

# JONES COUNTY CAREER-TECHNICAL CENTER

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Dear Parents and Career Tech Students:

As we work towards the end of the school year the Faculty, Staff and Administration of the Jones County Career Technical Center, is providing additional enrichment activities for our students and support for our parents as we continue through these difficult times.

The following Part 2 enrichment activities will allow students to continue reviewing the instruction that they already have received this year.

Again you will find questions with answers for you to study and review. There are no assignments to be returned to school.

If the JCCTC can be of any assistance to our students and parents with the enrichment activities, please feel free to call us at 601-425-2378 between the hours of 9:00 a.m. and 1:00 p.m. or contact the instructor by email. Email addresses are located under the program name on our webpage.

Sincerely,



Rex Buckhaults  
Director, JCCTC

**Enrichment Activities Auto Collision 1****True/False**

*Indicate whether the sentence or statement is true or false.*

- \_\_\_\_\_ 1. The term plastics refers to a small, specific type of materials.
- \_\_\_\_\_ 2. There are two types of plastic repair.
- \_\_\_\_\_ 3. Thermoplastics can only be heated and softened once.
- \_\_\_\_\_ 4. Plastic welding rods are color coded.
- \_\_\_\_\_ 5. Thermosetting plastics are flexible plastics that cannot be heated.
- \_\_\_\_\_ 6. Vinyl is soft but not flexible.
- \_\_\_\_\_ 7. A molded core is a straight, rigid body repair part.
- \_\_\_\_\_ 8. Mill and drill pads hold panels in place during repair.
- \_\_\_\_\_ 9. SMC is considered a reinforced plastic.
- \_\_\_\_\_ 10. A one-sided plastic weld is the strongest type of weld.
- \_\_\_\_\_ 11. Fastened parts are held on primarily by welds.
- \_\_\_\_\_ 12. Hood struts are also called shocks.
- \_\_\_\_\_ 13. The hood is the second largest adjustable panel on a vehicle.
- \_\_\_\_\_ 14. The hood latch allows the hood to raise and lower.
- \_\_\_\_\_ 15. Bumper energy absorbers cushion some of the impact on the bumper.
- \_\_\_\_\_ 16. Modern bumpers must withstand an 8 mph impact.
- \_\_\_\_\_ 17. Body shims are used to extend the length of certain structural panels.
- \_\_\_\_\_ 18. The deck lid is similar to the hood in construction.
- \_\_\_\_\_ 19. Lid torsion rods are steel springs used to help lift the weight of the deck lid.
- \_\_\_\_\_ 20. Vehicles with hatchback type trunk lids are easy to align.

**Multiple Choice**

*Identify the letter of the choice that best completes the statement or answers the question.*

- \_\_\_\_\_ 21. Cyanoacrylates are a \_\_\_\_\_ fast curing adhesive.
  - a. one-part
  - b. two-part
  - c. three-part
  - d. none of the above
- \_\_\_\_\_ 22. Burning plastics can produce
  - a. cancer causing agents
  - b. carcinogens
  - c. both A and B
  - d. neither A nor B

