



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

CURRICULUM AND ASSESSMENT POLICY STATEMENT GRADE R-5 FOR LEARNERS WITH SEVERE INTELLECTUAL DISABILITY

WELDING

GRADE 4-5

Curriculum and Assessment
Policy Statement Grade R-5
for learners with Severe
Intellectual Disability

2018 Orientation

Learning programme

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1 SECTION 1: INTRODUCTION

2 SECTION 2:

INTRODUCTION TO WELDING

2.1 What is Welding

Welding is a creative sculptural process that joins metal pieces together by heating the edges until they begin to melt, causing fusion. Welding differs from other metal joining techniques as the temperature is higher and the metal is melted to cause permanent joining. The subject includes metalworking to enable learners to create a spectrum of individual parts, large articles and even delicate jewelry. It therefore includes a correspondingly wide range of skills, processes, and tools.

Welding is introduced to the learners at an elementary level like the handling of hand tools which will enable the learners and teachers to produce a wide variety of articles. The subject welding lends itself to produce a variety of metal products, from small utensils, furniture and even the construction of trailers. Entrepreneurial skills are developed to produce a learner that can earn an income under supervision of an artisan.

Welding skills and the content embedded in the skills are taught over two years in Grade 4 and 3 years in Grade 5. The teacher is allowed to adapt the difficulty level of the skills to the ability of the learner.

2.2 Topics in Welding

- General safety and good housekeeping which includes
 - General safety of clothing, tools, electricity and a tidy workshop.
- Tools and safety and uses which includes
 - Measuring and marking tools.
 - Hand tools.
 - Machine tools.
 - Sheet metal tools.

- Bending tools.
- Materials, namely
 - Different metals, with their properties.
 - Recyclable materials
- Processes, which consist of
 - Wire work
 - Raising
 - Sheet metalwork
 - Joining of material
 - Jewellery making
 - Welding
 - Finishing
- Project costing, namely
 - The economic use of material and how to work out a price for the product.

2.3 Specific aim of Welding

- To produce a learner with safe and adequate welding skills that can be applied successfully under supervision

Sub-aims are to teach a learner the following skills, namely:

- To apply general safety and good housekeeping practises in the welding workshop
- To know welding tools and how to use these safely
- To know different materials suitable to use to produce welded articles
- To know the processes to follow in producing an article
- Economic use of material and resources
- Use the correct terminology
- Small scale entrepreneurship
- Utilise recycled material

2.4 Requirements for Welding and Metalwork.

2.4.1 Time Allocation

The compulsory instructional time for the Vocational Learning Programme for learners experiencing severe intellectual disabilities amounts to 8 hours per 5-day cycle. Schools may offer either three (3) or four (4) vocational subjects, depending on the number of learners in the school and the resources available. The compulsory instructional time for **Welding** is either:

- 2 hours per 5-day cycle plus three (3) other vocational subjects or
- 2,5 hours per 5-day cycle plus two (2) other vocational subjects.

Twenty percent (20%) of the above mentioned time is utilized to teach subject content which should be embedded in teaching the learners to execute the skills. This implies that theoretical lessons should not be instructed in isolation, but during the teacher's demonstration that takes place before the learners practise the skills. The learners are required to utilize eighty percent (80%) of the time to practise the various skills in the classroom.

2.5 Infrastructure, equipment and finances required to offer Welding and Metalwork.

2.5.1 Human resources:

An appropriately qualified teacher registered with SACE in line with National Education Policy Act 27 of 1998 section 7.4.

2.5.2 Infrastructure:

The subject may not be offered without the necessary infrastructure, tools and equipment.

Infrastructure:

- Buildings to ensure a safe working environment.
- Electricity supply and enough plugs.
- Cupboards to store equipment and be able to lock.
- Storeroom for storage of material and it must be locked at all times, to ensure that there is not misuse of material.

2.5.3 Safety equipment:

- Overalls – one per learner
- Safety goggles - one per learner
- Ear muffs - one per learner

- Leather apron - 2
 - Leather gloves - 4
 - Welding mask - 2
 - Fire extinguishers - 4
- 2.4.4. Equipment: 1 x teachers table and chair
 - 4 x lockable cupboards
 - 2 x 4/5 shelf open shelving
 - 2 x workbenches with 4 bench vices each

| Hand tools | Electrical tools | Machine tools |
|------------------|-------------------------|-----------------------------|
| Measuring tape 4 | Electrical hand drill 1 | Cut off machine 1 |
| Hammer 4 | Welder & accessories 2 | Drill press 1 |
| Pliers 4 | Angle grinder 1 | Bench grinder 1 |
| Hacksaw 4 | Nibbler 1 | 3 in 1 Bending machine 1 |
| File 4 | | |
| Jig 1 | | |
| Shears 4 | | |
| Punch 4 | | |
| Pop rivet 2 | | |
| Bench vice 8 | | |
| Square 4 | | |
| G – clamp 4 | | |
| Spanners | | |

2.5.4 Finances:

The subject may not be offered without the necessary finances provided by the school. An annual budget should be available to purchase consumables for weekly practical tasks. Maintenance and purchasing of new tools/equipment should be added to the budget.

2.5.5 Stock control:

- The teacher is responsible for the stock and will keep the workshop and tools and equipment locked at all times when not present.
- Annual stock control is essential, a stock control book must be kept in the workshop and a summary stock sheet must be kept in the office.
- Tools and equipment must be checked daily.

2.6 Career opportunities

Learners can:

- Be employed as assistants to an artisan or semi skilled artisan.
- Be employed and work under supervision.
- Run a small business from home under supervision.
- Be employed under the 5 % disability job clause.
- Be a sub contractors.

3 SECTION 3:

OVERVIEW OF TOPICS PER TERM AND ANNUAL TEACHING PLANS

Each week has a compulsory contact time of 2 to 2,5 hours (depending on the number of vocational subjects offered at school) for the subject Welding.

3.1 Content overview of theoretical topics

The content is embedded in the skills and the learners should execute the skills in a simulated working environment recreated in the classroom/centre. The table below indicates the topics and content in the **Welding** learning programme in grade 4 and 5.

| TOPIC | Grade 4 | Grade 5 |
|---|--|---|
| 1. General safety and good housekeeping practises | Know the basic safety measures and housekeeping practises. | Know the basic safety measures and advanced housekeeping practises |
| 2. Tools and safety | Use measuring tools, hand tools and some electrical hand tools safely | Use measuring tools, hand tools, electrical hand tools, sheet metal tools, bending tools and machine tools |
| 3. Materials. | Use different sizes wire, sheet metal, recyclable material, flat bar and round bar. | Use different sizes wire, sheet metal, recyclable material, flat bars, round bars, steel and tubing Identify the different metals e.g. copper and steel |
| 4. Processes. | Execute wire work, raising, sheet metal work, jewellery making and finishing thereof | Execute advanced wire work, raising, sheet metal, jewellery making, finishing and welding thereof |

| | | |
|-----------------|----------------------|--|
| Project Costing | Know material prices | Know material prices as well as the economical use of material |
|-----------------|----------------------|--|





PUBLIC COMMENT
















3.2 Content overview of practical lessons / tasks

The theory is embedded in the articles produced in **Welding**. Omitting one or more of the articles imply that learners are deprived of the full learning programme. The learners are two years in Grade 4 and three years in Grade 5. Learners should practise more advanced skills during the second year in Grade 4, thus not repeat the articles completed during the first year in Grade 4. This principle also applies to Grade 5. More advanced articles should be completed during the second and third years in Grade 5. Depending on the size of the school, this may result in learners being in Grade 4 for the first as well as the second year in one class. The teacher should ensure that these learners prepare different articles as indicated in the table with **suggested articles** below. Teachers may choose similar or more advanced articles.

Pages 8 – 11 provide an image overview of the **suggested articles/projects** to be instructed in Grade 4 and 5.

