National Career Readiness Certification

ACT WorkKeys NCRC

BCCC Testing Information

Building 8 – Room 823

Photo ID Required

Arrive 15 Minutes Early for Paperwork

Scrap Paper/Formula Sheet/Calculators Provided

For testing availability and to reserve your seat, call 252-940-6375 – 24 hours notice required. Limited seating available.

Retrieve scores at: myworkkeys.com

ACT Workforce Solutions

NCRC Certificates Printed through ACT at myworkkeys.com

ACT® **WorkKeys**® **NCRC**®

Find your NCRC Certificate and individual assessment scores at: https://myworkkeys.act.org/mwk/login.do?event=go&realm

Problems with accessing your scores? Call the ACT Customer Service Line: 319-337-1380

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Assessment Topic	BCCC Price	Time Estimate
Applied Math	$13	1 hour
Graphic Literacy	$13	1 hour
Workplace Documents	$13	1 hour

The National Career Readiness Certification consists of the Applied Math, Graphic Literacy, and Workplace Documents assessments.

Scholarships Available!

ACT® WorkKeys® NCRC®

APPLIED MATH
Critical thinking, mathematical reasoning, and problem-solving techniques in workplace situations. High levels of this skill include:

IDENTIFYING
errors in calculation

CONVERTING
systems of measurement

CALCULATING
areas and volumes

GRAPHIC LITERACY
Reading and comprehending graphical materials to solve work-related problems. High levels of this skill include:

INTERPRETING
trends, relationships, and patterns

COMPARING
information and trends among data sets

USING DATA
to make decisions

WORKPLACE DOCUMENTS
Reading and comprehending written information to make decisions and solve problems. High levels of this skill include:

INFERRING
meanings of words and phrases from contexts

DECIPHERING
the meaning of acronyms, jargon, or technical content

APPLYING
information and instructions to a new situation

What Does the NCRC Test?

Cognitive Skills Measured by WorkKeys®

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The NCRC is awarded at four levels. Higher levels indicate a greater number of jobs for which a recipient is qualified.

Platinum indicates the skills required for approximately 96% of ACT-profiled jobs **Levels 6 and 7**

Gold indicates the skills required for approximately 90% of ACT-profiled jobs **Level 5**

Silver indicates the skills required for approximately 71% of ACT-profiled jobs **Level 4**

Bronze indicates the skills required for approximately 16% of ACT-profiled jobs **Level 3**

Prepare for the NCRC by joining our BCCC Employment Learning Lab! The B.E.L.L. will grant you access to a Practice NCRC Assessment and online learning modules on each of the skills tested by the NCRC. This lab is free to those who qualify for an HRD Fee Waiver and can be joined at any time.

For more information on NCRC Skills and Levels, continue through slides 7-25.
For other ACT Assessments available at BCCC, please see slide 26.
For Beaufort County Businesses Recognizing the NCRC, please see slide 27.

Level	Characteristics of Items
3	►Translate easily from a word problem to a math equation ►All needed information is presented in logical order ►No extra information
4	►Information may be presented out of order ►May include extra, unnecessary information ►May include a simple chart, diagram, or graph
5	►Problems require several steps of logic and calculation (e.g., problem may involve completing an order form by totaling the order and then computing tax)
6	►May require considerable translation from verbal form to mathematical expression ►Generally require considerable setup and involve multiple-step calculations
7	►Content or format may be unusual ►Information may be incomplete or implicit ►Problems often involve multiple steps of logic and calculation

APPLIED
MATH
measures the ability
to apply mathematic
principles to problems
encountered in
the workplace

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Sample Skills and Levels

Applied Math

Level 3	Level 5
✓ Solve problems requiring one type of mathematical operation	✓ Decide what information, calculations, or unit conversions to use to find the answer to a problem
✓ Convert fractions, decimals, and percentages	✓ Add and subtract fractions with unlike denominators
✓ Convert familiar units of money and time	✓ Convert units within or between systems of measurement (e.g., time, measurement, quantity) where the conversion factor is provided
✓ Add prices of several products together and calculate correct change	✓ Identify where a mistake occurred in a calculation

Applied Math Sample Items

Level 3 Applied Math

In your job as a cashier, a customer gives you a $20 bill

to pay for a can of coffee that costs $3.84.

