GARDEN FIT

A guide to show you how to use garden tools in a safe, efficient way that can help improve your health and fitness whilst minimising risk of injury.

Gardening can be a productive, low impact way to keep fit. It is sometimes portrayed as an activity that can "do your back in" - but by adopting the correct positioning and posture, and frequently varying the type of activity you are doing, you can avoid overusing any particular set of muscles and reduce the chance of injury. Like any other sport or physical activity, the main thing is not to overdo it. If done correctly, over time gardening can strengthen your muscles and improve your overall fitness.

Please note. These images and instructions are guidelines only. If you have a physical injury or medical condition, please consult your doctor before doing anything new.

General advice when using tools

- When using tools while standing, try to maintain an upright body position.
- Keep your back straight as much as you can.
- Avoid gradually sliding your hands down long handled tools, as this will cause you to bend your back.
- Get into the habit of using your legs more than your back when moving and lifting.
- Change your position or grip every so often to avoid repetitive strain injury.
- Alternate your position or grip to work both sides of the body whenever possible.

USEFUL LINKS

TCV Green Gym®: www.tcv.org.uk/greengym - *for a "Green Gym" programme*
The Big Dig: www.bigdig.org.uk - *look for your local community food-growing space*
Garden Organic: www.gardenorganic.org.uk - *for organic growing advice*
Carry on Gardening: www.carryongardening.org.uk - *advice for gardening with a disability*

Things to consider when choosing tools

- Choose a tool that fits your size and shape. Lightweight tools can allow you to work longer. Heavy ones will make you work harder!
- Consider quality as well as price – cheap tools can break if used for heavy work. Second hand traditional tools are good if you can get them, as they tend to be durable and designed to last, but do check their condition first.
- Dull edges on a hoe or spade can make work harder. Try to keep all edges sharp.
- Use the right tools for the job. Using a spade to do the work of a shovel will make the work much harder. Similarly, try not to use a spade in heavy clay soil when a mattock would be more efficient.

These images and instructions were inspired by working with volunteers from The Castle Climbing Centre in London, during the creation of their garden. Many of the volunteers are very energetic, competitive climbers who were very active and productive when working in the garden, which, as a consequence, was created in a very short amount of time. Some of them treated the garden work as a warm up or a part of their physical training.

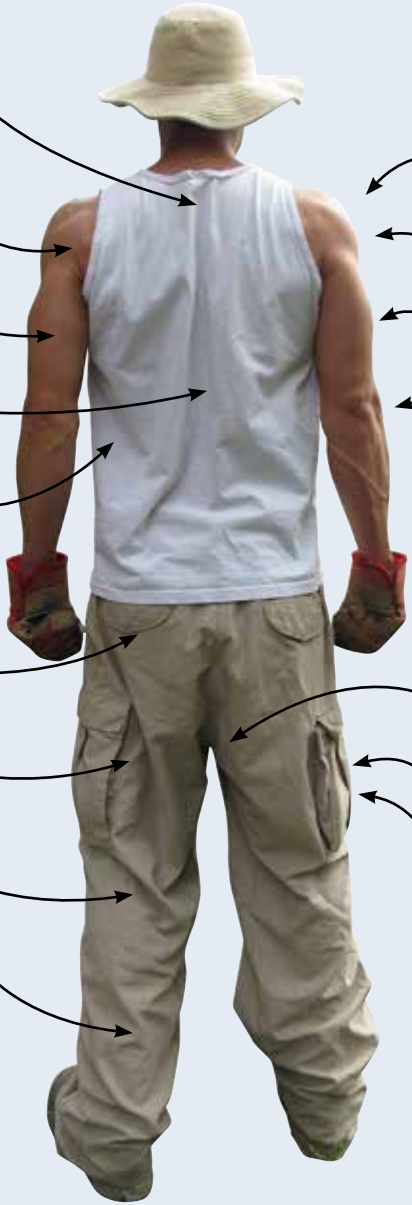
We worked with a personal trainer from The Castle Climbing Centre who showed us which parts of the body are being exercised with each tool. He also gave advice on how to use them in a way to avoid repetitive strain.