- \_\_\_\_\_ 23. A way to help identify a plastic part is  
a. sanding the paint  
b. sanding the primer  
c. the plastic flexibility test  
d. none of the above
- \_\_\_\_\_ 24. Composite plastics are also known as  
a. ultrasonic plastic  
b. hot air plastic  
c. hybrids  
d. none of the above
- \_\_\_\_\_ 25. Plastic welding uses heat and sometimes  
a. fiberglass  
b. adhesion promoter  
c. a plastic filler rod  
d. none of the above
- \_\_\_\_\_ 26. Technician A says vinyl repair paints must be reduced to spray. Technician B says vinyl repair paints are packed ready to spray. Who is correct?  
a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
- \_\_\_\_\_ 27. Technician A says a two-sided plastic weld is the strongest type of weld. Technician B says a one-sided plastic weld is the strongest type. Who is correct?  
a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
- \_\_\_\_\_ 28. Technician A says SMC is a reinforced plastic. Technician B says FRP is a reinforced plastic. Who is correct?  
a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
- \_\_\_\_\_ 29. Technician A says while sectioning, the locations must be figured by measuring. Technician B says while sectioning, the locations are often given in the service manual. Who is correct?  
a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
- \_\_\_\_\_ 30. Technician A says cosmetic filler is typically a two-part epoxy filler. Technician B says cosmetic filler is typically a two-part polyester filler. Who is correct?  
a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
- \_\_\_\_\_ 31. Technician A says structural filler is used to strengthen cracked frame members. Technician B says structural filler is used to fill very small gaps in the panel structure. Who is correct?  
a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
- \_\_\_\_\_ 32. Technician A says ultrasonic welds are made along the circumference of the stud. Technician B says ultrasonic welds are made along the perimeter of the stud. Who is correct?  
a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
- \_\_\_\_\_ 33. Technician A says single-sided welds are used when time is crucial. Technician B says single-sided welds are used when the part cannot be removed from the vehicle. Who is correct?  
a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
- \_\_\_\_\_ 34. Technician A says round tips are used to make short welds when hot air plastic welding. Technician B says round tips are used to make long welds. Who is correct?  
a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B

- \_\_\_\_ 35. Technician A says all hot air plastic welders are exactly the same. Technician B says all hot air plastic welders are different. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 36. Technician A says adhesion promoter is used only for bare metal. Technician B says adhesion promoter can be used in place of a flex agent. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 37. Technician A says two-part adhesive systems consist of a base resin and a hardener. Technician B says two-part adhesive systems consist of a catalyst and base resin. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 38. Technician A says one way to identify plastics is by the ISO code. Technician B says the best way to identify plastics is by checking the VIN. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 39. Technician A says there is only one type of plastic used in automotive construction: thermoplastic. Technician B agrees that there is only one type, but says it is thermosetting plastic. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 40. Technician A says metal does not occur in nature and must be manufactured. Technician B says plastics do not occur in nature and must be manufactured. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 41. Custom body panels are aftermarket parts that \_\_\_\_\_ the appearance of the vehicle.
- a. enhance
  - b. alter
  - c. diminish
  - d. none of the above
- \_\_\_\_ 42. Fenders are bolted to
- a. the quarter panel.
  - b. the rocker panel.
  - c. the radiator core support.
  - d. none of the above
- \_\_\_\_ 43. A type of bumper energy absorber is called
- a. a bumper shock assembly
  - b. a low impact assembly
  - c. an isolator
  - d. none of the above
- \_\_\_\_ 44. Many bumper covers are made of
- a. flexible plastic
  - b. aluminum
  - c. fiberglass
  - d. none of the above
- \_\_\_\_ 45. What controls the height of the front of the hood.
- a. Hood stop
  - b. Hinges
  - c. Piston
  - d. none of the above
- \_\_\_\_ 46. Technician A says hood hinges bolt to the cowl. Technician B says hood hinges bolt to the inner fender. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B

47. Technician A says hood hinges hold considerable weight and should be adjusted at regular intervals. Technician B says if there is no damage to the front end, there is no reason to adjust the hinges. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
48. Technician A says the rocker cover covers the rear bumper only. Technician B says the rocker cover technically covers front and rear bumper. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
49. Technician A says always have help removing a hood. Technician B says if the hood is small and light enough, one man can safely remove a hood. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
50. Technician A says hood stops are not adjustable as they are preset at the factory. Technician B says hood stops are adjustable. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
51. Technician A says when replacing a fender, it is important to paint all the edges of the panel before installing it on the vehicle. Technician B says to paint the edges after the fender is installed to avoid scratching. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
52. Technician A says some fenders are welded on leaving no room for adjustment. Technician B says all fenders are adjustable once installed. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
53. Technician A says grilles are not adjustable because they can crack. Technician B says most grilles can be adjusted. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
54. Technician A says lid torsion rods are not adjustable. Technician B says lid torsion rods are welded into slots. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
55. Technician A says installing aftermarket parts can affect the warranty of the vehicle. Technician B says installing aftermarket parts if installed professionally will never affect the warranty. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
56. Technician A says air dams improve aerodynamics. Technician B says air dams restrict air passing under the vehicle. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B
57. Technician A says sometimes using a heat gun is recommended to soften the adhesive before molding removal. Technician B says using a heat gun can blister the paint. Who is correct?
- a. Technician A  
b. Technician B  
c. both A and B  
d. neither A nor B