1. **How much change should you give back?**

   A. ○ $15.26

   B. ○ $16.16

   C. ○ $16.26

   D. ○ $16.84

   E. ○ $17.16

CORRECT RESPONSE ⌃

$16.16 = $20.00 – $3.84

Answer

Applied Math Sample Items

Level 4 Applied Math

Over the last 5 days, you made the following numbers

of sales calls: 8, 7, 9, 5, and 7.

2. **On the average, how many calls did you make each day?**

A. ○ 5.8

B. ○ 7.0

C. ○ 7.2

D. ○ 9.0

E. ○ 36.0

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CORRECT RESPONSE ⌃

$(8 + 7 + 9 + 5 + 7) \div 5 = 7.2$

Answer

Applied Math Sample Items

Level 5 Applied Math

You work in a furniture repair shop and are taking apart an old table to refinish it. You are trying to remove a bolt with a wrench. You tried a wrench size of $\frac{1}{2}$ inch but found that it was slightly too big. Your wrenches are sized in $\frac{1}{16}$ -inch increments.

3. **What size wrench should you try next?**

   A. ○ $\frac{1}{32}$

   B. ○ $\frac{3}{8}$

   C. ○ $\frac{7}{16}$

   D. ○ $\frac{9}{16}$

   E. ○ $\frac{5}{8}$

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CORRECT RESPONSE ⌃

Convert $\frac{1}{2}$ inch to $\frac{8}{16}$ and then subtract $\frac{1}{16}$. $\frac{1}{2}$ - $\frac{1}{16}$ = $\frac{8}{16}$ - $\frac{1}{16}$ = $\frac{7}{16}$.

Answer

Applied Math Sample Items

Level 6 Applied Math

A chemist has a certain number of containers of liquid.

Each container is labeled with the number of fluid

ounces it contains. The chemist is assigning a lab

assistant the task of labeling each container with the

number of cups of liquid it contains.

4. Which of the following formulas should the chemist give to the lab assistant to use for the task?

A. ○ cups = 0.125 x (fluid ounces)

B. ○ cups = 8 ÷ (fluid ounces)

C. ○ cups = 8 x (fluid ounces)

D. ○ cups = 8 + (fluid ounces)

E. ○ cups = (fluid ounces) – 8

CORRECT RESPONSE ⌃

Use the formula sheet to rearrange 1 cup equals 8 ounces to a form that can be used to find the number of cups in each container. 1 cup = 8 fluid ounces; 1 fluid ounce = $\frac{1}{8}$ cup; $\frac{1}{8}$ cup = 0.125 cup.

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Answer

Applied Math Sample Items

Level 7 Applied Math

The farm where you just started working has a vertical

cylindrical oil tank that is 2.5 feet across on the inside.

The depth of the oil in the tank is 2 feet.

CORRECT RESPONSE ⌃

First, look up the formula for the volume of a cylinder
($\pi r^2 h$). Next, divide the diameter (2.5 ft) by 2 to find
the radius (1.25 ft) and calculate the volume of the
cylinder (9.81 cu ft). Finally, the volume must be
multiplied by 7.48, the number of gallons per cubic
foot, to find the number of gallons remaining in the
tank.

$2.5 \div 2 = 1.25$; $3.14 \times (1.25)^2 \times 2 = 9.81$ cu ft; 9.81 cu ft x 7.48
gal/cu ft = 73.4 gallons, then rounded down to 73

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Answer

Level	Characteristics of Items
3	►Elementary workplace graphics such as simple order forms, bar graphs, tables, flowcharts, maps, or floor plans ►One graphic used at a time
4	►Straightforward workplace graphics, such as order forms, bar charts, pie charts, diagrams, flow charts, maps, and dashboards ►May include multiple levels of data within a graph ►One or more graphics are used at a time
5	►More complicated workplace graphics –unusual graphic types ►Multiple variables and densely displayed information
6	►Very complicated and detailed graphs, charts, tables, forms, maps, and diagrams ►Contain large amounts of information, multiple graphics ►May include three axes and different scales within one graphic
7	►Extremely complex, dense graphics (often multiple graphics)

GRAPHIC LITERACY

measures the ability to find, analyze and apply information presented in workplace graphics

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Sample Skills and Levels

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Graphic Literacy

Level 4	Level 5
✓ Locate information in a graphic using information found in a second graphic	✓ Locate information in a graphic using information found in another graphic
✓ Compare two or more pieces of information	✓ Interpret trends/patterns/relationships
✓ Identify a trend/pattern/relationship	✓ Make a reasonable inference or decision based on one graphic after finding information in another graphic
✓ Make an inference or decision	
✓ Identify the graphic that accurately represents the data	✓ Identify the graphic that accurately represents the data
	✓ Identify and justify the most effective graphic given a defined purpose

Graphic Literacy Sample Items

A construction manager reviews the Request for Information (RFI) Log.

