

Webster County Schools

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CTE

Packet 5

Teacher Academy (#5)

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. Education in grades K-12 on a state level includes all of the following *except* _____.
A. commissioner of education
B. state board of education
C. state department of education
D. state/district-liaison
- _____ 2. In which of Piaget's stages of cognitive development do young children learn to recognize symbols and learn concepts?
A. Sensorimotor.
B. Preoperational.
C. Concrete operational.
D. Formal operational.
- _____ 3. Cognitive development of five- to seven-year-old children includes _____.
A. focusing on how things appear
B. mastering sequencing and ordering
C. using executive strategies
D. All of the above.
- _____ 4. Which of the following statements about the adolescent brain is true?
A. Inactivity wastes windows of opportunity.
B. Brain development and swings in behavior are unrelated.
C. Learning is complete by the end of the teen years.
D. All of the above are true.
- _____ 5. Most young teens are beginning to enter Kohlberg's _____ stage of morality, in which teens begin to make moral decisions based on universal principles.
A. preconventional
B. conventional
C. cardinal
D. postconventional

Essay

6. Give three examples of ways that schools and communities interact and how this relationship benefits both the schools and the communities.
7. Explain how you will make a difference in helping your students cope with difficulties.
8. Explain the roles of school principals.
9. Explain the difference between growth and development, citing specific examples of each.
10. Explain the four basic principles of human development and provide an example of each.
11. Explain Bandura's social cognitive theory.
12. Describe each of the three levels of morality in Kohlberg's theory of moral development. Give examples of decisions that represent each stage.
13. Explain the development of reading and language through middle childhood.
14. Which of Piaget's stages of cognitive development describes middle childhood? List some skills that are acquired during this stage.
15. Describe the role of the teacher in the development of self-concept of students.
16. Describe an example of asynchrony and its effect on a young teen.

17. What effect does risk-taking behavior have on teens? How can teens avoid becoming involved in high-risk behaviors?
18. Explain how digital communications are affecting many aspects of relationships.
19. Why might teens stay in relationships that are hurtful?
20. Explain how Kohlberg's stage of postconventional morality relates to teens' moral development.

**Teacher Academy (#5)
Answer Section**

MULTIPLE CHOICE

- 1.ANS:D
- 2.ANS:B
- 3.ANS:A
- 4.ANS:A
- 5.ANS:D

ESSAY

6. (Answers will vary. Examples may include the following:) Parents and schools—schools create opportunities for parent involvement. When parents are involved, they tend to be strong supporters of education. Business and industry links—businesses need potential workers who have the knowledge, skills, and attitudes needed for successful employment. Businesses may also form corporate-education partnerships. Schools and community resources—schools depend on community resources to help educate and serve their students. In turn, schools share some resources, such as adult education classes, with the community.
- 7.(Answers will vary.)
- 8.(Answers will vary.)
- 9.Growth refers to physical changes. Development refers to gradual increase in skills and abilities. (Examples will vary.)
- 10.Development is relatively orderly; a gradual, continuous process; interrelated; and varies among individuals. (Examples will vary.)
11. Bandura argued that people of all ages observe and imitate the behaviors of others regardless of rewards and punishments involved. People are affected by rewards and punishments, but their reactions are filtered by their own perceptions, thoughts, and motivations.
12. preconventional morality—decisions about what is right or wrong depend on whether you will be punished or rewarded for your behavior; conventional morality—moral decisions are motivated by society's laws and rules and how a person who disobeys might be perceived; postconventional morality—moral decisions are based on principles such as justice, individual conscience, human rights, and integrity. (Examples of each stage will vary.)
13. While verbal communication is strong, reading is just beginning. Reading development initially involves recognition of letters and the sounds they make. Then children are able to read whole words, then sentences, then paragraphs, then books. At the end of middle childhood, children know over 40,000 words. They are using more complex patterns in speech and writing.
14. Children in middle childhood are in Piaget's concrete operational stage. Children are able to solve logical problems including conservation. They can understand cause and effect, group and classify items, and suggest solutions to problems.
- 15.(Answers will vary.)
- 16.(Examples will vary. Answer should indicate that teens' arms and legs may grow at different rates, making teens feel uncoordinated and awkward. They may be reluctant to try new things due to these feelings.)
17. Engaging in high-risk behaviors can have life-altering consequences. Teens can avoid becoming involved in high-risk behaviors by thinking about situations in terms of pros and cons as well as preparing an answer for their decision not to get involved.
- 18.(Answers will vary. See Figure 8.8 in the text on page 192.)
19. Teens may be eager for acceptance and love. They may feel love for the abuser, become convinced that they deserve such treatment, or be afraid to break off the relationship.
20. Teens may begin to base actions on whether they believe an action is morally wrong, when in the past they may have based their decisions on whether they were likely to be caught.
is morally wrong, when in the past they may have based their decisions on whether they were likely to be caught.

