** and **locker room** are on the third floor. **Shipping and receiving** operates out of the **loading dock**. It is located below the factory floor, in the warehouse.

## Reading

- Read the manual. Then, mark the following statements as true (T) or false (F).

- \_\_\_ New employees usually start on the factory floor.
- \_\_\_ The locker room is on the same floor as shipping and receiving.
- \_\_\_ The main office is on the second floor.

## Vocabulary

- Match the words or phrases (1-5) with the definitions (A-E).

- \_\_\_ plant
- \_\_\_ assembly line
- \_\_\_ factory floor
- \_\_\_ control room
- \_\_\_ shipping and receiving

- a building where products are manufactured
- the area of a factory where goods are produced
- a room that contains operating equipment, and is used to monitor employee activity
- the act of sending and accepting goods by mail or another system of transport
- a factory system in which each machine or worker handles a particular part

- Read the sentence pairs. Choose which word or phrase best fits each blank.

### 1 office / locker room

- The manager scheduled a meeting in her \_\_\_\_\_.
- Employees put on their work clothes in the \_\_\_\_\_.

### 2 production line / break room

- Work on the \_\_\_\_\_ stopped when the conveyor belt broke.
- Some factories provide meals for employees in the \_\_\_\_\_.

### 3 factory / loading dock

- Packaged products go to the \_\_\_\_\_ before shipping.
- The \_\_\_\_\_ needs additional workers for the assembly line.

- 5 Listen and read the manual again. Where do supervisors manage production from?

## Listening

- 6 Listen to a conversation between a supervisor and an employee. Choose the correct answers.

- 1 Where is the man working?  
 A the control room  
 B the factory floor  
 C the loading docks  
 D the break room
- 2 What will the man likely do next?  
 A look at a map of the factory  
 B move boxes to the storage room  
 C call a supervisor for advice  
 D consult his training manual

- 7 Listen again and complete the conversation.

**Supervisor:** Well, you're just assisting workers at the 1 \_\_\_\_\_ today.

**Employee:** So I won't 2 \_\_\_\_\_ to other departments?

**Supervisor:** No, not yet. Like I said, you're just 3 \_\_\_\_\_.

**Employee:** Okay. So do I just put the boxes in the 4 \_\_\_\_\_?

**Supervisor:** Yes, someone else will take them to the 5 \_\_\_\_\_ later.

**Employee:** Sounds good. I'll start 6 \_\_\_\_\_ right away!

## Speaking

- 8 With a partner, act out the roles below based on Task 7. Then, switch roles.

### USE LANGUAGE SUCH AS:

*How is ...?*  
*Like I said ...*  
*Do I ...?*

**Student A:** You are a supervisor. Talk to Student B about:

- different areas of the factory
- his/her responsibilities

**Student B:** You are an employee. Talk to Student A about your responsibilities on your first day.

## Writing

- 9 Use the conversation from Task 8 to fill out the email from a factory owner to a manager.