Level 3 Graphic Literacy

Request for Information (RFI) Log

RFI #	Request date	Title	Status	Response date
RFI-0393	02/06	Mechanical Room Duct Sleeve	Canceled	
RFI-0392	02/05	Bathroom Ceilings	In Review	02/06
RFI-0391	02/04	AHU Alarm Monitoring Clarification	New Item	
RFI-0890	02/03	Union Station Ceiling Conflict	Closed	02/03
RFI-0389	02/02	AHU Smoke Damper Control	Canceled	
RFI-0388	02/02	URGENT: Terminal Unit Accessories	Canceled	
RFI-0387	01/30	Base in Vestibule	Closed	01/30
RFI-0386	01/29	Hardware for Existing Door	Pending	01/30
RFI-0385	01/28	Door	Pending	01/29
RFI-0384	01/28	Union Station Hood Fire Protection	Closed	01/29

1. **On which date was RFI-0386 requested?**

   A. ○ 01/28

   B. ○ 01/29

   C. ○ 01/30

   D. ○ 02/02

CORRECT RESPONSE ⌃

Find the row for RFI-0386. Scroll to the right for the column for "Request date." Note the value in this field.

Answer

Graphic Literacy Sample Items

A financial analyst reviews one year's quarterly revenue numbers to plan for future business expansions.

Level 4 Graphic Literacy

Quarterly Revenue by Plant
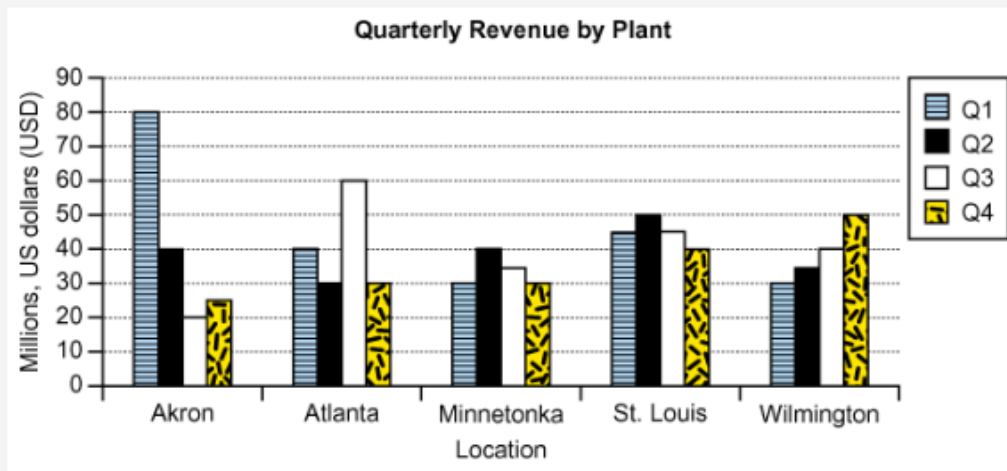
2. **The company would like to reallocate funds for plant improvement by selecting the location that had the most quarters under 40 million dollars in revenue. Which location should receive the improvement funds?**

CORRECT RESPONSE ⌃

Locate the $40 million line on the bar graph. Identify the bars below $40 million. Count the number of bars below $40 million at each plant location. St. Louis has zero bars below $40 million. Akron, Atlanta, and Wilmington have two bars below $40 million. Minnetonka has three bars below $40 million.

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Answer

Graphic Literacy Sample Items

A drill press operator who works with wood, plastic, aluminum, and steel uses drill speed recommendation tables to complete orders.