| Term 1 These are images of suggested projects the learners may produce | | | | | | | | | | |
|--|---|--|---|--|---|--|---|--|---|--|
| Week | Grade 4 First year | | Grade 4 Second year | | Grade 5 First year | | Grade 5 Second year | | Grade 5 Third year | |
| 1 - 3 |  | |  | |  | |  | |  | |
| | Christmas decorations | | Wors braai utensil, Glass & Lantern holder | | Tripod for pot & Cole scraper | | Fire wood stand | | Fire irons | |
| 4 - 6 |  | |  | |  | |  | |  | |
| | Punched decoration & lantern | | Garden ornament & sheet metal wire roses | | Wall candlestick | | Candlestick | | Welded ball candlestick | |
| 7 - 9 |  | |  | |  | |  | |  | |
| | Punched leather bangle & copper bangle | | Braai utensil | | "Potjiekos" lid holder & iid lifter | | Braai utensil stand | | Folding braai grid or small portable braai | |

| Term 2: These are images of suggested projects the learners may produce | | | | | |
|---|--|---|--|---|---|
| Week | Grade 4 First year | Grade 4 Second year | Grade 5 First year | Grade 5 Second year | Grade 5 Third year |
| 1 - 3 |  <p>Lantern made of sheet metal and gauze</p> | <p>Welding orientation</p> |  <p>Toilet paper holder</p> |  <p>Towel rails</p> |  <p>Toilet roll holder</p> |
| 4 - 6 |  <p>Wire cloth rail</p> | <p>Welding orientation</p> |  <p>Poolside towel rail</p> |  <p>Clothes stand</p> |  <p>Hall stand</p> |
| 7 - 9 |  <p>Wire fork & olive spoon</p> |  <p>Braai hook & Bottle opener</p> |  <p>Wine rack</p> |  <p>Bathroom/Kitchen shelf</p> |  <p>Towel shelf</p> |

| Term 3: These are images of suggested projects the learners may produce | | | | | |
|---|---|--|---|---|--|
| Week | Grade 4 First year | Grade 4 Second year | Grade 5 First year | Grade 5 Second year | Grade 5 Third year |
| 1 - 3 |  <p>Lantern covered in chicken mesh an spoon</p> |  <p>Lantern stand</p> |  <p>Lantern</p> |  <p>Lamp</p> |  <p>Portable garden light</p> |
| 4 - 6 |  <p>Heartshaped pot plantholder & wire words</p> |  <p>Hosepipe holder</p> |  <p>Rain meter stand</p> |  <p>Pot plant stand</p> |  <p>Pot plant shelf</p> |
| 7 - 9 |  <p>Wire & mesh garden ranker</p> |  <p>Hanger for hanging baskets and pots</p> |  <p>Trellis for ranking plants</p> |  <p>Decorative wall pot plant holder</p> |  <p>Trellis for pot plant</p> |

Term 4: These are images of suggested projects the learners may produce.

| Week | Grade 4 First year | Grade 4 Second year | Grade 5 First year | Grade 5 Second year | Grade 5 Third year |
|-------|---|---|--|--|---|
| 1 - 3 |  <p>Galvanise sheet tray</p> |  <p>Broom and mop stand</p> |  <p>Stool</p> |  <p>Simple bench</p> |  <p>Bench</p> |
| 4 - 6 |  <p>Galvanise sheet table</p> |  <p>Side table</p> |  <p>Side table</p> |  <p>Trolley</p> |  <p>Coffee table</p> |
| 7 - 9 |  <p>Braai broodjie grill</p> |  <p>Foldable braai grid</p> |  <p>Burglar bars</p> |  <p>Bed headboard</p> |  <p>Security door</p> |

3.3 Teaching plans


Each term comprises of ten (10) weeks and a minimum of nine (9) **practical sessions** are compulsory. The sequence within the term is not compulsory and the teacher may cover the learning content and skills in any appropriate sequence. Learners spend two years in Grade 4, and therefore different activities are included for the first and second year in grade 4.


The Occupational Health and Safety (OHS) Act 85 of 1993 requires the teacher to comply with the safety regulations when issuing equipment and tools to the learners and the teacher may not leave learners unattended during Metalwork and welding instructional time. A group discussion on the safety precautions that must be followed during all the instructional time is compulsory. Learners with a severe intellectual disability are not always able to make abstract judgements, and they are often not able to apply learned knowledge from one topic to the next. Impulsive behavior as well as the inability to make fast decisions can easily lead to learners finding themselves in, or being exposed to dangerous situations.



3.3.1 Grade 4: 1st and 2nd year Term 1



| Grade 4 Term 1 | | | |
|----------------|---|--|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks and teaching tips, techniques, activities and resources |
| 1-3 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | Grade 4: 1 st year <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire • Thread beads Identify and/or name the following tools: <ul style="list-style-type: none"> • Measuring tape • Pliers | Grade 4: 1 st year The suggested project is wirework decorations to teach the learner skills to: <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire • Thread beads Identify and/or name, select and apply the following tools |

| Grade 4 Term 1 | | | |
|----------------|-------|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks and teaching tips, techniques, activities and resources |
| | | <ul style="list-style-type: none"> Hammer <p>Identify and/or name:</p> <ul style="list-style-type: none"> Different wire thicknesses. <p>Discuss how to store the wire in the store on a shelf or a hook on the wall.</p> <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> Pliers e.g. ensure it is in working order Oil pliers regularly Hammer e.g. ensure a good grip Measuring tape e.g. it is a relative safe tool. Ensure that you care for it, to make accurate measurements. Protective safety gear like overalls, safety goggles, earmuffs, leather gloves and safety boots Stools: stow tools and material correctly Tools: Use a tool/machine only after it was demonstrated Electricity: Switch off electricity after use | <p>and materials safely to complete the suggested projects</p> <ul style="list-style-type: none"> Measuring tape, pliers, hammer Wire <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> <div data-bbox="1361 628 2033 1034" data-label="Image"> </div> |
| | | <p>Grade 4: 2nd year</p> <ul style="list-style-type: none"> Measure the lengths of round bar Cut the round bar Bend the round bar <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Hacksaw | <p>Grade 4: 2nd year</p> <p>The suggested project is a sausage grill and lantern holder to teach the learner skills to:</p> <ul style="list-style-type: none"> Measure the lengths of round bar Cut the round bar Bend the round bar <p>Identify and/or name, select and apply the following tools</p> |

| Grade 4 Term 1 | | | |
|----------------|--|--|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks and teaching tips, techniques, activities and resources |
| | | <ul style="list-style-type: none"> File <p>Identify and/or name:</p> <ul style="list-style-type: none"> Different round bar thicknesses. <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> Hacksaw e.g. not to cut yourself, others and property Ensure the blade has the correct tension Inspect the blade to see that it is in a good condition and that the teeth is in the correct direction Ensure a proper grip when you use the hacksaw File e.g. Do not use as any other tool Inspect the file ensure all the parts is in a proper condition | <p>and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> Hacksaw, file <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully. Safety rules are discussed and applied during the practical session.</p>  |
| 4-6 | <p>General safety and good housekeeping practises</p> <p>Tools and safety</p> <p>Materials</p> <p>Processes</p> <p>Project costing</p> | <p>Grade 4: 1st year</p> <ul style="list-style-type: none"> Use jig to draw forms Cut sheet metal with shears Use hammer and punch/pin Flatten sheet metal <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Jig Shears Punch/pin <p>Identify and/or name:</p> <ul style="list-style-type: none"> Different sheet metal thicknesses. <p>Follow safety precautions with the:</p> | <p>Grade 4: 1st year</p> <p>The suggested project is a sheet metal decorations and lantern to teach the learner skills to:</p> <ul style="list-style-type: none"> Use jig to draw forms Cut sheet metal with shears Use hammer and punch/pin Flatten sheet metal <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects</p> <ul style="list-style-type: none"> Jig, shears, hammer, punch/pin Wire, sheet metal |

| Grade 4 Term 1 | | | |
|----------------|-------|--|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks and teaching tips, techniques, activities and resources |
| | | <ul style="list-style-type: none"> Jig e.g. Use it for its purpose Keep it in a good condition Shears e.g. not cutting yourself and others Inspect shears before use Ensure sharp cutting edges Punch/pin e.g. not pierce yourself, others and property Ensure it is in a good condition Ensure the tip is sharp | <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 4: 2nd year</p> <ul style="list-style-type: none"> Measure the lengths of sheet metal Cut the sheet metal Bend the sheet metal Rivet or tie the sheet metal <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Electrical hand drill e.g. choose correct size drill bit Pop rivet e.g. choose correct size pop rivet <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> Drill - e.g. make sure that you do not hurt yourself and others. Select a suitable drill bit Tighten the drill bit properly in the chuck Remove chuck key before drilling Secure work piece before drilling Work at an appropriate work speed | <p>Grade 4: 2nd year</p> <p>The suggested project is a sheet metal rose and ball to teach the learner skills to:</p> <ul style="list-style-type: none"> Measure the lengths of sheet metal Cut the sheet metal Bend the sheet metal Rivet or tie the sheet metal <p>The learner is able to identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> Drill pliers, pop rivet <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> |

| Grade 4 Term 1 | | | |
|----------------|---|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks and teaching tips, techniques, activities and resources |
| | | <ul style="list-style-type: none"> • Pop rivet e.g. Inspect the tool to ensure it is in a good condition Choose an appropriate size insert for the pin • Nibbler e.g. Wear safety gear Refrain from using excessive force Inspect nibbler to see that all parts and shields is in place and in working order Ensure that all cutting edges is sharp Grip nibbler firmly when you use it |   <p>Safety rules are discussed and applied during the practical session.</p> |
| 7-9 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | <p>Grade 4: 1st year</p> <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire • Punch with letter/number punch | <p>Grade 4: 1st year</p> <p>The suggested project is a copper bangle to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten wire • Bend the wire • Tie the wire • Punch with letter/number punch <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the</p> |

| Grade 4 Term 1 | | | |
|----------------|-------|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks and teaching tips, techniques, activities and resources |
| | | | practical session.  |
| | | <p>Grade 4: 2nd year</p> <ul style="list-style-type: none"> • Measure the lengths of aluminium flat bar • Cut the aluminium flat bar • Mark out the aluminium flat bar • Bend the aluminium flat bar • Pop rivet the aluminium flat bar <p>Identify and/or name:</p> <ul style="list-style-type: none"> • Difference between steel and aluminium flat bar | <p>Grade 4: 2nd year</p> <p>The suggested project is an aluminium braai tong to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure aluminium flat bar • Cut the aluminium flat bar • Mark out aluminium flat bar • Bend aluminium flat bar • Pop rivet aluminium flat bar <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> • Measuring tape, hacksaw, pliers, hammer, punch, electrical hand drill, pop rivet • Aluminium flat bar <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |

| Grade 4 Term 1 | | | |
|----------------|-------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks and teaching tips, techniques, activities and resources |
| | | | |

Assessment: Term 1

Assessment is formally recorded during four (4) practical sessions with a minimum of four (4) skills reported. Learners, regardless of abilities, shall be assessed on the same skill. The following serves as suggestion of skills to record and report on.