**ID: A**

- ## Completion

61. Composite plastics or \_\_\_\_\_ are blends of different plastics and other ingredients.
62. An adhesion promoter is a \_\_\_\_\_ that treats the surface of the plastic.
63. Hot air plastic welding uses a tool with an electric heating element to produce hot air in the temperature range of \_\_\_\_\_ to \_\_\_\_\_.
64. \_\_\_\_\_ means a plastic piece wants to keep or return to its original molded shape.
65. Thermosetting plastics undergo a \_\_\_\_\_ change by the action of heating.
66. If designed properly, air dams can increase \_\_\_\_\_.
67. The surfaces of the fender are often painted \_\_\_\_\_ installation.
68. Install the replacement fender in \_\_\_\_\_ order of removal.
69. In order to comply with federal regulations, manufacturers have fitted their bumpers with \_\_\_\_\_.
70. The \_\_\_\_\_ mechanism keeps the hood closed and releases the hood when activated.

**Enrichment Activities Auto Collision 1**  
**Answer Section**

**TRUE/FALSE**

1. ANS: F
2. ANS: T
3. ANS: F
4. ANS: T
5. ANS: F
6. ANS: F
7. ANS: F
8. ANS: T
9. ANS: T
10. ANS: F
11. ANS: F
12. ANS: T
13. ANS: F
14. ANS: F
15. ANS: T
16. ANS: F
17. ANS: F
18. ANS: T
19. ANS: F
20. ANS: F

**MULTIPLE CHOICE**

21. ANS: A
22. ANS: C
23. ANS: C
24. ANS: C
25. ANS: C
26. ANS: B
27. ANS: A
28. ANS: C
29. ANS: B
30. ANS: C
31. ANS: D
32. ANS: A
33. ANS: B
34. ANS: A
35. ANS: B
36. ANS: D

- 37. ANS: C
- 38. ANS: A
- 39. ANS: D
- 40. ANS: B
- 41. ANS: B
- 42. ANS: A
- 43. ANS: C
- 44. ANS: A
- 45. ANS: A
- 46. ANS: C
- 47. ANS: B
- 48. ANS: D
- 49. ANS: A
- 50. ANS: B
- 51. ANS: A
- 52. ANS: B
- 53. ANS: B
- 54. ANS: D
- 55. ANS: A
- 56. ANS: C
- 57. ANS: C
- 58. ANS: A
- 59. ANS: A
- 60. ANS: B

## **COMPLETION**

- 61. ANS: hybrids
- 62. ANS: chemical
- 63. ANS: 450 degrees, 650 degrees
- 64. ANS: Plastic memory
- 65. ANS: chemical
- 66. ANS: fuel economy
- 67. ANS: before
- 68. ANS: reverse
- 69. ANS: energy absorbers
- 70. ANS: hood latch



**Enrichment Activities Auto Collision 1****True/False**

*Indicate whether the sentence or statement is true or false.*

- \_\_\_\_\_ 1. Low carbon steel is also called MS.
- \_\_\_\_\_ 2. Shear is a load that pulls parts backwards.
- \_\_\_\_\_ 3. A tear, gouge, or scratch is indirect damage because they are considered minor.
- \_\_\_\_\_ 4. Elastic deformation is the ability of metal to stretch beyond its original shape without being able to return to its original form.
- \_\_\_\_\_ 5. A minor dent is often straightened by using a hammer and dolly.
- \_\_\_\_\_ 6. Slapping spoons are sometimes used instead of pull rods.
- \_\_\_\_\_ 7. Stretched metal has been forced thinner.
- \_\_\_\_\_ 8. Kinking involves using a hammer and dolly to tear rusty metal.
- \_\_\_\_\_ 9. When filing aluminum, increase hand pressure on the body file.
- \_\_\_\_\_ 10. Paintless dent repair involves removing small dents using only glazing putty.
- \_\_\_\_\_ 11. A cream hardener is also called a catalyst.
- \_\_\_\_\_ 12. For the first 100 years of auto body repair, blemishes were filled with lead.
- \_\_\_\_\_ 13. Polyester glazing putty is a one-part putty used to fill scratches.
- \_\_\_\_\_ 14. A cheese grater is used to cut the excess filler to contour quickly.
- \_\_\_\_\_ 15. Drying time for filler is normally around 15 to 20 minutes.
- \_\_\_\_\_ 16. 80-grit paper is used to coarse sand plastic filler.
- \_\_\_\_\_ 17. A guide coat is used to check for high spots.
- \_\_\_\_\_ 18. Surface rust is the later forms of corrosion.
- \_\_\_\_\_ 19. Regular body fillers are suitable for filling rust repairs.
- \_\_\_\_\_ 20. Surface rust in early stages leaves a reddish coating on surface metal.