Hi Jane,

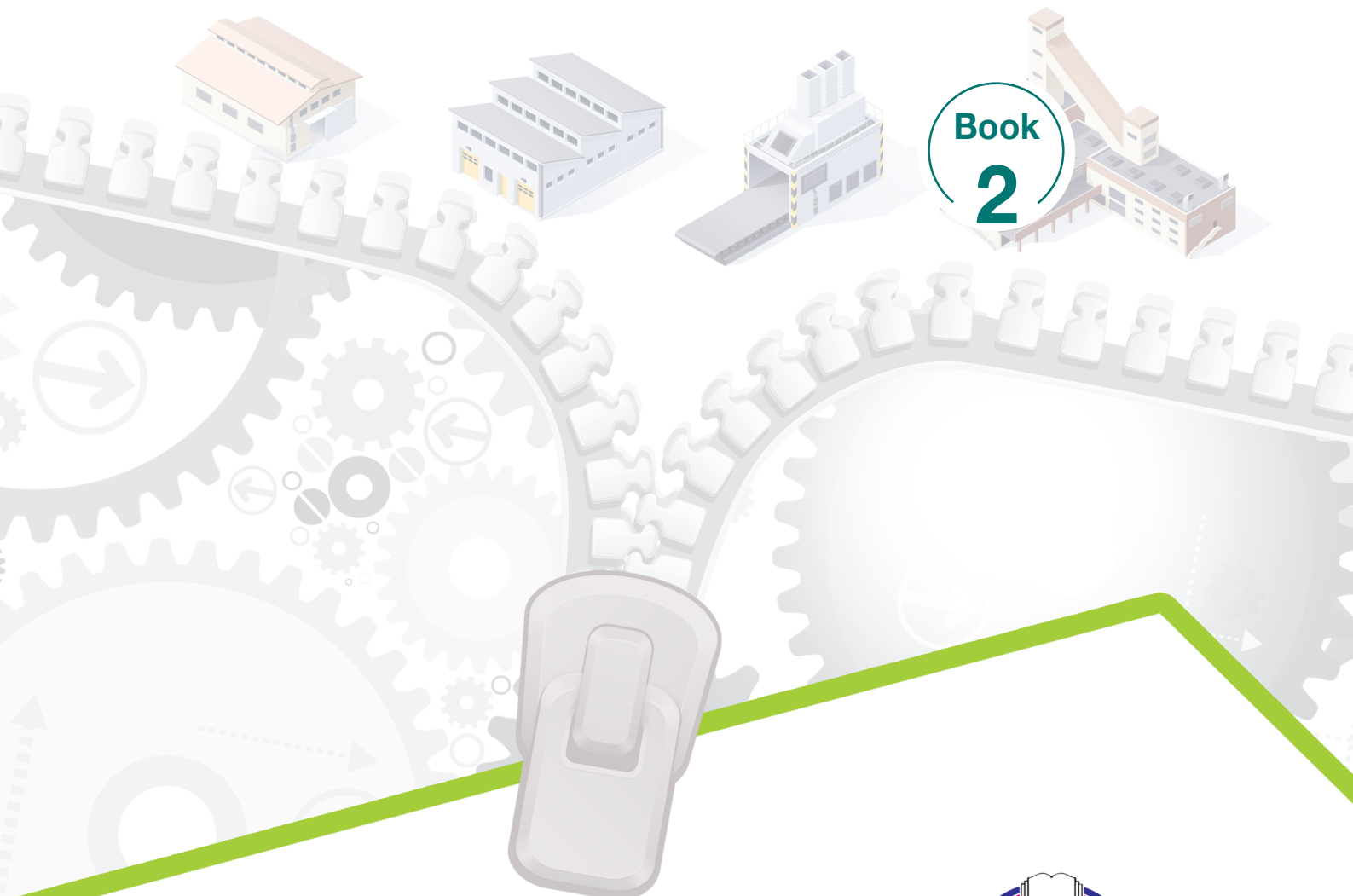
I have some ideas for the new factory design. I think we'll put the \_\_\_\_\_ on the \_\_\_\_\_ floor. The \_\_\_\_\_ are located \_\_\_\_\_, so we'll put \_\_\_\_\_ for convenience. I think the employees will be happy with the designs for \_\_\_\_\_ and \_\_\_\_\_. This building will be a great place for our new plant!

Best,  
 Eric

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Book  
**2**



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## Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Workstation layout	Memo	buffer, configure, flow, incoming, line layout, part bin, productivity, progressive, tooling bin, tote pan, transfer, workstation layout	Showing agreement
2	Motion Systems	Encyclopedia article	arm, axis, extended-work-area robot, horizontal, intricate, linear table, motion system, robotic, rotational table, turret, vertical, work tool	Asking for an opinion
3	Transportation Systems	Email	AVGS, carousel, dispatcher, diversion gate, groove, metallic stripe, overhead, parallel, power and free conveyor, return conveyor, totebox, track, transportation, transporter	Discussing pros and cons
4	Electrical Systems	Course description	antenna, battery, capacitor, circuit, diode, electricity, fuel, magnetic, power source, resistor, semiconductor, transistor	Expressing confusion
5	Storage	Manual	AS/RS, bin, CS/RS, digital, inventory, platform, post-assembly, pre-assembly, retrieve, storage, track, warehouse	Showing disapproval
6	Assembly Processes: Preparation	Blog entry	assembly operations parts list, assembly process summary, assembly work instructions, bill of materials, call-out, documentation, parts fabrication, receive, routing, special design, unit, visual aid	Expressing agreement
7	Assembly Processes: Assembly	Manual	drying time, finishing, labeling, packaging, posting clerk, pricing, self-contained, short-storage, subassembly, system breakdown, system house, top assembly	Making an apology
8	Assembly Processes: Testing	Email	defect, delay, design tolerance, dimensions, function testing, nest location, position, presence, reject, reliable, sensor	Identifying a problem
9	Automation 1	Textbook chapter	asymmetry, critical tolerance, detect, geometry, link, nest, network, orientation, redesign, symmetry, tangle, track design, vibratory feeder	Showing understanding
10	Automation 2	Article	consistent, costly, downtime, flexibility, floor space, installation, material handler, obsolescence, operator error, reconfiguration, savings, shutdown	Asking for clarification
11	Shipping	Memo	act of god, breakage, cargo, delivery, FOB, guarantee, insurance, letter of credit, liable, on file, packing, shipping	Expressing gratitude
12	Working Conditions	Report	alternate, drop delivery, effort, ergonomic, fixed, foot-operated, gravity-feed container, lighting, maximum, minimum, motion economy, point of use, reach, rhythm, surface height	Giving assurance
13	Workers Health	Poster	break, call in sick, checkup, contagious, diet, exercise, fitness, in shape, overweight, overworked, precaution, stretch, time off	Delivering results
14	Health Hazards	Webpage	exposure, fatigue, fracture, heavy lifting, inhale, injury, laceration, muscular, posture, repetitive strain injury, respiratory, strain, vision	Expressing concern
15	Scheduling	Annual review	24-hour, evening, flex hours, full-time, graveyard, hourly, morning, overtime, part-time, shift, shrinkage, sick leave, staffing, vacation, weekend	Giving praise