Forestry CTE Send Home Packet 3

Pages 1-6 -- Forestry Best Management Practices

Skid Trails and Haul Roads

Pages 7-9 – Practice Questions

Page 10 – Answers to Practice questions

SKID TRAILS AND HAUL ROADS

Skid trails and haul roads, temporary or permanent, are constructed to provide access into forested lands. Temporary trails and roads are planned for short-term use (i.e., during a single operation or activity of normally up to 12 months duration). Permanent roads are constructed for longer periods of service. Specific guidelines for constructing erosion control structures are provided in *Upland - Erosion Control Methods*, pages 10 - 14.

SKID TRAILS

Skid trails are used for moving harvested materials from stump to landing. To avoid excessive and unnecessary soil erosion, provisions should be made for the adequate drainage of skid trails. A skid trail system, combined with properly located log decks and main haul roads, will aid in preventing soil erosion and stream sedimentation.

CONSTRUCTION

- Locate trails to serve the intended purpose while facilitating adequate control of surface water and sedimentation. Aerial photographs and maps (topographic) are helpful in designing road and trail networks. Locate landings first and design skid trail approach with low grade.
- Keep skid trail grades (steepness) below 15%, if possible.
- Break the grade occasionally and avoid long, steep grades.
- A cross-drain is needed immediately above extra steep pitches in the road and immediately before bank seepage spots.
- Install water turnouts at same spacing as on haul roads.
- Cross streams at a right angle.
- Locate trails where side drainage can be attained.
- Avoid potentially sensitive areas and problem soils, when possible.

MAINTENANCE

Maintenance of *skid trails* during logging consists chiefly of maintaining an effective drainage system. On completion of the logging operation, follow these steps:

- To protect trails after they are retired, proper water diversion structures are recommended.
- Discourage unnecessary traffic.
- Scatter brush and/or slash on *skid trails* to slow water movement and reduce *erosion*.
- At stream crossings, the streambed should be cleared of all slash and restored to natural shape, *grade* and stabilized.

HAUL ROADS

The following guidelines are suggested as simple, effective means of controlling *sedimentation* from areas of soil disturbance. More elaborate stabilization techniques are offered in technical guides prepared by the Natural Resources Conservation Service. These guides should be used when costs are warranted and additional uses for access roads are envisioned.

CONSTRUCTION

Locate roads to serve the intended purpose while facilitating adequate control of surface water and *sedimentation*. Aerial photographs and maps (topographic) are helpful in designing road and trail networks.

- Avoid potentially hazardous areas and problem soils, if possible.
- Locate roads where side drainage can be achieved.
- Topsoil, trees, stumps, roots, brush, weeds and other objectionable material should be removed from the area required for the roadway, including shoulders, ditches and side road approaches. Dispose of this material above the ordinary highwater mark.
- Use all suitable excavated material for the construction of the road when possible.
- Construct roads during drier periods of weather when possible.
- Allow road surface to settle before using.
- Avoid flat, *no-grade* roads. *Grade* should be limited to between 2% and 10%, if possible. Grades above 10% can be used for short distances. Avoid long steep grades to reduce the total number of *drainage structures* needed.
- Roads should be wide enough to enhance surface drying.
- Cuts and fills should have side slopes that are stable for the soil material.
- Establish bank stabilization in all stream crossing designs.

MAINTENANCE

- Maintain road surfaces as needed to limit the development of ruts.
- Discourage unnecessary traffic during periods of excessive moisture.
- Clean all *drainage structures* and ditches as needed.
- When a road is to be retired, *culverts* may be removed and replaced with *water bars*, dips, or ditches.
- To protect roads and ditches from *erosion* after they are retired, revegetation is recommended. Road closure by barriers, gates and other structures is advised.