The assessment goals for Grade 4, first and second year are the same, the articles are however more advanced.

| | | |
|--------|--|--|
| Week 1 | Apply appropriate workshop safety measures | Wear appropriate safety clothing and gear |
| Week 2 | Use pliers correctly and safely | Make proper bends |
| Week 3 | Measure the correct lengths | Use a hacksaw correctly and safely |
| Week 4 | Use shears correctly and safely | Use nibbler correctly and safely |
| Week 5 | Use a template to draw forms | Use pop rivet gun properly and safely |
| Week 6 | Use a punch/pin correctly and safely | Use electrical hand drill correctly and safely |
| Week 7 | Use letter/number punch correctly and safely | Choose the correct size drill bit |
| Week 8 | Use the hammer correctly and safely | Use file correctly and safely |
| Week 9 | Clean the file correctly | Use a template to mark out accurately |

Theoretical Assessment: Term 1

Four theoretical activities are assessed and recorded, however, a minimum of 1 theoretical activity is reported on. The following serves as suggestions of theoretical activities to report on.

The learner must be able to:

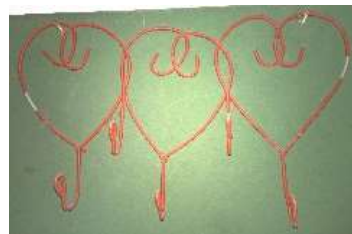
| | |
|--------|---|
| Week 1 | List the general safety measures to be taken in the workshop |
| Week 2 | List the different pliers and make simple drawings |
| Week 3 | Measure different lengths on a worksheet and write the lengths |
| Week 4 | List the different types of shears and make simple drawings |
| Week 5 | Discuss the use of a template, like the advantages of an template |
| Week 6 | List the safety measures of the electrical hand drill |
| Week 7 | List the different types of punches and make simple drawings |
| Week 8 | List the different types of hammers and make simple drawings |
| Week 9 | Make a simple drawing of a file |

Grade 4: 1st and 2nd year Term 2

| Grade 4 Term 2 | | | |
|----------------|---|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| 1-3 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | <p>Grade 4: 1st year</p> <ul style="list-style-type: none"> • Measure the lengths of sheet metal, wire and gauze • Cut the sheet metal, wire and gauze • Straighten the wire • Bend the sheet metal and wire • Tie the wire and gauze <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> • Bench vice • Drill press <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> • Bench vice e.g. Secure bench vice to a secure base Inspect to see the bench vice is in a good condition Clamp the work piece as close as possible to the jaws. Oil the thread and working parts regularly Refrain from applying excessive pressure when clamping • Drill press e.g. Wear appropriate safety gear Ensure clean working area Lubricate the drill bit Use machine/pliers vice to clamp work piece Adjust drill speed according drill size Refrain from excessive pressure Remove chuck key before drilling | <p>Grade 4: 1st year</p> <p>The suggested project is a sheet metal lantern to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of sheet metal, wire and gauze • Cut the sheet metal, wire and gauze • Straighten the wire • Bend the sheet metal and wire • Tie the wire and gauze <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> • Bench vice, drill press <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> |





| Grade 4 Term 2 | | | |
|----------------|-------|---|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | Inspect drill press to ensure all guards is in place | |
| | | <p>Grade 4: 2nd year</p> <ul style="list-style-type: none"> Practice welding with welding rod on a line drawn on a table. Make little circle/zigzag movements Practise the above with welding helmet Switch welder on, assist the learner by holding his/her hand to get the feel of the welding. Repeat the above Weld independently on off cut material <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Welder Chipping hammer Different parts e.g. earth clamp, electrode/welding rod holder amperage gage, switch, plug <p>Identify and/or name:</p> <ul style="list-style-type: none"> Off cut material <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> Welder e.g. Wear safety gear like welding helmet, overall, leather gloves and closed shoes <p>Ensure that the workshop is well ventilated, so that the gasses can escape</p> <p>Remember the welded work piece and welding rod is hot.</p> | <p>Grade 4: 2nd year</p> <p>The suggested project is welding orientation to teach the learner skills to:</p> <ul style="list-style-type: none"> Practice to weld with welding rod on a line drawn on a table. Make little circle/zigzag movements Do the above with welding helmet Switch on welder, assist the learner by holding his/her hand to get the feel of the welding. Repeat the above Weld independently on off cut material <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> Welder, chipping hammer Off cut material <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> <p>Welding orientation</p> |

| Grade 4 Term 2 | | | |
|----------------|---|---|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | Remove all flammable materials near welding area | |
| 4-6 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | Grade 4: 1 st year <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire | Grade 4: 1 st year The suggested project is wire cloth rail to teach the learner skills to: <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire <p>The learner is able to identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | Grade 4: 2 nd year <ul style="list-style-type: none"> • Weld independently on off cut material • Make practice joints with off cut material | Grade 4: 2 nd year The suggested project is welding orientation to teach the learner skills to: <ul style="list-style-type: none"> • Weld independently on off cut material • Make practice joints with off cut material |

| Grade 4 Term 2 | | | |
|----------------|--|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> • Welder, chipping hammer • Off cut material <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> <p>Welding orientation</p> |
| 7-9 | <p>General safety and good housekeeping practises</p> <p>Tools and safety</p> <p>Materials</p> <p>Processes</p> <p>Project costing</p> | <p>Grade 4: 1st year</p> <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> • Anvil <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> • Anvil e.g. Secure anvil to a steady base | <p>Grade 4: 1st year</p> <p>The suggested project is wire fork and spoon to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> • Anvil <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> |



| Grade 4 Term 2 | | | |
|----------------|-------|---|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | Safety rules are discussed and applied during the practical session. |
| | | <p>Grade 4: 2nd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar • File the point • Bend the point • Weld the handle • Finish the welding joint with angle grinder • Paint the product <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> • Angle grinder • Paintbrush and paint <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> • Angle grinder e.g. Wear overalls, ear muffs, safety goggles and safety shoes. <p>Inspect angle grinder to see every part is in working order, the blade is securely fastened and not cracked or broken</p> <p>Hold the grinder with both hands in a strong grip</p> <p>Refrain from excessive force on blade</p> <p>Secure the work piece in the bench vice</p> | <p>Grade 4: 2nd year</p> <p>The suggested project is braai hook and bottle opener to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar • File the point • Bend the point • Weld the handle • Finish the welding joint with angle grinder • Paint the product <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> • Angle grinder, paint and paint brush <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> |

| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
|------|-------|---|---|
| | | <p>Adjust only if angle grinder is unplugged and to a complete still stand</p> <p>Remove all flammable material in working area</p> <p>Grind that sparks do not affect other people, yourself and property</p> <ul style="list-style-type: none"> • Paintbrush and paint e.g. Ventilate work area <p>Wear overall</p> <p>Ensure that no paint/paint cleaner get in your eyes, or is swallowed</p> <p>Read the label on the tin</p> <p>Work in area where there is no flames or sparks</p> <p>Store correctly</p> <p>Dispose rags etc. properly Know different paintbrush sizes</p> <p>Distinguish between different type of brush hairs</p> <p>Identify different types of metal paints namely water based, oil based, thinners based and turpentine based</p> |   |

Assessment: Term 2

Assessment is formally recorded during four (4) practical sessions with a minimum of four (4) skills reported. Learners, regardless of abilities, shall be assessed on the same skill. The following serves as suggestion of skills to record and report on.

The assessment goals for Grade 4, first and second year are the same, the articles are however more advanced.

| | | |
|--------|--|---|
| Week 1 | Use bench vice correctly safely | Apply safety measures of the welder |
| Week 2 | Use drill press correctly and safely | Identify the different parts of the welder |
| Week 3 | Use machine vice correctly and safely | Set up the welder correctly |
| Week 4 | Use a jig to make bends | Use welder correctly and safely |
| Week 5 | Bend multiple bends the same | Choose an appropriate setting for the welder |
| Week 6 | Use pliers to cut, tie and bend wire properly and neatly | Choose an appropriate welding rod for specific work |
| Week 7 | Use pliers to straighten wire | Choose the correct size welding rod |
| Week 8 | Use an anvil correctly and safely | Choose the correct welding speed |
| Week 9 | Use the hammer to straighten wire properly | Choose the correct welding angle |



Theoretical Assessment: Term 2.