**Multiple Choice**

*Identify the letter of the choice that best completes the statement or answers the question.*

- \_\_\_\_\_ 21. The term \_\_\_\_\_ means to work a dent outward or away from the body.
  - a. lowering
  - b. shrinking
  - c. raising
  - d. none of the above
- \_\_\_\_\_ 22. When shrinking aluminum use a heat sensitive crayon to change color at what temperature?
  - a. 250 degrees F
  - b. 500 degrees F
  - c. 750 degrees F
  - d. 1000 degrees F

- \_\_\_\_ 23. What process is generally recommended for straightening aluminum?
- a. Hammer on
  - b. Hammer off
  - c. Pick and pull
  - d. none of the above
- \_\_\_\_ 24. What is needed to remove strain or tension on a damaged, stretched sheet metal area?
- a. Shrinking metal
  - b. Paintless dent repair
  - c. Hammer off method
  - d. Hammer on method
- \_\_\_\_ 25. What is designed to strike sheet metal and rebound off its surface as a means of straightening minor dents?
- a. Dolly
  - b. Ball Peen hammer
  - c. Body hammer
  - d. none of the above
- \_\_\_\_ 26. Technician A says hammer on dolly method is used to exert a smoothing force to a large area on a damaged panel. Technician B says the dolly is used for small areas only. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 27. Technician A says a buckle is a result of the serpentine belt having a kink due to the force of the collision. Technician B says a buckle is a result of metal past its elastic limit. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 28. Technician A says the yield point is the amount of force that a piece of metal can resist without tearing. Technician B says yield point is the furthest distance damaged metal can be accurately measured. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 29. Technician A says that compression is a load that forces the parts straight into each other. Technician B says compression forces frame members in opposite directions. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 30. Technician A says low carbon steel is extremely rigid and difficult to straighten. Technician B says low carbon steel is extremely rigid making it very easy to straighten. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 31. Technician A says HHS is thinner and weaker than low carbon steel. Technician B says HHS is a mild steel and stronger than low carbon steel. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 32. Technician A says "plasticity" refers to the repair of fiberglass reinforced body panels. Technician B says "plasticity" is the ability of metal to be bent or formed into different shapes. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 33. Technician A says plastic deformation is when the metal has temporarily changed shape. Technician B says plastic deformation is when the metal has permanently changed shape. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_ 34. Technician A says compressive strength is the property of material to resist being crushed. Technician B says compressive strength is the pulling force of a "porta power" body puller. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B