EROSION CONTROL METHODS FOR TRAILS AND ROADS

The siltation load in surface water runoff from roads and trails is a primary contributor to *sedimentation* from logging activities. Several types of water control structures are suggested as effective means to reduce sedimentation arising from the transportation network. The specific type or mix of types most appropriate are dependent upon the soils, topography, equipment and objectives inherent to a particular operation.

SLASH DISPERSAL

Slash is the debris such as unmerchantable limbs and tree tops created in the process of a normal logging operation. Slash dispersal is probably the most immediate solution for prevention of soil movement on an active logging site. Wherever possible slash should be scattered back over exposed soil on skid trails and evenly dispersed across logging sets. Slash has also been used successfully to build water bars on skid trails.

REVEGETATION

Artificial revegetation using seed and or mulch can be used to protect the trails, roads and other exposed soil. See *Upland - Artificial Revegetation*, page 21.

SILT FENCES AND HAY BALES

Silt fences and hay bales are effective at reducing erosion and sedimentation. They can be used to stabilize exposed soil around stream crossings. They may also be used to stabilize embedded road ways and trails.

WATER BARS

A *water bar* is a mound of soil designed to divert runoff water away from the road. Runoff from these areas should not be channeled directly into the SMZ but, instead, allowed to run diffusely across it.

- *Water bars* should cross roads at an angle of approximately 30 degrees starting near the crest of the slope.
- Shallow *water bars* may be constructed prior to and during logging use and should be considered a temporary structure.
- Deep *water bars* are utilized when use of the road is finished and are considered a permanent structure.
- Avoid direct tie-in of turnouts and outfall of *water bars* to gullies.

Water Bar Spacing	
Grade of Road (percent)	Approximate Distance (feet)
2	250
5	135
10	80
15	60
20	45
25	40
30	35
40	30

WATER TURNOUTS

A *water turnout* is the extension of a drainage ditch into a vegetated area, providing for the dispersion and filtration of storm water runoff. Turnouts should be installed on any section of road or trail where water could accumulate. Runoff from these areas should not be channeled directly into the SMZ but, instead, allowed to run diffusely across it.

In general, *water turnouts* should be spaced at intervals no greater than:

- 200 feet apart on 2% to 5% grades,
- 100 feet apart on 6% to 9% grades and
- 75 feet apart on 10% or greater grades.

OUTSLOPES

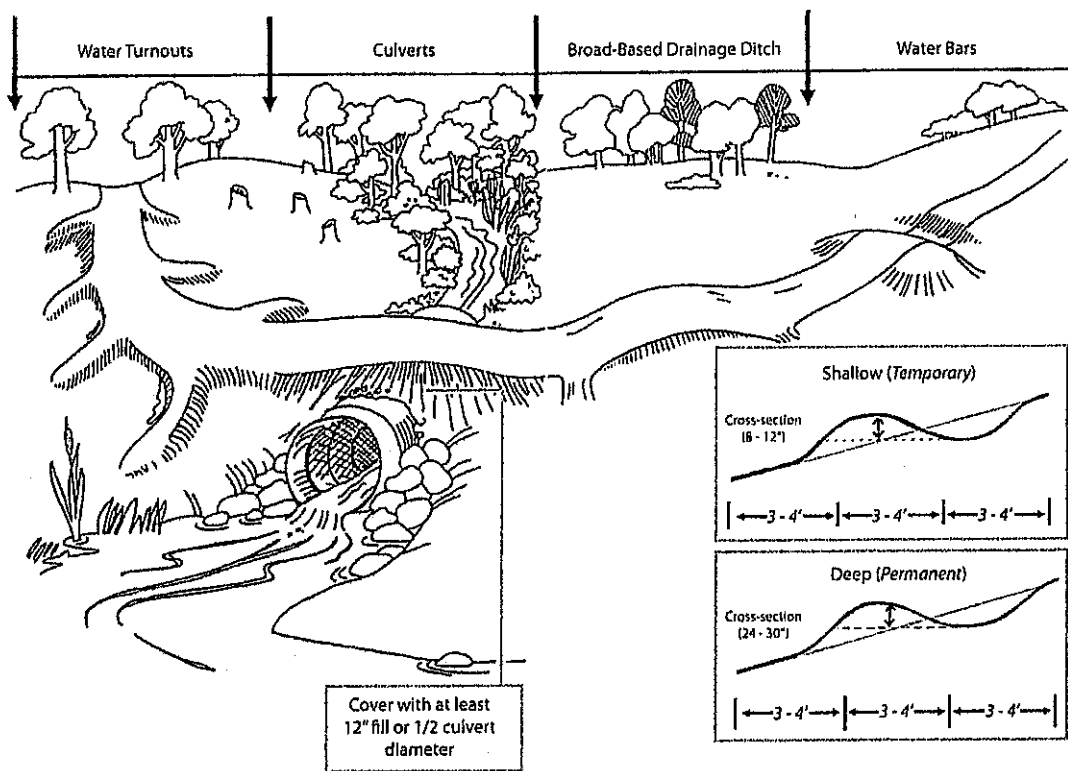
- Design *outslopes* to effectively move water away from the center of a road.
- *Outslope* the entire width of the road to reduce the number of *drainage structures* needed.
- A recommended slope is ¼" per foot of road width.
- Outsloping is not recommended for highly erodible soils.