Four theoretical activities are assessed and recorded, however, a minimum of 1 theoretical activity is reported on. The following serves as suggestions of theoretical activities to report on.




The learner must be able to:



| | |
|--------|---|
| Week 1 | List the safety measures of the drill press |
| Week 2 | Discuss the differences and similarities of the machine vice and the bench vice |
| Week 3 | Discuss the importance of using a jig to make a bend |
| Week 4 | Make a drawing of an anvil |
| Week 5 | List the safety measures of the welder |
| Week 6 | Make a simple drawing of the welder |
| Week 7 | Name the different parts of the drawing of the welder |
| Week 8 | Make a simple drawing of a welding rod |
| Week 9 | List different methods a welder is cooled |

3.3.2 Grade 4: 1st and 2nd year Term 3

| Grade 4 Term 3 | | | |
|----------------|---|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| 1-3 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | Grade 4: 1 st year <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire | Grade 4: 1 st year The suggested project is a lantern covered in chicken mesh and a chicken mesh spoon to teach the learner skills to: <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire  <p>The teacher discusses and demonstrates the step to produce and complete the project successfully. Safety rules are discussed and applied during the practical session.</p>  |
| | | Grade 4: 2 nd year <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar • File the end • Weld the different parts together | Grade 4: 2 nd year The suggested project is a lantern stand to teach the learner skills to: <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar |

| Grade 4 Term 3 | | | |
|----------------|---|---|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> Finish the welding joint with angle grinder Paint the product | <ul style="list-style-type: none"> Bend the round bar File the end Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| 4-6 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | Grade 4: 1 st year <ul style="list-style-type: none"> Measure the lengths of wire Cut the wire Straighten the wire Bend the wire Tie the wire | Grade 4: 1 st year The suggested project is a heart shaped pot plant holder and wire words to teach the learner skills to: <ul style="list-style-type: none"> Measure the lengths of wire Cut the wire Straighten the wire Bend the wire Tie the wire <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> |

| Grade 4 Term 3 | | | |
|----------------|----------------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | |   |
| | | <p>Grade 4: 2nd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>Grade 4: 2nd year</p> <p>The suggested project is a hosepipe holder to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| 7-9 | General safety | Grade 4: 1 st year | Grade 4: 1 st year |

| Grade 4 Term 3 | | | |
|----------------|--|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | and good housekeeping practises Tools and safety Materials Processes Project costing | <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire | <p>The suggested project is a wire and mesh garden ranker to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of wire • Cut the wire • Straighten the wire • Bend the wire • Tie the wire <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 4: 2nd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>Grade 4: 2nd year</p> <p>The suggested project is a hanger for hanging baskets and pots to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product  |

| Grade 4 Term 3 | | | |
|----------------|-------|---|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session</p> |

Assessment: Term 3

Assessment is formally recorded during four (4) practical sessions with a minimum of four (4) skills reported. Learners, regardless of abilities, shall be assessed on the same skill. The following serves as suggestion of skills to record and report on.

The assessment goals for Grade 4, first and second year are the same, the articles are however more advanced.

| | | |
|--------|--|--|
| Week 1 | Fasten material so that there are no sharp edges | Weld on the joint/ straight line |
| Week 2 | Cut material so that there are no wastage | Use a chipping hammer correctly and safely |
| Week 3 | Cut wire from an end and keep to the end | Chip the flux properly from the welding joint |
| Week 4 | Make symmetrical bends | Prepare the welding joint correctly |
| Week 5 | Bend letters/numbers the same size | Grind welding joint correctly |
| Week 6 | Bend repeated letters/numbers the same size | Choose the correct paint size paint brush |
| Week 7 | Choose the appropriate material for the project | Choose an appropriate paint for the project |
| Week 8 | Cut material and keep in mind that you are working at an angle | Choose the correct cleaner for the paint brush |
| Week 9 | Tie material uniformly to structure | Clean paint brush properly |


Theoretical Assessment: Term 3.


Four theoretical activities are assessed and recorded, however, a minimum of 1 theoretical activity is reported on. The following serves as suggestions of theoretical activities to report on.


The learner must be able to:


| | |
|--------|---|
| Week 1 | Make simple drawings to demonstrate a few electrode/welding rod movements |
| Week 2 | Discuss the economic use of material |
| Week 3 | Discuss the importance of cutting wire properly and stick to cutting at the end |
| Week 4 | Make a simple drawing of the chipping hammer |
| Week 5 | Explain the importance of preparing a welding joint |
| Week 6 | List why it is important to choose the correct paint brush |
| Week 7 | Discuss the importance of choosing the correct material for the project |
| Week 8 | List why it is important to choose the correct paint for the project |
| Week 9 | List the steps to clean a paint brush properly |



3.3.3 Grade 4: 1st and 2nd year Term 4

| Grade 4 Term 4 | | | |
|----------------|---|---|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| 1-3 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | <p>Grade 4:1st year</p> <ul style="list-style-type: none"> • Measure the Sheet metal • Cut the sheet metal • Bend the sheet metal • Rivet the box <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> • Square • Soldering iron • Clamps <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> • Square e.g. Use carefully to ensure accuracy • Soldering iron e.g. Wear safety gear <p>Ventilated work area</p> <p>Keep work area free of flammable material</p> <p>Remember work piece and soldering iron is hot</p> <ul style="list-style-type: none"> • Clamps e.g. Refrain from excessive force | <p>Grade 4:1st year</p> <p>The suggested project is galvanise sheet tray to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the Sheet metal • Cut the sheet metal • Bend the sheet metal • Rivet the box <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> • Square, soldering iron, clamps <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 4: 2nd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar | <p>Grade 4: 2nd year</p> <p>The suggested project is a broom and mop stand to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar |

| Grade 4 Term 4 | | | |
|----------------|--|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Sliding bevel <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> Sliding bevel e.g. Use carefully to ensure accuracy | <ul style="list-style-type: none"> Mark out the round bar Bend the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> Sliding bevel <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| 4-6 | General safety and good housekeeping practises Tools and safety Materials Processes | <p>Grade 4: 1st year</p> <ul style="list-style-type: none"> Measure the Sheet metal Cut the sheet metal Bend the sheet metal Rivet the table <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Guillotine | <p>Grade 4: 1st year</p> <p>The suggested project is a galvanise sheet table to teach the learner skills to:</p> <ul style="list-style-type: none"> Measure the Sheet metal Cut the sheet metal Bend the sheet metal Rivet the table |

| Grade 4 Term 4 | | | |
|----------------|-----------------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | Project costing | <ul style="list-style-type: none"> Pan and brake <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> Guillotine e.g. Inspect guillotine to see if all parts and shields is in place and working order Wear leather gloves to prevent cuts Ensure fingers and limbs are clear before cutting Lubricate working parts regularly Hold material firmly Refrain using machine beyond its capacity Pan and brake e.g. Inspect pan and brake to see if all parts and shields is in place and working order Wear leather gloves to prevent cuts Ensure fingers and limbs are clear before cutting Lubricate working parts regularly Hold material firmly Refrain using machine beyond its capacity | <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> Guillotine, pan and brake <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully. Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 4: 2nd year</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Weld the different parts together Finish the welding joint with angle grinder Cut out the top Weld the top to the legs Paint the product | <p>Grade 4: 2nd year</p> <p>The suggested project is a side table to teach the learner to:</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Weld the different parts together Finish the welding joint with angle grinder Cut out the top |

| Grade 4 Term 4 | | | |
|----------------|--|---|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Screwdriver <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> Screwdriver e.g. Match screwdriver to screw head and size <p>Ensure handle is secured and has a proper grip</p> <p>Refrain from excessive force</p> <p>Refrain from holding the workpiece and fastening the screw</p> <p>Keep the tip in a good condition</p> | <ul style="list-style-type: none"> Weld the top to the legs Paint the product <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> Screwdriver <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| 7-9 | <p>General safety and good housekeeping practises</p> <p>Tools and safety</p> <p>Materials</p> <p>Processes</p> <p>Project costing</p> | <p>Grade 4: 1st year</p> <ul style="list-style-type: none"> Measure the lengths of welded mesh and wire Cut the welded mesh and wire Straighten the welded mesh and wire Bend the welded mesh and wire Tie the welded mesh and wire <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Spot welder | <p>Grade 4: 1st year</p> <p>The suggested project is a braai broodjie grid to teach the learner to:</p> <ul style="list-style-type: none"> If project is complete it will enable the learner to do wirework on a more advanced level Measure the lengths of welded mesh and wire Cut the welded mesh and wire Straighten the welded mesh and wire |

| Grade 4 Term 4 | | | |
|----------------|-------|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> Spot welder e.g. Check that electrodes is securely clamped, meet exactly and free of contaminants Pre-set weld time Ensure spot welder is cooled down Avoid prolonged use due to heat build up Remember the work piece and electrodes is warm Wear safety gear | <ul style="list-style-type: none"> Bend the welded mesh and wire Tie the welded mesh and wire <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects.</p> <ul style="list-style-type: none"> Spot welder <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 4: 2nd year</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product | <p>Grade 4: 2nd year</p> <p>The suggested project is a foldable braai grid to teach the learner to:</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>The teacher discusses and demonstrates the steps to</p>  |

| Grade 4 Term 4 | | | |
|----------------|-------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | <p>produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> |

Assessment: Term 4

Assessment is formally recorded during four (4) practical sessions with a minimum of four (4) skills reported. Learners, regardless of abilities, shall be assessed on the same skill. The following serves as suggestion of skills to record and report on.