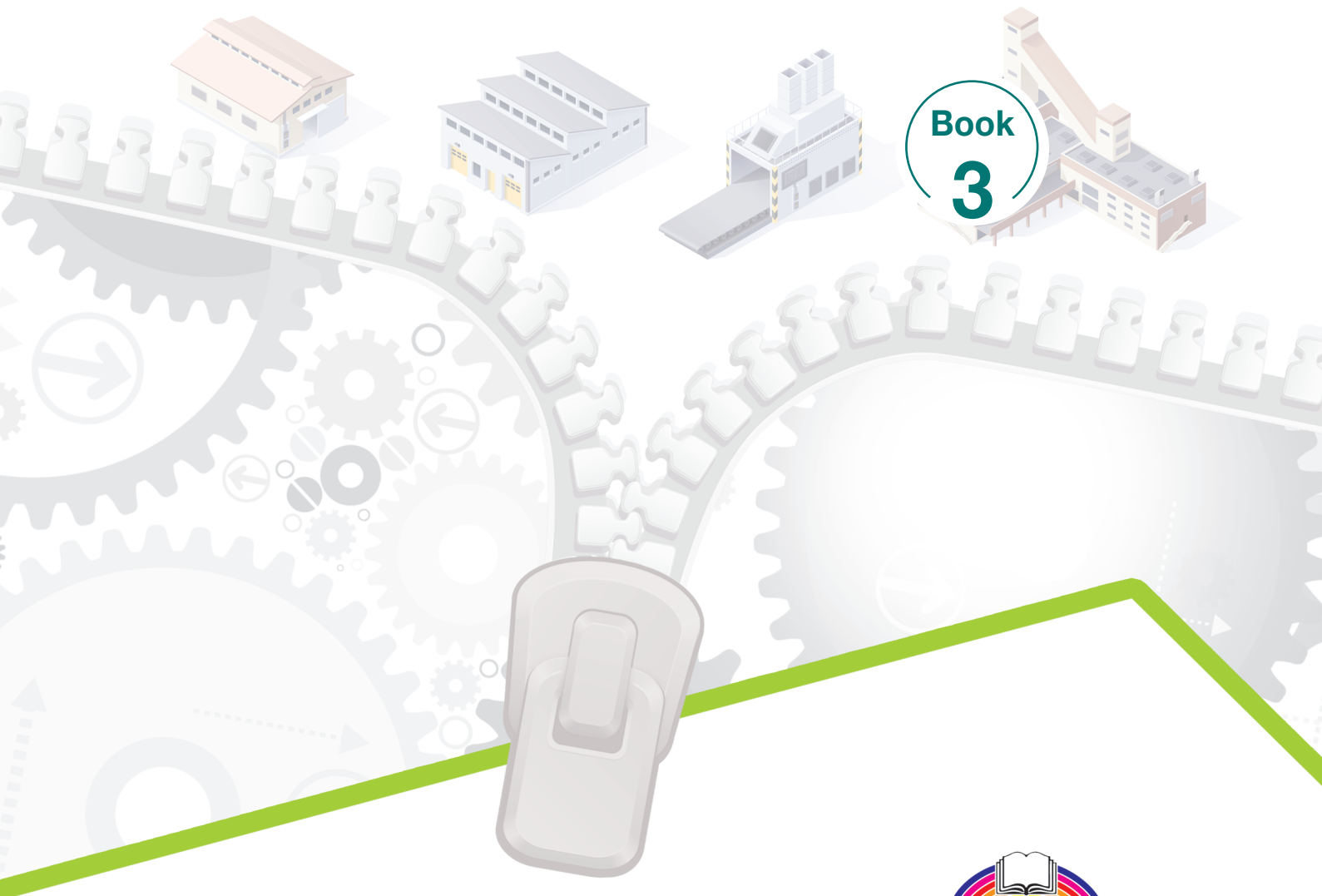
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## Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Workplace Attire	Poster	apron, business attire, comfortable, coveralls, dress code, enforce, fit, glove, goggles, hairnet, hood, loose, PPE, uniform	Expressing confusion
2	Materials Safety	Email	chemical, cleanup, designated, handle, hazardous, label, MSDS, reaction, spill, sterilize, toxic, volatile, waste hopper	Identifying a problem
3	Machine Safety	Manual	alert, amputate, blind, burn, crush, emergency procedure, emergency shutdown, first aid, get caught in, guarding, moving part, power surge, react, training	Expressing gratitude
4	Maintenance	Email	document, lubricate, maintain, qualified, regular, repair, replace, report, sanitize, sharpen, technician, worn out	Making a realization
5	Quality Control	Article	acceptability, conformance, eliminate, latent defect, manifest, minimize, quality control, reliability, risk, specification, test planning, testing, tight, tolerance	Asking for clarification
6	Inspections	Memo	acceptance testing, bench inspection, final acceptance inspection, first article inspection, incoming inspection, nondestructive inspection, process inspection, roving inspection, sampling, self-check, setup inspection, shipping inspection	Expressing dissatisfaction
7	Factory Management	Course description	capacity, continuous flow manufacturing, deployment, goal, job shop, major activity planning, MPS, policy, product variety, product volume, repetitive manufacturing, synchronized	Describing a job possibility
8	Efficiency	Article	continuous, cross-train, do, efficiency, JIT, lead time, lean manufacturing, make-ready, nonproductive, people issues, put-away, waste	Asking for an example
9	Work Measurement	Email	activity-based system, element-based system, engineered standard, estimate, guess, historical data, metrics, motion-based system, non-engineered standard, overestimate, PMTS, self-reporting, work measurement, work sampling	Expressing certainty
10	Production Strategies	Textbook chapter	allocate, infrastructural, lag strategy, lead strategy, middle management, objective, order winner, process focus, product focus, resource, strategy, structural, tracking strategy, upper management	Asking for an opinion
11	Manufacturing Engineering	Textbook chapter	cost-effective, design, drafting, HVAC, manufacturing engineer, material requirements planning, mathematics, mechanics, multimedia, physics, process plan, thermodynamics	Describing the order of events
12	Robotics	Cover letter	actuator, dexterity, enabling device, end-effector, flow line, hydraulic, joint, manipulator, payload, pendant, pneumatic, robotics, serial robot, work envelope	Discussing a work experience
13	Computer-Aided Systems	Webpage	2-D, 3-D, CAD, CAPP, CIM, exploded view, interface, model, modify, operating system, photorealistic rendering, retrieve, translate	Asking for information
14	Training and Development	Manual	advancement, certification, entry-level, equipment procedures, experienced, on-the-job, performance evaluation, probationary period, shadow, skilled, unskilled, versatile, workmanship standards	Making an assumption
15	Careers	Webpage	accounting, analyst, assembler, buyer, clerical, CNC operator, fabricator, foreperson, HR, line worker, machine operator, operations manager, quality controller, R&D, sales	Making an introduction