BROAD-BASED DRAINAGE DITCH

A *broad-based drainage ditch* is a carefully constructed *outslope* section of the road which serves as both a water catchment and drainage *channel*. This erosion control method requires an *outslope* of approximately 3% and a minimum width of 20 feet.

The approximate distance from one drainage ditch to the next is determined by the formula:

$$Distance (feet) = \frac{400}{\% slope} + 100$$



TEMPORARY STREAM CROSSING

The crossing of streams by roads, *skid trails*, or *firebreaks* should be avoided. If stream crossings are unavoidable, minimize the number of crossings, cross the stream by the least disruptive manner possible and control sediment. Protect water quality by maintaining the integrity of the stream bank, using fill materials that are easy to remove in the restoration process and minimizing the amount of fill dirt entering the stream.

Temporary crossings should be constructed using the following recommendations:

- Cross streams at a right angle using simple *culverts*, mats, log crossings or bridges.
- Approach streams at gentle slopes.
- If possible, use temporary bridges or portable logging mats (wood or steel dragline mats) rather than *culverts*.
- If temporary *culverts* are used and will be in place for an extended period, the fill should be stabilized using seed and mulch.
- Whenever possible, use logs or stems as fill over temporary *culverts* instead of fill dirt.
- Stabilize approaches during and after construction.
- Logs and stems may be used as temporary fill to cross streams.
- Crossing should not impede water flow and temporary crossing should be removed following harvest.
- When logging is complete, remove all temporary fill material and restore the *channel* to its original elevation.

PERMANENT STREAM CROSSING

Permanent stream crossings are used for "on-going" forestry operations where streams or drainages must be crossed by logging, site preparation, road maintenance and fire suppression equipment throughout the life of the stand. Permanent stream crossings include bridges, culverts and fords. These permanent crossings should be sized appropriately for the stream to minimize any long-term negative environmental impacts. During construction the integrity of the stream bed and slopes should be protected as much as possible and immediately stabilized using rock, seed and/or mulch. Aggregate or other suitable material should be used on approaches to ensure a stable road bed approach and reduce sediment in the stream. Permanent stream crossings will require frequent inspections to determine their functional and safe condition.

FORDS

A natural or paved stream crossing suitable for shallow streams with stable bottoms.

- Use *fords* if streambeds are solid and if the installation of bridges and *culverts* will accelerate soil movement.
- Enforce both approaches to a *ford* with gravel.
- Do not use *fords* in sensitive water areas.

BRIDGES

Bridges should be used over larger streams where heavy or long-term traffic is expected. This handbook does not attempt to make recommendations on bridge construction.

CULVERTS

A *culvert* is a metal or plastic pipe used to control the flow of surface water runoff and to allow for unobstructed flow of stream water. Place *culverts* in such a manner as to adequately drain the roadway while preventing soil *erosion*.

The *culvert* sizes in the following table are appropriate for both permanent and temporary crossings. In the majority of situations, the minimum *culvert* diameter recommended is 18 inches. However, a smaller diameter *culvert* may be used when minor drainage exists on flat topography.