The assessment goals for Grade 4, first and second year are the same, the articles are however more advanced.

| | | |
|--------|--|---|
| Week 1 | Use a square to measure a project accurately | Lay out the different parts correctly |
| Week 2 | Ensure that the 90° corners measures 90° | Use a clamp to keep bended ring in position to weld joint |
| Week 3 | Use soldering correctly and safely to secure the joints | Use the sliding bevel to ensure you work at the right angle |
| Week 4 | Use a guillotine to cut out material | Cut legs the same length to ensure the project is level |
| Week 5 | Use a box and pan brake correctly and safely to do bending | Use a screwdriver correctly and safely to secure top |
| Week 6 | Bend seams properly | Use a paint brush correctly |
| Week 7 | Measure accurately to ensure that both parts are equal | Mark out both sides the same, to ensure that it is level |
| Week 8 | Bend a hinge that working properly | Ensure that when you use a hinge that it does not slide |
| Week 9 | Use a spot welder correctly and safely to secure different parts | Paint with fire resistant paint |

Theoretical Assessment: Term 4.

Four theoretical activities are assessed and recorded, however, a minimum of 1 theoretical activity is reported on. The following serves as suggestions of theoretical activities to report on.

The learner must be able to:

| | |
|--------|---|
| Week 1 | Make a simple drawing of a square and state the importance of using a square in projects |
| Week 2 | List a few clamps and make a simple drawing of each clamp |
| Week 3 | Describe the use of the use of the sliding bevel and make simple drawing |
| Week 4 | Name two ways a soldering iron is heated and make simple drawing of a soldering iron |
| Week 5 | List different screwdrivers and make simple drawing |
| Week 6 | Name a few safety measures when using the pan and box brake when you bend seams and folds |
| Week 7 | Discuss the importance of accurate measurements and lay out of the different parts. |
| Week 8 | List different hinges and things that can be used as a hinge |


Week 9 Make a simple drawing of the spot welder, name the different parts and indicate with arrows the water flow


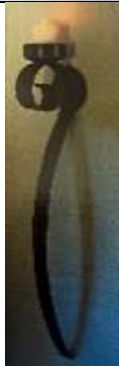
PUBLIC COMMENT


Learners are three years in Grade 5, and therefore 3 suggested articles/projects are provided to allow the learners to complete the second and third suggested articles/projects during their second and third year in grade 5. It is not advisable to repeat the same articles/projects more than once as this will not provide the learner the opportunity to learn additional skills.



3.3.4 Grade 5: 1st, 2nd and 3rd year: Term 1




| Grade 5 Term 1 | | | |
|----------------|---|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| 1-3 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | Grade 5: 1 st year <ul style="list-style-type: none"> • Measure the lengths of round bar and flat bar • Mark out the round bar and flat bar • Cut the round bar and flat bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | Grade 5: 1 st year The suggested project is a tripod and cole scraper to teach the learner skills to: <ul style="list-style-type: none"> • Measure the lengths of round bar and flat bar • Mark out the round bar and flat bar • Cut the round bar and flat bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product The teacher discusses and demonstrates the steps to <div data-bbox="1912 644 2047 963" data-label="Image"> </div> <div data-bbox="1711 1059 2047 1362" data-label="Image"> </div> |


| Grade 5 Term 1 | | | |
|----------------|-------|---|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | produce and complete the project successfully. Safety rules are discussed and applied during the practical session. |
| | | Grade 5:2 nd year <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together including castings • Finish the welding joint with angle grinder • Paint the product • Angle grinder • Paintbrush and paint | Grade 5:2 nd year The suggested project is a fire wood stand to teach the Learner skills to: <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together including castings • Finish the welding joint with angle grinder • Paint the product The teacher discusses and demonstrates the steps to produce and complete the project successfully. Safety rules are discussed and applied during the practical session.  |
| | | Grade 5:3 rd year <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar | Grade 5:3 rd year The suggested project is fire irons to teach the learner skills to: |

| Grade 5 Term 1 | | | |
|----------------|---|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> • Cut the round bar • Bend the round bar • Weld the different parts together, including castings • Finish the welding joint with angle grinder • Paint the product | <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together, including castings • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| 4-6 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | Grade 5:1 st year <ul style="list-style-type: none"> • Measure the lengths of sheet metal • Cut the sheet metal • Bend the sheet metal • Rivet or tie the sheet metal | Grade 5:1 st year The suggested project is a wall candlestick to teach the Learner skills to: <ul style="list-style-type: none"> • Measure the lengths of sheet metal • Cut the sheet metal • Bend the sheet metal • Rivet or tie the sheet metal <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p>  |

| Grade 5 Term 1 | | | |
|----------------|-------|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | Safety rules are discussed and applied during the practical session. |
| | | Grade 5:2 nd year <ul style="list-style-type: none"> • Measure the lengths of flat bar an pipe • Mark out the flat bar • Cut the round bar and pipe • Bend the flat bar • Weld the different parts together, including pole caps • Finish the welding joint with angle grinder • Paint the product | Grade 5:2 nd year The suggested project is a candlestick to teach the learner to: <ul style="list-style-type: none"> • Measure the lengths of flat bar an pipe • Mark out the flat bar • Cut the round bar and pipe • Bend the flat bar • Weld the different parts together, including pole caps • Finish the welding joint with angle grinder • Paint the product The teacher discusses and demonstrates the steps to produce and complete the project successfully. Safety rules are discussed and applied during the practical session.  |
| | | Grade 5:3 rd year <ul style="list-style-type: none"> • Measure the lengths of flat bar and pipe | Grade 5:3 rd year The suggested project is a welded ball candlestick to teach |

| Grade 5 Term 1 | | | |
|----------------|--|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> • Mark out the flat bar • Cut the round bar and flat bar • Bend the flat bar • Weld the different parts together, including pole caps • Finish the welding joint with angle grinder • Paint the product | <p>the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of flat bar and pipe • Mark out the flat bar • Cut the round bar and flat bar • Bend the flat bar • Weld the different parts together, including pole caps • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| 7-9 | <p>General safety and good housekeeping practises</p> <p>Tools and safety</p> <p>Materials</p> <p>Processes</p> <p>Project costing</p> | <p>Grade 5: 1st year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar and flat bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>Grade 5: 3rd year</p> <p>The suggested project is a potjie lid holder to teach the learner to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar and flat bar  |

| Grade 5 Term 1 | | | |
|----------------|-------|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | <ul style="list-style-type: none"> • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 5:2nd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar and flat bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>Grade 5:2nd year</p> <p>The suggested project is a braai utensil stand to teach the learner to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar and flat bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates</p>   |

| Grade 5 Term 1 | | | |
|----------------|-------|--|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | the steps to produce and complete the project successfully. Safety rules are discussed and applied during the practical session. |
| | | Grade 5:3 rd year <ul style="list-style-type: none"> • Measure the lengths of round bar and expanded metal • Mark out the round bar and expanded metal • Cut the round bar and flat bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | Grade 5:3 rd year The suggested project is a folding braai grid or small portable braai to teach the learner skills to: <ul style="list-style-type: none"> • Measure the lengths of round bar and expanded metal • Mark out the round bar and expanded metal • Cut the round bar and flat bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product The teacher discusses and demonstrates the steps to produce and complete the project successfully. Safety rules are discussed and applied during the practical session.  |

Assessment: Term 1

Assessment is formally recorded during four (4) practical sessions with a minimum of four (4) skills reported. Learners, regardless of abilities, shall be assessed on the same skill. The following serves as suggestion of skills to record and report on.

The assessment goals for Grade 5, first, second and third year are the same, the articles are however more advanced.

| | | |
|--------|--|---|
| Week 1 | Apply appropriate workshop and general safety measures | Wear appropriate safety clothing and gear |
| Week 2 | Report an accident and apply basic first aid | Know the basic use of fire equipment in case of a fire |
| Week 3 | Demonstrate the emergency procedures of the workshop | Use a proper steel welding rod when joining different metals |
| Week 4 | Store tools and equipment safely and securely | Store hazardous material safely and securely |
| Week 5 | Apply the safety measures of the welder | Store materials properly, securely and out of the way |
| Week 6 | Use angle grinder correctly and safely | Identify warning signs |
| Week 7 | Use angle grinder to grind sharp edges | Change the angle grinder blade safely |
| Week 8 | Use angle grinder to finish the joint | Choose the correct grinder blade for the work to be done |
| Week 9 | Grind the joint with angle grinder just enough not to weaken joint | Adjust welder to correct setting, so that metal is not melted |

Theoretical Assessment: Term 1.

Four theoretical activities are assessed and recorded, however, a minimum of 1 theoretical activity is reported on. The following serves as suggestions of theoretical activities to report on.