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# INDUSTRIAL Assembly

**Career Paths: Industrial Assembly** is a new educational resource for manufacturing industry professionals who want to improve their English communication in a work environment. Incorporating career-specific vocabulary and contexts, each unit offers step-by-step instruction that immerses students in the four key language components: reading, listening, speaking, and writing. **Career Paths: Industrial Assembly** addresses topics including types of machines, common materials, automation systems, quality control, and manufacturing engineering.

The series is organized into three levels of difficulty and offers a minimum of 400 vocabulary terms and phrases. Every unit includes a test of reading comprehension, vocabulary, and listening skills, and leads students through written and oral production.

**Included Features:**

- A variety of realistic reading passages
- Career-specific dialogues
- 45 reading and listening comprehension checks
- Over 400 vocabulary terms and phrases
- Guided speaking and writing exercises
- Complete glossary of terms and phrases

The **Teacher's Guide** contains detailed lesson plans, a full answer key and audio scripts.

The **audio CDs** contain all recorded material.

**Craig Gleason** has worked in manufacturing for more than twenty years, and has experience as a buyer, analyst, manufacturing supervisor, and general business manager. He has worked primarily in the subfields of electronics manufacture and aircraft manufacture.



The **Digital** version of the book contains subject specific videos, instant feedback on all tasks and progress monitoring reports.



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