Thank you to The Castle Climbing Centre for their support in producing this guide.
www.castle-climbing.co.uk

The project is also inspired by and received advice from the TCV's (Trust for Conservation Volunteers) Green Gyms® programme of which there are 150 across the UK.
TCV Green Gym® www.tcv.org.uk/greengym

CREDITS
Writer: Ida Fabrizio
Fitness advisor: Janos Atkins
Designer: Susie Norris
© Ida Fabrizio 2016

Muscle names



Trapezius
middle of top of back and shoulders

Posterior deltoid
back of shoulder

Tricep
back of upper arm

Rhomboids
middle of back

Lats (latissimus dorsi)
run from top of back, to the sides and down the bottom

Glutes - bum

Hamstrings
back of thigh

Gastronemeus
top of calf

Soleus - bottom of calf

Anterior deltoid
front of shoulder

Pectorals - chest

Bicep
front of upper arm

Core - lower torso

Adductor
inside thigh

Quads - front of thigh

Abductor
outside thigh

Warm ups and stretches

It is important to warm up to prepare before physical activity and then to stretch and cool down afterwards. This can help prevent injury and reduce muscle stiffness and soreness afterwards.

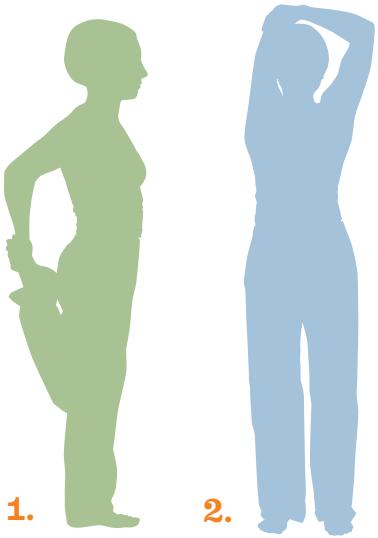
Warm up

10-15 minutes

The intention is to raise the pulse and loosen up your joints by doing mobility activities. It depends on your level of fitness and ability as to how much you do.

Suggested methods:

Walking, starting slowly then progressing to jogging or marching - moving around or on the spot, raising legs and swinging straight arms. To loosen the joints do gentle circular movements with your shoulders, arms, then your wrists, waist then hips and finishing with your ankles. Change direction for your circular movements. Also knee lifts and side bends.



Stretches

1. Quadriceps

Stand up straight on one leg using something to hold on to for balance. Bend your knee and hold that foot to your backside. Don't pull - instead push your knee backwards until a stretch is felt in the quadricep area and hold this position.

2. Triceps

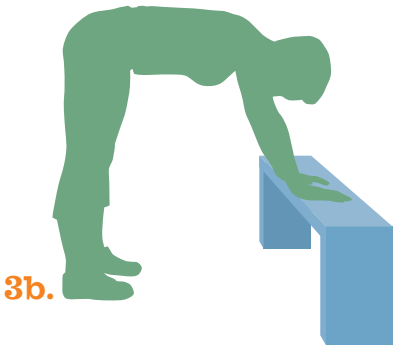
Bend your arm behind your head with your elbow pointing upwards and your hand touching your neck. Keep your back straight and place your other hand on your elbow and gently pull your elbow keeping your head upright. A stretch should be felt in the triceps.



3. Back, hamstring and calves

a. Forward bend. Stand with feet hip width apart, keeping them parallel, then stretch arms above your head and bend forward from the hips, keeping the knees bent. Grab hold of the elbows and hang, feeling the stretch in your calves and hamstrings, avoiding curving the back too much. Hold for 3 to 5 breaths before slowly coming back up. Avoid this stretch if you have a back injury.