The learner must be able to:



| | |
|--------|---|
| Week 1 | List different fire equipment and make simple drawings of it |
| Week 2 | Discuss the importance of reporting an accident and the importance of first aid |
| Week 3 | List different welding rods and their uses |
| Week 4 | Explain the importance of storing tool, equipment and hazardous material correctly and safely |
| Week 5 | List how and why material should be stored properly, safely and out of the way |
| Week 6 | Use a worksheet to identify the warning signs |
| Week 7 | List the safety measures of the angle grinder |
| Week 8 | List the steps to change an angle grinder blade safely |
| Week 9 | Make a simple drawing of an angle grinder and name the different parts |



3.3.5 Grade 5: 1st, 2nd and 3rd year: Term 2

| Grade 5 Term 2 | | | |
|----------------|---|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| 1-3 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | <p>Grade 5: 1st year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> • Bench grinder <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> • Bench grinder e.g. Inspect bench grinder to see all shields and wheel housing are in position <p>Inspect the wheels to see that there are not cracked</p> <p>Secure bench grinder to a popper base</p> <p>Wear safety gear</p> <p>Support work on work rest</p> <p>Ensure that grinder wheel is completely still after switched off</p> <p>Dress wheel regularly to ensure a good working surface</p> | <p>Grade 5: 1st year</p> <p>The suggested project is a toilet paper holder to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects</p> <ul style="list-style-type: none"> • Bench grinder <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> |
| | | <p>Grade 5: 2nd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar | <p>Grade 5: 2nd year</p> <p>The suggested project is a towel rail to teach learner skills</p> |




| Grade 5 Term 2 | | | |
|----------------|-------|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 5:3rd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder | <p>Grade 5:3rd year</p> <p>The suggested project is a toilet roll holder to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together |


| Grade 5 Term 2 | | | |
|----------------|--|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> Paint the product | <ul style="list-style-type: none"> Finish the welding joint with angle grinder Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| 4-6 | <p>General safety and good housekeeping practises</p> <p>Tools and safety</p> <p>Materials</p> <p>Processes</p> <p>Project costing</p> | <p>Grade 5: 1st year</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Bend the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product | <p>Grade 5: 1st year</p> <p>The suggested project is a poolside towel rail to teach the learner skills to:</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Bend the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied</p>  |

| Grade 5 Term 2 | | | |
|----------------|-------|--|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | during the practical session. |
| | | Grade 5:2 nd year <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | Grade 5:2 nd year The suggested project is a clothes stand to teach the learner skills to: <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product The teacher discusses and demonstrates the steps to produce and complete the project successfully. Safety rules are discussed and applied during the practical session.  |
| | | Grade 5:3 rd year <ul style="list-style-type: none"> • Measure the lengths of round bar and pipe • Mark out the round bar and pipe e.g. in this case pipe can be used to make project lighter • Cut the round bar and pipe • Weld the different parts together • Finish the welding joint with angle grinder | Grade 5:3 rd year The suggested project is a hall stand the to teach learner skills to: <ul style="list-style-type: none"> • Measure the lengths of round bar and pipe • Mark out the round bar and pipe e.g. in this case pipe can  |

| Grade 5 Term 2 | | | |
|----------------|---|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> Paint the product e.g. the product need to be painted properly | <p>be used to make project lighter</p> <ul style="list-style-type: none"> Cut the round bar and pipe Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> |
| 7-9 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | Grade 5: 1 st year <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Bend the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Spray paint gun <p>Follow safety precautions with the</p> <ul style="list-style-type: none"> Spray paint gun e.g. Ventilate work area good <p>Remember not to work near open flames or sparks</p> <p>Ensure that no paint or cleaning material is inhaled and swallowed</p> <p>Make an eye wash station</p> | Grade 5: 1 st year The suggested project is a wine rack to teach the learner skills to: <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Bend the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects</p> <ul style="list-style-type: none"> Spray paint gun |



| Grade 5 Term 2 | | | |
|----------------|-------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | Spray at an appropriate pressure Check the gauges regularly | The teacher discusses and demonstrates the steps to produce and complete the project successfully. Safety rules are discussed and applied during the practical session. |
| | | Grade 5:2 nd year <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | Grade 5: 2 nd year The suggested project is a bathroom/kitchen shelf to teach the learner skills to: <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product • Round bar The teacher discusses and demonstrates the steps to produce and complete the project successfully. Safety rules are discussed and applied during the practical session.  |
| | | Grade 5:3 rd year <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar | Grade 5:3 rd year The suggested project is a towel shelf to teach the learner skills to: |

| Grade 5 Term 2 | | | |
|----------------|-------|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product  <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> |

Assessment: Term 2

Assessment is formally recorded during four (4) practical sessions with a minimum of four (4) skills reported. Learners, regardless of abilities, shall be assessed on the same skill. The following serves as suggestion of skills to record and report on.

The assessment goals for Grade 5, first, second and third year are the same, the articles are however more advanced.

| | | |
|--------|---|---|
| Week 1 | Use a bench grinder correctly and safely | Use the correct grinding wheel/brush for the work |
| Week 2 | Grind sharp edges with bench grinder | Grind joints with bench grinder |
| Week 3 | Use cut off machine correctly and safely | Cut metal with cut off machine |
| Week 4 | Clamp material securely in cut off machine | Clamp material accurate to ensure the correct lengths |
| Week 5 | Use sandpaper to sand of corrosion | Use a file in corners to file of corrosion |
| Week 6 | Clean the surface properly before finishing/painting | Use spray painting gun correctly and safely |
| Week 7 | Apply safety measures of the spray painting gun | Choose an appropriate nozzle for spray painting |
| Week 8 | Ensure that there is enough air in the tank, read the pressure gauges | Choose the correct pressure for the work |
| Week 9 | Choose the correct cleaner for spray painting gun | Clean the spray painting gun properly |


Theoretical Assessment: Term 2.



Four theoretical activities are assessed and recorded, however, a minimum of 1 theoretical activity is reported on. The following serves as suggestions of theoretical activities to report on.


The learner must be able to:



| | |
|--------|---|
| Week 1 | Use a worksheet to name and identify the parts of the bench grinder |
| Week 2 | List the safety measures for the bench grinder |
| Week 3 | Use a worksheet to name and identify the parts of the cut off machine |
| Week 4 | List the safety measures of the cut off machine |
| Week 5 | List ways to remove corrosion |
| Week 6 | Discuss the importance of preparing the paint surface before painting |
| Week 7 | Use a worksheet to name and identify the parts of the spray painting gun |
| Week 8 | Use a worksheet to make pressure gauge readings and discuss why the correct pressure is important |
| Week 9 | Discuss the importance of cleaning the spray paint gun properly and using an appropriate cleaner |


3.3.6 Grade 5: 1st, 2nd and 3rd year: Term 3


| Grade 5 Term 3 | | | |
|----------------|---|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| 1-3 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | Grade 5:1 st year <ul style="list-style-type: none"> • Measure the lengths of flat bar • Mark out the flat bar • Bend the flat bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | Grade 5:1 st year The suggested project is a lantern to teach the learner skills to: <ul style="list-style-type: none"> • Measure the lengths of flat bar • Mark out the flat bar • Bend the flat bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product The teacher discusses and demonstrates the steps to produce and complete the project successfully. Safety rules are discussed and applied during the practical session.  |
| | | Grade 5:2 nd year <ul style="list-style-type: none"> • Measure the lengths of round bar and pipe • Mark out the round bar and pipe • Cut the round bar and pipe | Grade 5:2 nd year The suggested project is a lamp to teach the learner skills to: <ul style="list-style-type: none"> • Measure the lengths of round bar and pipe |


| Grade 5 Term 3 | | | |
|----------------|-------|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> • Bend the round bar and pipe • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product e.g. in this case a paint technique or rust and varnish technique, because this is an indoor appliance. | <ul style="list-style-type: none"> • Mark out the round bar and pipe • Cut the round bar and pipe • Bend the round bar and pipe • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product e.g. in this case a paint technique or rust and varnish technique, because this is an indoor appliance. <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> |
| | | Grade 5:3 rd year | Grade 5:3 rd year |


| Grade 5 Term 3 | | | |
|----------------|--|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> • Measure the lengths of round bar and pipe • Mark out the round bar and pipe • Cut the round bar and pipe • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>The suggested project is a portable garden light stand to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar and pipe • Mark out the round bar and pipe • Cut the round bar and pipe • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product  <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> |
| 4-6 | General safety and good housekeeping practises Tools and safety | Grade 5: 1 st year <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar | Grade 5: 1 st year <p>The suggested project is a rain meter stand to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar |


| Grade 5 Term 3 | | | |
|----------------|---|--|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | Materials Processes Project costing | <ul style="list-style-type: none"> Weld the different parts together Finish the welding joint with angle grinder Paint the product | <ul style="list-style-type: none"> Mark out the round bar Bend the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 5:2nd year:</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Cut the round bar Bend the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product | <p>Grade 5:2nd year</p> <p>The suggested project is a pot plant stand to teach the learner to:</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Cut the round bar  |

| Grade 5 Term 3 | | | |
|----------------|-------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | <ul style="list-style-type: none"> • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> |
| | | <p>Grade 5:3rd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>Grade 5:3rd year</p> <p>The suggested project is a pot plant shelf to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder  |

| Grade 5 Term 3 | | | |
|----------------|---|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | <ul style="list-style-type: none"> Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| 7-9 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | Grade 5: 1 st year <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product | Grade 5: 1 st year <p>The suggested project is a trellis for ranking plants to teach the learner skills to:</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical</p> |

| Grade 5 Term 3 | | | |
|----------------|-------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | <p>session.</p>  |
| | | <p>Grade 5:2nd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>Grade 5:2nd year</p> <p>The suggested project is a decorative wall pot plant holder to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical</p> |

| Grade 5 Term 3 | | | |
|----------------|-------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | session. |
| | | <p>Grade 5:3rd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product |  <p>Grade 5:3rd year</p> <p>The suggested project is a trellis for a pot plant to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Cut the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> |

| Grade 5 Term 3 | | | |
|----------------|-------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | <p>Safety rules are discussed and applied during the practical session.</p>  |

Assessment: Term 3

Assessment is formally recorded during four (4) practical sessions with a minimum of four (4) skills reported. Learners, regardless of abilities, shall be assessed on the same skill. The following serves as suggestion of skills to record and report on.