Level 5 Graphic Literacy

Drill Speeds (Recommended RPM)—Standard twist bit*				
Hole diameter	Wood	Plastic	Aluminum	Steel
1/16 to 3/16 inch	3000	2500	3000	3000
1/4 to 3/8 inch	3000	2000	2500	1000
7/16 to 5/8 inch	1500	1500	1500	600
11/16 to 1 inch	750	N/R	1000	350
Drill Speeds (Recommended RPM)—Forstner bit*				
Hole diameter	Softwood	Hardwood	Aluminum	Plastic
1/4 to 3/8 inch	2400	700	N/R	N/R
1/2 to 5/8 inch	2400	500	N/R	250
3/4 to 1 inch	1500	500	N/R	250
1 1/8 to 1 1/4 inch	1000	250	N/R	250
1 3/8 to 2 inches	500	250	N/R	N/R

N/R = Not Recommended   * = Do Not Exceed Recommended RPM

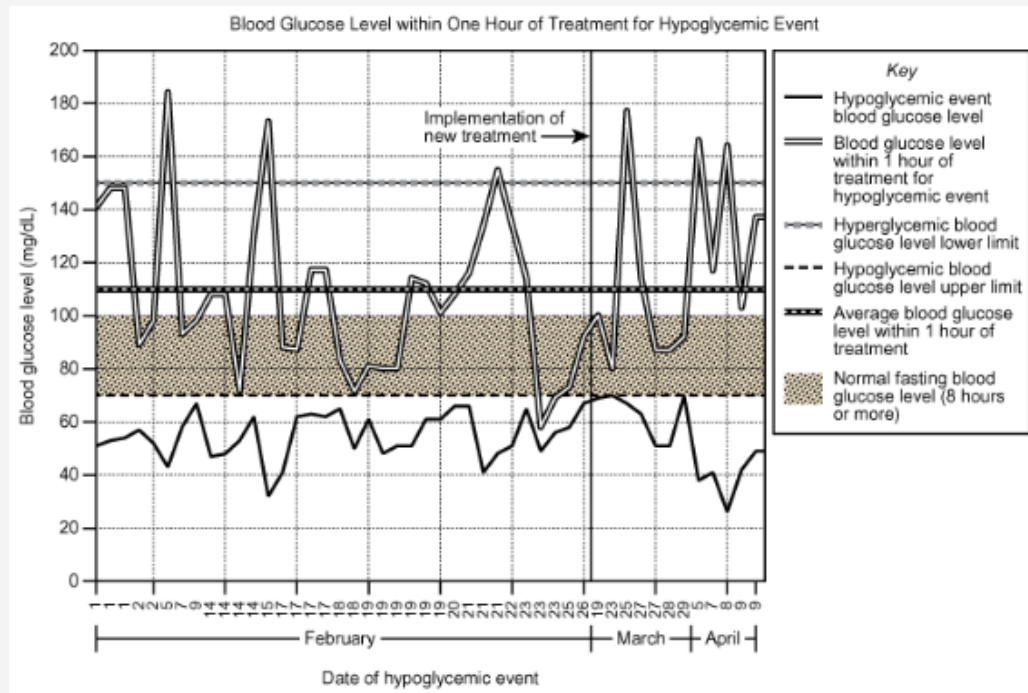| Pulley #	Drill Speed (RPM)
1	250
2	400
3	700
4	1200
5	1800
6	2400
7	3000
8	3700

3. **An order requests four holes to be drilled into a piece of aluminum. Each hole is 5/8-inch in diameter. Which pulley would provide maximum speed without exceeding the recommended RPM for this job?**

CORRECT RESPONSE ∧

Locate the 5/8-inch hole diameter for aluminum on the table under "Standard twist bit." The table does not recommend Forstner bits on aluminum. Follow the "7/16 to 5/8 inch" row over to the Aluminum column. This drill speed is 1500 RPM. In the first table, Pulley #4 has the closest speed for hole diameter and material (1200 RPM) that does not exceed the recommended RPM of 1500.

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A nurse manager uses data to study the results of a new treatment.

Level 6 Graphic Literacy

Blood Glucose Level within One Hour of Treatment for Hypoglycemic Event

Key
- ——— Hypoglycemic event blood glucose level
- ═══ Blood glucose level within 1 hour of treatment for hypoglycemic event
- ⊢∗⊣ Hyperglycemic blood glucose level lower limit
- - - - Hypoglycemic blood glucose level upper limit
- ▪▪▪▪ Average blood glucose level within 1 hour of treatment
- ▨ Normal fasting blood glucose level (8 hours or more)

Implementation of new treatment →

Blood glucose level (mg/dL)