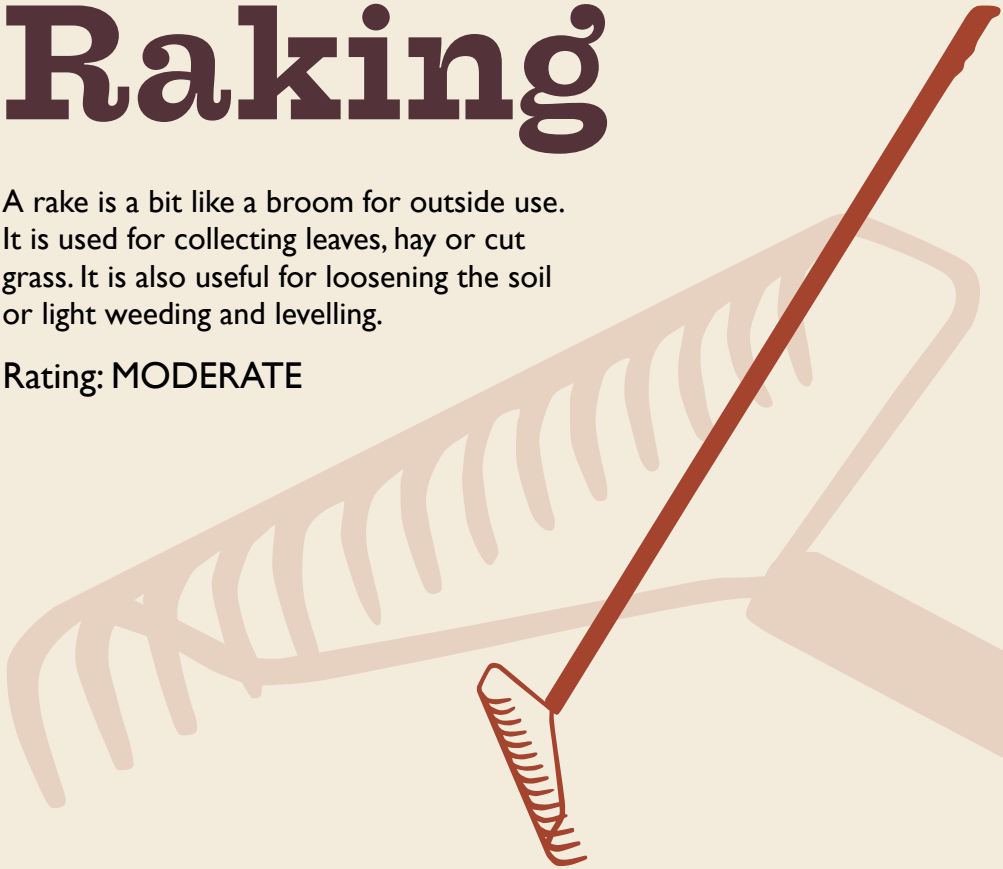
b. Alternative forward bend. Bend over from the hips, keeping your back straight, and use a bench, chair or wall for support to rest your hands. Keep the back straight and neither hunched or concaved. Slightly pull the stomach in. Keep the legs straight if possible, otherwise bend the knees.



Raking

A rake is a bit like a broom for outside use. It is used for collecting leaves, hay or cut grass. It is also useful for loosening the soil or light weeding and levelling.

Rating: MODERATE



Garden tip

In autumn, it is good to collect dead leaves to make leaf mould. Leaf mould makes a really good mulch, and after rotting for 18 months, then sieving, it is a good medium for seed compost.

Make a leaf mould bin by using four posts and chicken wire, or collect in bags, and keep it for year and half until it rots down.

Grass is good for compost heaps, however make sure to mix with card or wood chip. You can also dry it for hay and use for animals or as a mulch.