Name: \_\_\_\_\_

ID: A

- \_\_\_\_\_ 35. Technician A says a double crown panel is flat in one direction and crowned in another. Technician B says a single crown panel is flat in one direction and crowned in another. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_\_ 36. Technician A says tension is commonly used to describe the condition in metal after damage. Technician B says pressure is commonly used to describe the condition in metal after damage. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_\_ 37. Technician A says theory and analysis will tell you what is wrong. Technician B says use your must basic skills to repair the damage. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_\_ 38. Technician A says sometimes you can reach in an area easier with a dolly than a hammer. Technician B says a hammer will always reach areas a dolly cannot. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_\_ 39. Technician A says the hammer off technique is effective but very difficult to control. Technician B says the hammer off technique can be controlled. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_\_ 40. Technician A says to never use any disc heavier than 180 grit to remove paint. Technician B says 36 or 40 grit is the normal grit to remove paint. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B
- \_\_\_\_\_ 41. When repairing rust, fiberglass is preferred because it is
- a. heavier than plastic filler.
  - b. water proof.
  - c. easier to sand than plastic filler.
  - d. none of the above
- \_\_\_\_\_ 42. When using plastic filler the most common mistake an apprentice makes is
- a. kneading too long.
  - b. not using enough hardener.
  - c. using too much hardener.
  - d. none of the above.
- \_\_\_\_\_ 43. What file is used to quickly cut the excess filler to size?
- a. cheese grater
  - b. surform file
  - c. both A and B
  - d. none of the above.
- \_\_\_\_\_ 44. The best way to repair rust outs is
- a. using plastic filler
  - b. using fiberglass filler
  - c. using aluminum filler
  - d. welding a metal patch over the rust hole
- \_\_\_\_\_ 45. Tapering the edges of paint so that it gradually blends in with the metal surface is called
- a. grinding
  - b. featheredging
  - c. metal preparation
  - d. none of the above
- \_\_\_\_\_ 46. Technician A says depending on the outside temperature, the rule of thumb for mixing plastic filler is 70% filler, 30% hardener. Technician B says to add 2% hardener to the filler. Who is correct?
- a. Technician A
  - b. Technician B
  - c. both A and B
  - d. neither A nor B



**ID: A**

- ## Completion

61. Use a \_\_\_\_\_ to remove dents in steel panels from the front without drilling holes.
62. \_\_\_\_\_ has been forced thinner in thickness and larger in surface area by impact.
63. Because \_\_\_\_\_ is so soft, you should reduce hand pressure on the body files when marking high and low spots.
64. With aluminum, heat must be used to restore the \_\_\_\_\_.
65. \_\_\_\_\_ is the tendency to return to its original shape after deformation.
66. The catalyst used in filler is also called the \_\_\_\_\_.
67. \_\_\_\_\_ has long strands of fiberglass filler for even more strength.
68. Maximum filling depths of most putty is \_\_\_\_\_.
69. Polyester glazing putty is a \_\_\_\_\_ putty.
70. A good grit sandpaper to rough sand filler is \_\_\_\_\_.

**Enrichment Activities Auto Collision 1  
Answer Section**

**TRUE/FALSE**

1. ANS: T
2. ANS: F
3. ANS: F
4. ANS: F
5. ANS: T
6. ANS: F
7. ANS: T
8. ANS: F
9. ANS: F
10. ANS: F
11. ANS: T
12. ANS: F
13. ANS: F
14. ANS: T
15. ANS: F
16. ANS: F
17. ANS: T
18. ANS: F
19. ANS: F
20. ANS: T

**MULTIPLE CHOICE**

21. ANS: C
22. ANS: C
23. ANS: B
24. ANS: A
25. ANS: C
26. ANS: B
27. ANS: B
28. ANS: A
29. ANS: A
30. ANS: D
31. ANS: D
32. ANS: B
33. ANS: B
34. ANS: A
35. ANS: B
36. ANS: C

- 37. ANS: C
- 38. ANS: A
- 39. ANS: B
- 40. ANS: B
- 41. ANS: B
- 42. ANS: C
- 43. ANS: C
- 44. ANS: D
- 45. ANS: B
- 46. ANS: B
- 47. ANS: A
- 48. ANS: B
- 49. ANS: B
- 50. ANS: A
- 51. ANS: B
- 52. ANS: A
- 53. ANS: C
- 54. ANS: B
- 55. ANS: A
- 56. ANS: D
- 57. ANS: A
- 58. ANS: D
- 59. ANS: A
- 60. ANS: B

#### COMPLETION

- 61. ANS: spot weld dent puller
- 62. ANS: Stretched metal
- 63. ANS: aluminum
- 64. ANS: flexibility
- 65. ANS: Spring back
- 66. ANS: hardener
- 67. ANS: Long hair fiberglass filler
- 68. ANS: 1/32 inch
- 69. ANS: two-part
- 70. ANS:
  - 36
  - 40
  - 80