GENERAL GUIDELINES FOR CULVERTS

- When using combinations of *culverts* to carry equivalent water flow, use *culverts* that are $\frac{3}{4}$ the diameter of the recommended diameter. For example:
 - Two 48" *culverts* may substitute for one 60" *culvert*;
 - Two 54" *culverts* may substitute for one 72" *culvert*.
- At road crossings of permanent streams, all structures should be placed to allow fish passage.
- All *culverts* should be installed at the proper level and be of sufficient size to carry anticipated water flow.
- Keep *culverts* clear of debris to allow unrestricted flow.

Forestry Practice Questions

1. To eat all but the veins of the leaf
 - a. Defoliate
 - b. Cankers
 - c. Skeleton

2. Organisms that exist by consuming other organisms.
 - a. Pest
 - b. Parasites
 - c. Predators

3. Rapid, explosive increase of an insect population or rapid spread of disease
 - a. Carnivores
 - b. Epidemic
 - c. Virus

4. Any undesirable or destructive organism
 - a. Enemy
 - b. Pest
 - c. Prey

5. To live on or in another organism, taking nutrients without killing the host
 - a. Carnivore
 - b. Prey
 - c. Parasite

6. Rain freezes upon contact with the surface of trees and other surfaces, forming a heavy and damaging layer of ice
 - a. Frost
 - b. Hail
 - c. Freezing rain (glaze ice)

7. To eat the entire leaf
 - a. Mining
 - b. Skeleton
 - c. Defoliate

8. The intentional destruction of property by fire
 - a. Arson
 - b. Spot fire
 - c. Explosion

9. All of the work of extinguishing a forest fire
 - a. Presuppression
 - b. Suppression
 - c. Exhaustion

10. Uncontrolled forest fires
 - a. Wildfires
 - b. Prescribed burns
 - c. Smoke management

11. Bare soil containing nothing that will burn.
 - a. Canyon
 - b. Mineral soil
 - c. Pete

12. A barrier, either already existing or built before a fire occurs or spreads, used to stop or check fires.
 - a. Fire lane or fire break
 - b. Turnouts
 - c. Water bars

13. The natural or artificial restocking of an area with forest trees
 - a. Stand
 - b. Forestation
 - c. Reforestation

14. A stand where a relatively small age difference exists between trees
 - a. All-aged
 - b. Uneven-aged
 - c. Even-aged

15. A tree grown from seed that is usually smaller than a sapling
 - a. Cutting
 - b. Seedling
 - c. Scion

16. The application of business methods and technical forest principles to the operation of forest property
 - a. Forest management
 - b. Timber stand improvement
 - c. Forestation

17. For each stand, the forest manager develops a plan based upon
- a. The method that allows him/her to make the most money
 - b. The method suggested by the local extension office
 - c. The landowners objectives and goals
18. Fires started, usually by landowners, to burn trash or to get rid of brush getting out of control and spreading to nearby forested areas.
- a. Lightning
 - b. Incendiary
 - c. Debris burning
19. Usually occurring in the western U.S., the only important and, so far, unpreventable cause of fires
- a. Machinery
 - b. Lightning
 - c. Arson
20. What factor causes a fire to burn faster
- a. Light fuels such as sage grass
 - b. Heavy fuels such as stumps and logs
 - c. High humidity

Answers to Practice Questions

1. C
2. C
3. B
4. B
5. C
6. C
7. C
8. A
9. B
- 10.A
- 11.B
- 12.A
- 13.C
- 14.C
- 15.B
- 16.A
- 17.C
- 18.C
- 19.B
- 20.A

1st and 2nd year student cpas review
Questions from all year

87. The oil should be changed when it is?
A) Cold
B) Warm
C) Hot
88. Name the parts of the electrical system of a small engine?
89. Define viscosity:
90. What charges the battery?
91. Describe the events occurring in each stroke of a two cycle engine.
92. What gauge do you use to set the air gap on the magneto?
93. Name the instrument you use to check the size of the crank shaft?
94. Describe 10w 30 oil.
95. What type of cylinder has pressure both ways?
96. Name three types of hydraulic pumps?
97. What does a hydraulic pump create?
98. What is the most likely cause of a hydraulic cylinder leaking?
99. Describe open center system.