Technique

- Keep your core muscles engaged throughout. Don't let your stomach stick out - keep it tense to help support your back.
- Use both hands on the rake.
- Stand with one foot in front of the other, wider than shoulder width apart, so you can lunge forward while keeping the back straight with a slight forward lean.
- Rake a little at a time, using lots of strokes and not too much force, shifting the weight from one leg to the other.
- Try to keep your knees aligned above your feet.

Safety

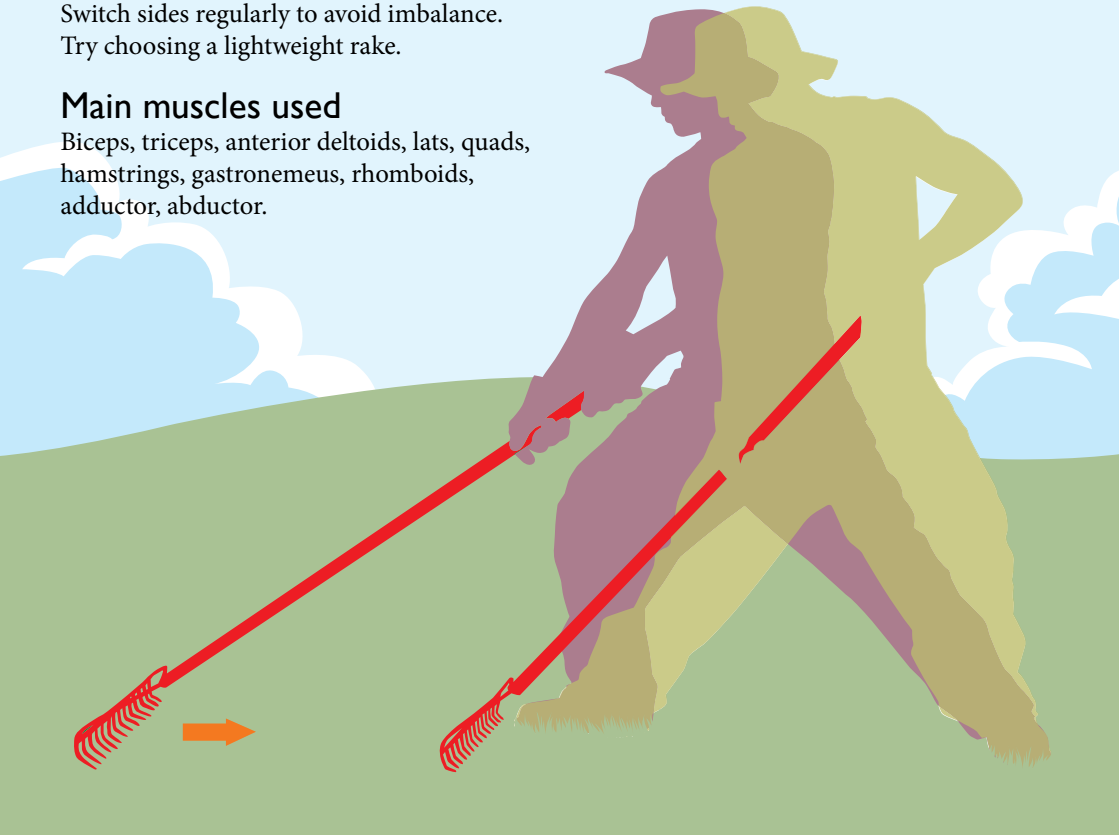
Be aware of where the end of the handle is, and who and what is behind you.
Don't leave the rake on the ground, especially with the prongs upwards.

Tips

Switch sides regularly to avoid imbalance.
Try choosing a lightweight rake.