The assessment goals for Grade 5, first, second and third year are the same, the articles are however more advanced.

| | | |
|--------|--|---|
| Week 1 | Know the procedure of shutting down the main switches in a case of emergency | Apply knowledge to plug and unplug a plug correctly and safely |
| Week 2 | Apply basic electricity safety measures | Ensure that electrical switches are all in a working order |
| Week 3 | Ensure that electrical cords and extension cords is in a good condition | Ensure that plugs is in a working order and safe |
| Week 4 | Wire a plug correctly under supervision | Report faulty tools, equipment and damage of the workshop |
| Week 5 | Do basic upkeep and maintenance of tools/ equipment under supervision | Do basic upkeep and maintenance of the workshop |
| Week 6 | Identify/choose the appropriate material for the project | Report when there is no more material or a shortage of material |
| Week 7 | Use a basic cutting list for a project | Clean the workshop properly |
| Week 8 | Use the correct terminology | Plan a project |
| Week 9 | Use chronological steps in assembling the project | Tack weld the different parts of the project |

Theoretical Assessment: Term 3.

Four theoretical activities are assessed and recorded, however, a minimum of 1 theoretical activity is reported on. The following serves as suggestions of theoretical activities to report on.


The learner must be able to:


| | |
|--------|--|
| Week 1 | List the procedure of shutting down the main switches in case of an emergency |
| Week 2 | List the basic safety measures of electricity |
| Week 3 | Discuss the process to fix a faulty cord |
| Week 4 | Make a simple drawing of a plug and name the different parts and use colour pencils to show the correct connection of the electrical wires |
| Week 5 | Make a list of things that can possibly fixed in the workshop |
| Week 6 | Discuss the importance of the right choice of material and the importance of reporting when you run low on material |
| Week 7 | Compile a basic cutting list |
| Week 8 | Discuss the importance of using the correct terminology in the workshop |
| Week 9 | Discuss the importance of tack welding the project before you ensue welding the joints |



3.3.7 Grade 5: 1st, 2nd and 3rd year: Term 4


| Grade 5 Term 4 | | | |
|----------------|---|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| 1-3 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | <p>Grade 5: 1st year</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Bend the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Cut off machine <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> Cut off machine e.g. Inspect cut off machine to ensure all shields are in place. Inspect blade to ensure it is not cracked or broken Wear safety gear Ensure that hands and limbs is cleared from blade Ensure that the blade is not rotating and still after switched off Clean work area of flammable materials <p>Grade 5:2nd year</p> | <p>Grade 5: 1st year</p> <p>The suggested project is a stool and to teach the learner skills to:</p> <ul style="list-style-type: none"> Measure the lengths of round bar Mark out the round bar Bend the round bar Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects</p> <ul style="list-style-type: none"> Cut off machine <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p> <p>Grade 5:2nd year</p> |






| Grade 5 Term 4 | | | |
|----------------|-------|---|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> • Measure the lengths of square tubing and lip channel • Mark out the square tubing and lip channel • Cut the square tubing and lip channel • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>The suggested project is a simple bench to teach the learner to:</p> <ul style="list-style-type: none"> • Measure the lengths of square tubing and lip channel • Mark out the square tubing and lip channel • Cut the square tubing and lip channel • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product • channel <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 5:3rd year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar and angle iron • Mark out the round bar and angle iron • Cut the round bar and angle iron • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder | <p>Grade 5:3rd year</p> <p>The suggested project is a bench the to teach learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar and angle iron • Mark out the round bar and angle iron • Cut the round bar and angle iron • Bend the round bar |

| Grade 5 Term 4 | | | |
|----------------|---|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <ul style="list-style-type: none"> Paint the product | <ul style="list-style-type: none"> Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| 4-6 | General safety and good housekeeping practises Tools and safety Materials Processes Project costing | Grade 5: 1 st year <ul style="list-style-type: none"> Measure the lengths of square tubing Mark out the square tubing Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> Hand notcher <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> Hand notcher e.g. Inspect hand notcher to see if all parts and shields is in place and working order <p>Wear leather gloves to prevent cuts</p> <p>Ensure fingers and limbs are clear before cutting</p> <p>Lubricate working parts regularly</p> <p>Hold material firmly</p> | Grade 5: 1 st year <p>The suggested project is a side table to teach the learner to:</p> <ul style="list-style-type: none"> Measure the lengths of square tubing Mark out the square tubing Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects</p> <ul style="list-style-type: none"> Hand notcher <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> |

| Grade 5 Term 4 | | | |
|----------------|-------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | Refrain using machine beyond its capacity | Safety rules are discussed and applied during the practical session.  |
| | | <p>Grade 5:2nd year</p> <ul style="list-style-type: none"> • Measure the lengths of square tubing • Mark out the square tubing • Cut the square tubing • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> • Plasma cutter • Spanner <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> • Plasma cutter e.g. Wear safety gear, like safety goggles, leather gloves etc. <p>Turn power off before changing tips</p> <p>Inspect tip and electrode to ensure it is in good working condition</p> <ul style="list-style-type: none"> • Spanners e.g. Choose the correct size spanner for the job <p>Ensure spanner is not damaged</p> | <p>Grade 5:2nd year</p> <p>The suggested project is a trolley to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of square tubing • Mark out the square tubing • Cut the square tubing • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects</p> <ul style="list-style-type: none"> • Plasma cutter, spanners <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |

| Grade 5 Term 4 | | | |
|----------------|--|---|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | <p>Ensure the jaw of spanner is in full contact with the head of the nut</p> <p>Maintain spanners well to ensure an extended use</p> | |
| | | <p>Grade 5:3rd year</p> <ul style="list-style-type: none"> • Measure the lengths of square tubing • Mark out the square tubing • Cut the square tubing • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>Grade 5:3rd year</p> <p>The suggested project is a coffee table to teach the learner to:</p> <ul style="list-style-type: none"> • Measure the lengths of square tubing • Mark out the square tubing • Cut the square tubing • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| 7-9 | <p>General safety and good housekeeping practises</p> <p>Tools and safety</p> <p>Materials</p> | <p>Grade 5: 1st year</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar • Weld the different parts together • Finish the welding joint with angle grinder | <p>Grade 5: 1st year</p> <p>The suggested project is burglar bars to teach the learner skills to:</p> <ul style="list-style-type: none"> • Measure the lengths of round bar • Mark out the round bar • Bend the round bar |

| Grade 5 Term 4 | | | |
|----------------|------------------------------|--|--|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | Processes Project costing | <ul style="list-style-type: none"> Paint the product <p>Identify and/or name the following tools:</p> <ul style="list-style-type: none"> 90° magnet <p>Follow safety precautions with the:</p> <ul style="list-style-type: none"> 90° magnet e.g. handle it with care to ensure it will stay accurate Protect it from heat so that it does not lose its magnetic abilities | <ul style="list-style-type: none"> Weld the different parts together Finish the welding joint with angle grinder Paint the product <p>Identify and/or name, select and apply the following tools and materials safely to complete the suggested projects</p> <ul style="list-style-type: none"> 90° magnet <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 5:2nd year</p> <ul style="list-style-type: none"> Measure the lengths of square tubing Mark out the square tubing Cut the square tubing Weld the different parts together Finish the welding joint with angle grinder Paint the product | <p>Grade 5:2nd year</p> <p>The suggested project is a bed headboard to teach the learner to:</p> <ul style="list-style-type: none"> Measure the lengths of square tubing Mark out the square tubing Cut the square tubing Weld the different parts together Finish the welding joint with angle grinder Paint the product |

| Grade 5 Term 4 | | | |
|----------------|-------|---|---|
| WEEK | TOPIC | CONTENT The learner must be able to: | Practical tasks |
| | | | <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |
| | | <p>Grade 5:3rd year</p> <ul style="list-style-type: none"> • Measure the lengths of square tubing and round bar • Mark out the square tubing and round bar • Cut the square tubing and round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product | <p>Grade 5:3rd year</p> <p>The suggested project is a security door to teach the learner to:</p> <ul style="list-style-type: none"> • Measure the lengths of square tubing and round bar • Mark out the square tubing and round bar • Cut the square tubing and round bar • Weld the different parts together • Finish the welding joint with angle grinder • Paint the product <p>The teacher discusses and demonstrates the steps to produce and complete the project successfully.</p> <p>Safety rules are discussed and applied during the practical session.</p>  |

Assessment: Term 4

Assessment is formally recorded during four (4) practical sessions with a minimum of four (4) skills reported. Learners, regardless of abilities, shall be assessed on the same skill. The following serves as suggestion of skills to record and report on.