1st and 2nd year student cpas review
Questions from all year

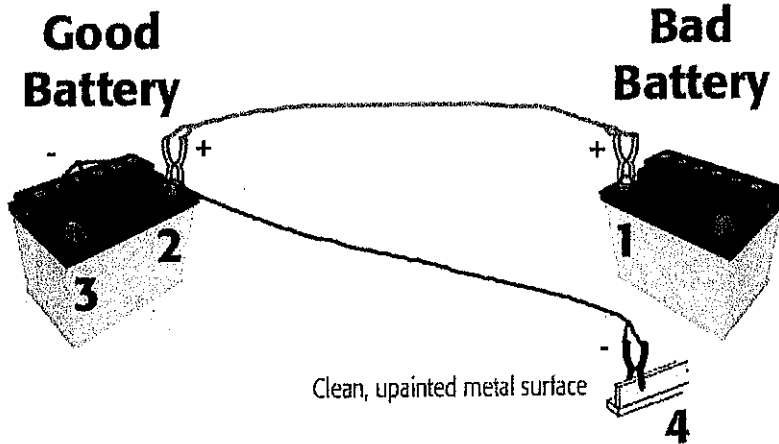
100. Describe closed center system.
101. How does hydraulics work?
102. What type of motion does a cylinder produce?
103. What does a hydraulic valve do?
104. What converts mechanical energy to hydraulic fluid power?
105. Define cavitation.
107. The filter assembly on the shop air line to a plasma arc cutting machine removes:
 - A. argon and helium from the air
 - B. oil and water from the air
 - C. oxygen and nitrogen from the air
 - D. ultraviolet and infrared radiation from the air
108. Two parts of the plasma arc cutting torch and nozzle are the:
 - A. electrode and heat shield
 - B. baffle and rip gauge
 - C. swirl and micrometer
 - D. tip and fan
109. The crusty substance that forms on the weld is
 - A. spatter
 - B. slag
 - C. arc flash
 - D. Flux
110. Welding a V-groove weld in the flat position is known as

1st and 2nd year student cpas review
Questions from all year

- A. a 1G weld
 - B. a 2G weld
 - C. a 3G weld
 - D. a 4G weld
111. A semi-automatic system of welding is the
- A. MIG welder
 - B. TIG welder
 - C. gas torch
 - D. shield-arc welder
112. The flow meter in MOST MIG welders is stated in CFH, which means
- A. constant feed per hour
 - B. constant fuse per hour
 - C. cubic feet per hour
 - D. continuous feet per hour
113. One advantage of welding with the gas metal arc elder is that the welds are
- A. cleaner
 - B. easier to locate
 - C. larger
 - D. longer
114. Using the GMAW process, the point at which one weld bead stops and another bead starts is a
- A. blend
 - B. weave
 - C. restart
 - D. reapply
115. Oxyacetylene cutting should be done wearing goggles with tinted lenses numbered
- A. 30
 - B. 18
 - C. 5
 - D. 00
116. The primary purpose of on oxy-fuel regulator valve is to



How to Jump Start a Car



1. Make sure **BOTH CARS** are turned off.
2. Connect the **RED (POSITIVE) JUMPER CABLE** to the positive terminal of the dead battery.
3. Connect the **RED (POSITIVE) JUMPER CABLE** to the positive terminal of the good battery.
4. Connect the **BLACK (NEGATIVE) JUMPER CABLE** to the negative terminal of the good battery.
5. Connect the **BLACK (NEGATIVE) JUMPER CABLE** to a **CLEAN, UNPAINTED METAL SURFACE** under the disabled vehicle's hood.

Note: **DO NOT** hook the negative cable to the negative terminal of the dead battery. This could cause sparks and a possible explosion.

6. Start the vehicle that's not disabled and run it for 2 to 3 minutes allowing the battery of the disabled car to charge.
7. Try starting the disabled vehicle. If it doesn't start, charge it for a little longer.
8. If the disabled vehicle does start, let it run for at least 30 minutes before turning it off to give the battery enough time to recharge itself.
9. Disconnect the jumper cables in reverse order (1. negative on dead battery, 2. negative on good battery, 3. positive on good battery, 4. positive on dead battery).