Date of hypoglycemic event

February — March — April

4. **What was the approximate highest blood glucose level, in mg/dL, within 1 hour of treatment for a hypoglycemic event on February 19?**
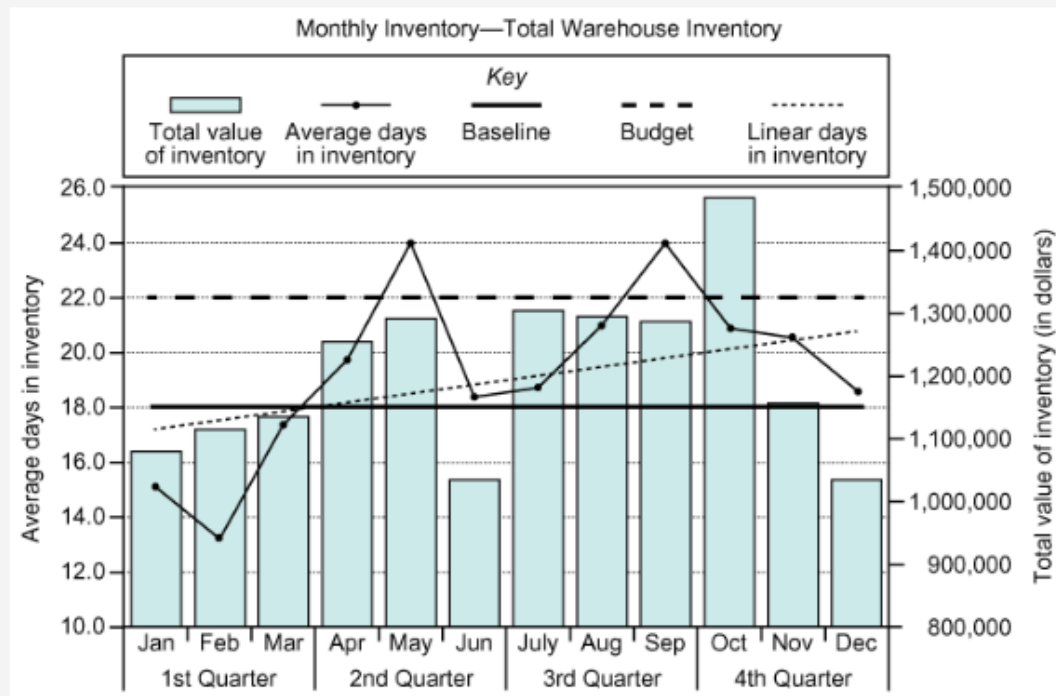
CORRECT RESPONSE ⌃

Understand that the two solid black lines with a white fill in between indicates the blood glucose level within 1 hour of treatment for a hypoglycemic event, and then locate it on the graph as the top jagged line. Next, use the x-axis to determine there were 6 events recorded for February 19. Next, move up the graph to the highest point in that range, which is the fourth event. Finally, move left from this point to the y-axis and note the blood glucose level, which is approximately 115.

Graphic Literacy Sample Items

A manager tracks the total value of warehouse inventory and the average number of days an item spends in inventory before being sold each month.

Level 7 Graphic Literacy

Monthly Inventory—Total Warehouse Inventory

5. **Which month reflects an increase in total value of inventory from the prior month with the largest drop in average days in inventory?**

CORRECT RESPONSE ⌃

Note that the total value of inventory increases from September to October, while at the same time the average days in inventory decreases from approximately 24.0 to 21.0, a difference of 3 days. While February also shows an increase in total value from the prior month, the average days in inventory decreases from approximately 15.0 to 13.0, a difference of only 2 days.

Level	Characteristics of Items
3	►Reading materials include basic company policies, procedures, and announcements ►Reading materials are short and simple, no extra information ►Reading materials tell readers what they should do ►All needed information is stated clearly and directly ►Items focus on the main points of the passages ►Wording of the questions and answers is similar or identical to the wording used in the reading materials
4	►Reading materials include company policies, procedures, and notices ►Reading materials are straightforward but have longer sentences and contain a number of details ►Reading materials use common words but do have some harder words, too ►Reading materials describe procedures that include several steps ►When following the procedures, individuals must think about changing conditions that affect what they should do ►Questions and answers are often paraphrased from the passage

WORKPLACE DOCUMENTS

measures the ability to understand and apply written information presented in the workplace