The assessment goals for Grade 5, first, second and third year are the same, the articles are however more advanced.

| | | |
|--------|---|--|
| Week 1 | Use cut off machine correctly and safely | Apply safety measures of the welder |
| Week 2 | Identify the different parts of the cut off machine | Identify the different parts of the welder |
| Week 3 | Choose an appropriate setting for the welder | Set up welder correctly |
| Week 4 | Choose an appropriate welding rod | Use spanners correctly and safely |
| Week 5 | Use welder safely and correctly | Use plasma cutter correctly and safely |
| Week 6 | Choose the correct welding angle | Apply safety measures of the plasma cutter |
| Week 7 | Use 90° welding magnet correctly | Use angle grinder correctly and safely |
| Week 8 | Choose a correct welding speed | Apply safety measures of angle grinder |
| Week 9 | Tack weld the product correctly | Choose the correct welding speed |

Theoretical Assessment: Term 4.

Four theoretical activities are assessed and recorded, however, a minimum of 1 theoretical activity is reported on. The following serves as suggestions of theoretical activities to report on.

The learner must be able to:

| | |
|--------|---|
| Week 1 | Use a work sheet and name the different parts of the cut off machine |
| Week 2 | List the safety measures of the cut off machine |
| Week 3 | List the safety measures of the welder |
| Week 4 | Name different spanners |
| Week 5 | Use a worksheet to identify and name the different parts of the plasma cutter |
| Week 6 | List the safety measures of the plasma cutter |
| Week 7 | Explain the advantages of using a 90° magnet in welding |
| Week 8 | Name the function of the flux of the welding rod |
| Week 9 | Explain the importance of tack welding a product |

4 SECTION 4

ASSESSMENT

The generic section will be copied here after the public comment changes have been made. The following table relates to the assessment programme for welding.

Assessment across the 5 years

Grade 4 – Skills

The assessment goals for Grade 4, first, second and third year are the same, the articles are however more advanced.

| Task | Term 1 | | |
|------|-------------|---|--|
| 1 | Week 2 or 3 | Use pliers correctly and safely Measure the correct lengths | Make proper bends Use a hacksaw correctly and safely |
| 2 | Week 4 or 5 | Use shears correctly and safely Use a template to draw forms | Use nibbler correctly and safely Use pop rivet gun properly and safely |
| 3 | Week 6 or 7 | Use a punch/pin correctly and safely Use letter/number punch correctly and safely | Use electrical hand drill correctly and safely Choose the correct size drill bit |
| 4 | Week 8 or 9 | Use the hammer correctly and safely Clean the file correctly | Use file correctly and safely Use a template to mark out accurately |
| Task | Term 2 | | |
| 1 | Week 2 or 3 | Use drill press correctly and safely Use machine vice correctly and safely | Identify the different parts of the welder Set up the welder correctly |
| 2 | Week 4 or 5 | Use a jig to make bends Bend multiple bends the same | Use welder correctly and safely Choose an appropriate setting for the welder |
| 3 | Week 6 or 7 | Use pliers to cut, tie and bend wire properly and neatly Use pliers to straighten wire | Choose an appropriate welding rod for specific work Choose the correct size welding rod |
| 4 | Week 8 or 9 | Use an anvil correctly and safely Use the hammer to straighten wire properly | Choose the correct welding speed Choose the correct welding angle |
| Task | Term 3 | | |
| 1 | Week 2 or 3 | Cut material so that there are no | Use a chipping hammer correctly and |

| | | | |
|------|--------------|--|--|
| | | wastage Cut wire from an end and keep to the end | safely Chip the flux properly from the welding joint |
| 2 | Week 4 or 5 | Make symmetrical bends Bend letters/numbers the same size | Prepare the welding joint correctly Grind welding joint correctly |
| 3 | Week 6 or 7 | Bend repeated letters/numbers the same size Choose the appropriate material for the project | Choose the correct paint size paint brush Choose an appropriate paint for the project |
| 4 | Week 8 or 9 | Cut material and keep in mind that you are working at an angle Tie material uniformly to structure | Choose the correct cleaner for the paint brush Clean paint brush properly |
| Task | Term 4 | | |
| 1 | Week 2 or 3 | Ensure that the 90° corners measures 90° Use soldering correctly and safely to secure the joints | Use a clamp to keep bended ring in position to weld joint Use the sliding bevel to ensure you work at the right angle |
| 2 | Week 4 or 5 | Use a guillotine to cut out material Use a box and pan brake correctly and safely to do bending | Cut legs the same length to ensure the project is level Use a screwdriver correctly and safely to secure top |
| 3 | Week 6 or 7 | Bend seams properly Measure accurately to ensure that both parts are equal | Use a paint brush correctly Mark out both sides the same, to ensure that it is level |
| 4 | Week 8 or 10 | Bend a hinge that working properly Use a spot welder correctly and safely to secure different parts | Ensure that when you use a hinge that it does not slide Paint with fire resistant paint |

Grade 4 term 1 – 4: Theoretical assessment tasks

Evidence of one theoretical task of formal assessment between weeks 2 – 10 as in the annual teaching plan must be available for quality assurance.

Grade 4 – Practical assessment tasks

Assessment across the 5 years

Grade 5 – Skills

The assessment goals for Grade 5, first, second and third year are the same, the articles are however more advanced.

| Task | Term 1 | | |
|------|-------------|--|---|
| 1 | Week 2 or 3 | Report an accident and apply basic first aid Demonstrate the emergency procedures of the workshop | Know the basic use of fire equipment in case of a fire Use a problem steel welding rod when joining different metals |
| 2 | Week 4 or 5 | Store tools and equipment safely and securely Apply the safety measures of the welder | Store hazardous material safely and securely Store materials properly, securely and out of the way |
| 3 | Week 6 or 7 | Use angle grinder correctly and safely Use angle grinder to grind sharp edges | Identify warning signs Change the angle grinder blade safely |
| 4 | Week 8 or 9 | Use angle grinder to finish the joint Grind the joint with angle grinder just enough not to weaken joint | Choose the correct grinder blade for the work to be done Adjust welder to correct setting, so that metal is not melted |
| Task | Term 2 | | |
| 1 | Week 2 or 3 | Grind sharp edges with bench grinder Use cut off machine correctly and safely | Grind joints with bench grinder Cut metal with cut off machine |
| 2 | Week 4 or 5 | Clamp material securely in cut off machine Use sandpaper to sand off corrosion | Clamp material accurately to ensure the correct lengths Use a file in corners to file off corrosion |
| 3 | Week 6 or 7 | Clean the surface properly before finishing/painting Apply safety measures of the spray painting gun | Use spray painting gun correctly and safely Choose an appropriate nozzle for spray painting |
| 4 | Week 8 or 9 | Ensure that there is enough air in the tank, read the pressure gauges Choose the correct cleaner for spray painting gun | Choose the correct pressure for the work Clean the spray painting gun properly |
| Task | Term 3 | | |

| | | | |
|------|--------------|--|--|
| 1 | Week 2 or 3 | Apply basic electricity safety measures Ensure that electrical cords and extension cords is in a good condition | Ensure that electrical switches are all in a working order Ensure that plugs is in a working order and safe |
| 2 | Week 4 or 5 | Ensure that electrical cords and extension cords is in a good condition Wire a plug correctly under supervision | Report faulty tools, equipment and damage of the workshop Do basic upkeep and maintenance of the workshop |
| 3 | Week 6 or 7 | Identify/choose the appropriate material for the project Use a basic cutting list for a project | Report when there is no more material or a shortage of material Clean the workshop properly |
| 4 | Week 8 or 9 | Use the correct terminology Use chronological steps in assembling the project | Plan a project Tack weld the different parts of the project |
| Task | Term 4 | | |
| 1 | Week 2 or 3 | Identify the different parts of the cut off machine Choose an appropriate setting for the welder | Identify the different parts of the welder Set up welder correctly |
| 2 | Week 4 or 5 | Choose an appropriate welding rod Use welder safely and correctly | Use spanners correctly and safely Use plasma cutter correctly and safely |
| 3 | Week 6 or 7 | Choose the correct welding angle Use 90° welding magnet correctly | Apply safety measures of the plasma cutter Use angle grinder correctly and safely |
| 4 | Week 8 or 10 | Choose a correct welding speed Tack weld the product correctly | Apply safety measures of angle grinder Choose the correct welding speed |

Evidence of one theoretical task of formal assessment between week 2 – 10 as in the annual teaching plan must be available for quality assurance.