Note: If the battery continuously needs jump-started or you can't get your car to start after jumping it, you may have a bad battery and should take it into your local **auto service station** for evaluation, professional charging, or a new car battery.

Tags: dead battery, jump car, jump start, jump start car, jumpstart car

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Six-Step Troubleshooting Plan

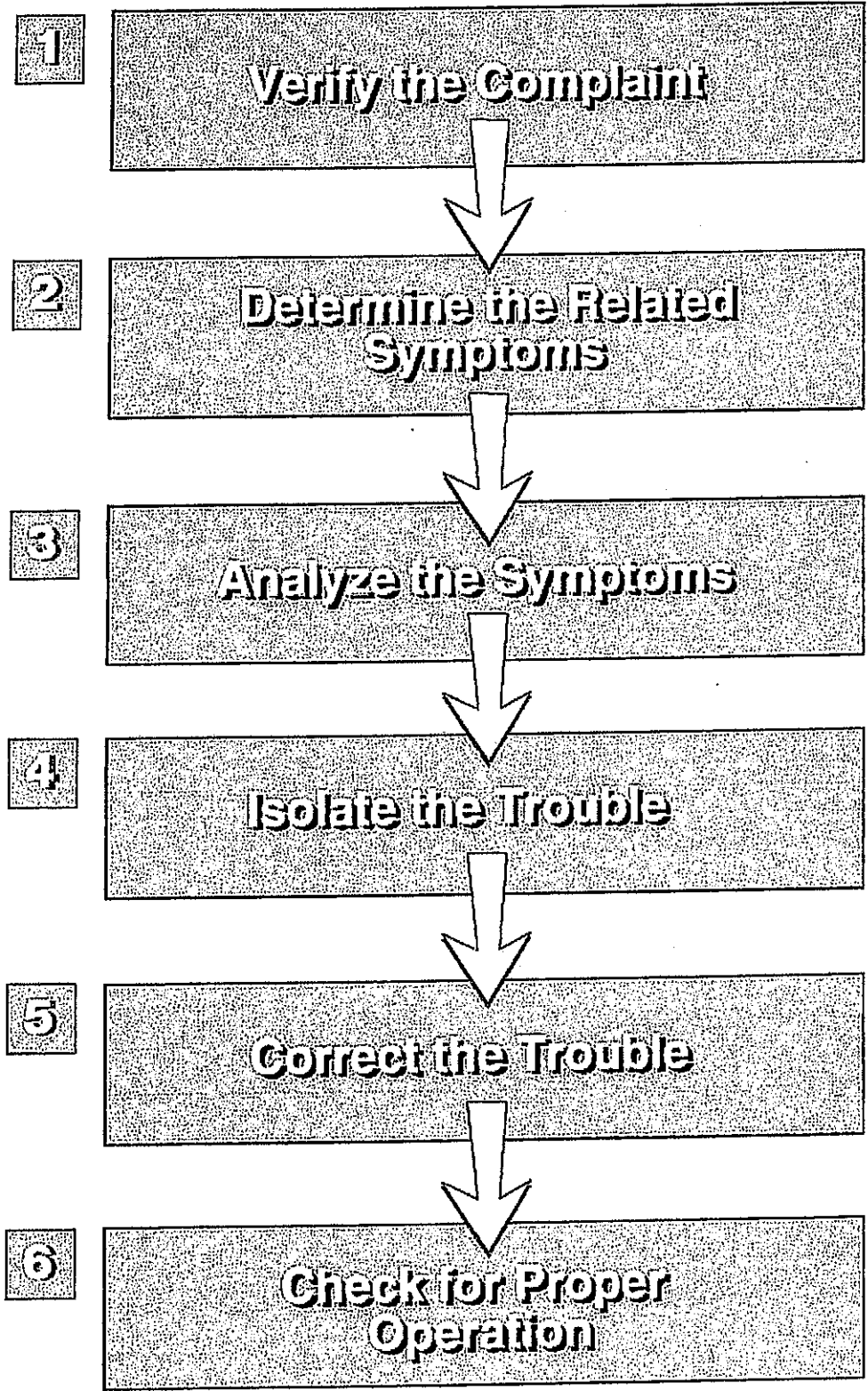


Fig. 4-1
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