Level	Characteristics of Items
5	►Reading materials include informational, instructional, policy, contracts, and legal documents ►Longer passages that include multiple details and extraneous information ►Documents may include unfamiliar vocabulary, professional jargon, and acronyms ►Figure out the correct meaning of a word based on how the word is used ►Apply technical terms and jargon and relate them to stated conditions ►Written materials include conditionals (e.g., if-then statements)
6	►Reading materials include informational, instructional, policy, contracts, and legal documents ►Longer passages that include complex sentences, difficult vocabulary, professional jargon, and acronyms ►Meaning of terms may be implied and their meaning will need to be determined from context ►Extraneous details ►Written materials include extraneous details and conditionals (e.g., if-then statements)

WORKPLACE DOCUMENTS

measures the ability to understand and apply written information presented in the workplace

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Level	Characteristics of Items
7	►Very complex reading materials ►Information includes a lot of details ►Complicated concepts ►Difficult vocabulary ►Unusual jargon and technical terms are used but not defined ►Writing often lacks clarity and direction ►Readers must draw conclusions from some parts of the reading and apply them to other parts

WORKPLACE DOCUMENTS

measures the ability to understand and apply written information presented in the workplace

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Sample Skills and Levels

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Workplace Documents

Level 4	Level 7
✓ Identify main idea and specific details ✓ Use the information in the document to figure out the meanings of words or phrases that are not defined for them ✓ Choose when to perform a step in a series of steps ✓ Apply information/instructions to a situation that is the same as the situation described in the document ✓ Choose what to do when changing conditions call for a different action	✓ Infer implied details ✓ Infer meaning of an acronym, jargon, or technical term from context ✓ Apply principles inferred in a passage to a situation not directly described in the document or to a completely new situation ✓ Identify the rationale behind an entire document or a section of a document

Workplace Documents Sample Items

Sample items for Workplace Documents can be found here:

https://www.act.org/content/act/en/products-and-services/workkeys-for-job-seekers/preparation/reading-for-information.html?page=0&chapter=0

Other ACT Assessments Available

ACT® Workforce Solutions

Assessment Topic	BCCC Price
Applied Technology	$15
Talent Assessment	$16
Fit Assessment	$16
Business Writing	$22
Workplace Observation	$22

Beaufort County Businesses Recognizing the NCRC

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Wilkes Communications	Flanders Corporation	Mega Force Staffing Group	Carolina Store Fixtures
NACCO Materials Handling Group	Scoops Ice Cream Inc.	Clarcor	Precision Pallet LLC
The Roberts Company	Coles Electric Motor Shop	Greene Lamp Community Action	Syfan USA
Domtar Personal Care	City of Washington	Jernigan Oil Company Inc.	Beaufort County Economic Development
ASMO	Russell's Gentlemens Clothing	Duck Thru Food Stores	Oak Ridge Industries
DSM Dyneema	VT Hackney	Regino Q Workforce Development Board	Mid-East Commission
Suddenlink	Beaufort County Government	Carteret General Hospital	SERVPRO of Bath
Pitt Community College	Washington Montessori Public Charter School	Beaufort County DSS	Carver Machine Works Inc.
Vidant Health	Inner Banks Tea Company	Domtar Paper Company - Plymouth Mill	River City Construction
Pitt County Government	One Source Communications	Carver Machine Works Inc	Washington-Beaufort County Chamber of Commerce
Greenville Utillities Commission	Carolina Technical Plastics Corp	Professional Staffing Solutions LLC	Vidant Beaufort Hospital
City of Greenville NC	First South Bank	ITW Medical - Coeur	Beaufort County NCWorks Career Center
Patheon	Blue Arbor Inc.	Camfil USA Inc.	Beaufort County Economic Development
Ann's House of Nuts	PAS USA Inc.	Pippin Resource Group	Region Q Workforce Development Board
Spinrite Services	idX Impressions	Ready Hire Staffing	Cole's Electric Motor Shop
Beaufort County Community College	Holden Temporaries Inc.	Eastern Radiologists Washington	Mayo Appliance Solutions
PotashCorp	Mid-East Commission	Ruth's House	Main Street Scoops
Beaufort County Schools	Pantego Plantation Gourmet Foods	Kirlin Carolina's	Radcliffe Marine Inc
Tideland Electric Membership Corporation	Roebuck Staffing Company	Bosch Siemens Home Applicance Group	Fish Hooks Cafe
National Spinning Co. Inc.	Dudley Landscaping & Tree Service	NC Division of Vocational Rehabilitation	Jarrett Bay Boatworks