Main muscles used

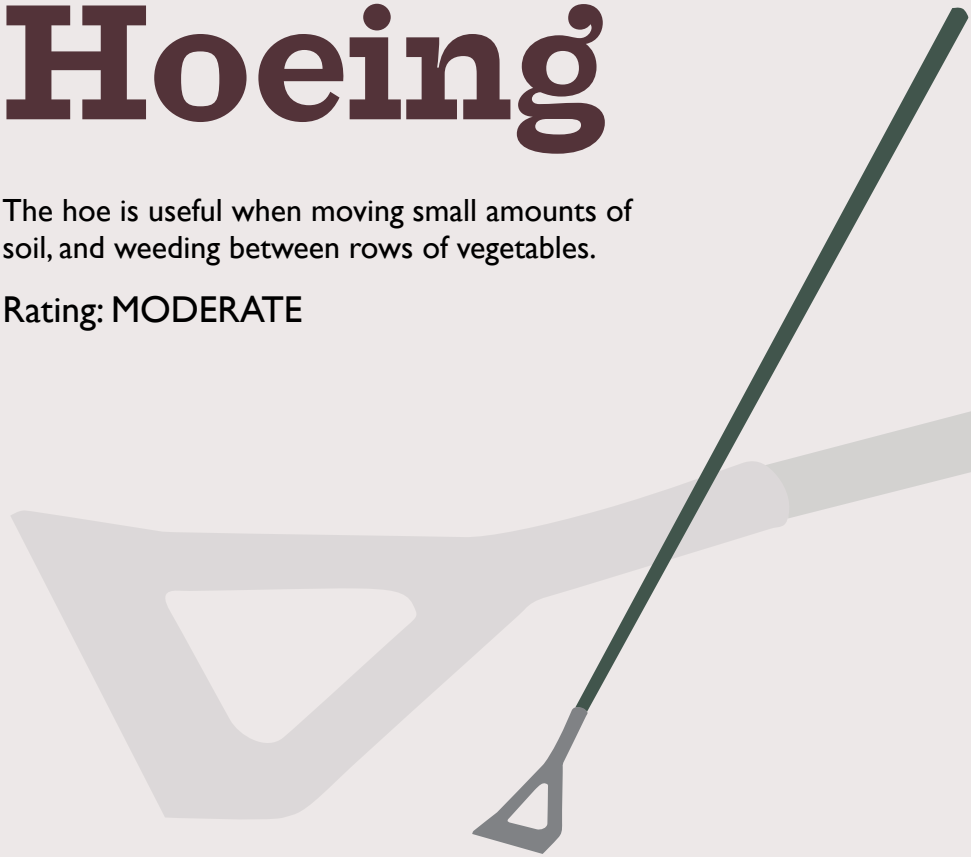
Biceps, triceps, anterior deltoids, lats, quads, hamstrings, gastronemeus, rhomboids, adductor, abductor.



Hoeing

The hoe is useful when moving small amounts of soil, and weeding between rows of vegetables.

Rating: MODERATE



Garden tip:

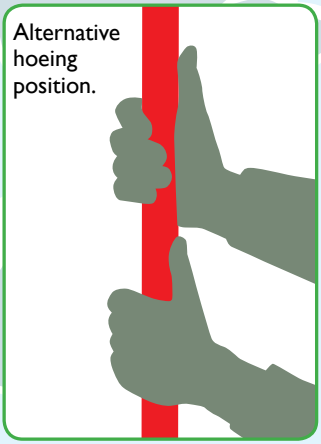
Planting your vegetables in neat rows, it makes it easier to identify plants and keep on top of weeds. It is best to catch weeds when they are small - just after germination. At this stage they will be easy to lift with a hoe. Larger weeds are difficult to dig out, and can affect crop growth. Regular hoeing will save you from having to bend down and dig out fully-grown weeds.





Technique

- Keep your core muscles engaged throughout, and don't let your stomach stick out.
- Keep your core tense to support your back.
- Stand with one foot in front of the other, wider than shoulder width apart, so you can lunge forward, while keeping your back straight with a slight forward lean.
- Bend at the hips, not your back.
- Try to keep your knees aligned above your feet.



Alternative hoeing position.

Safety

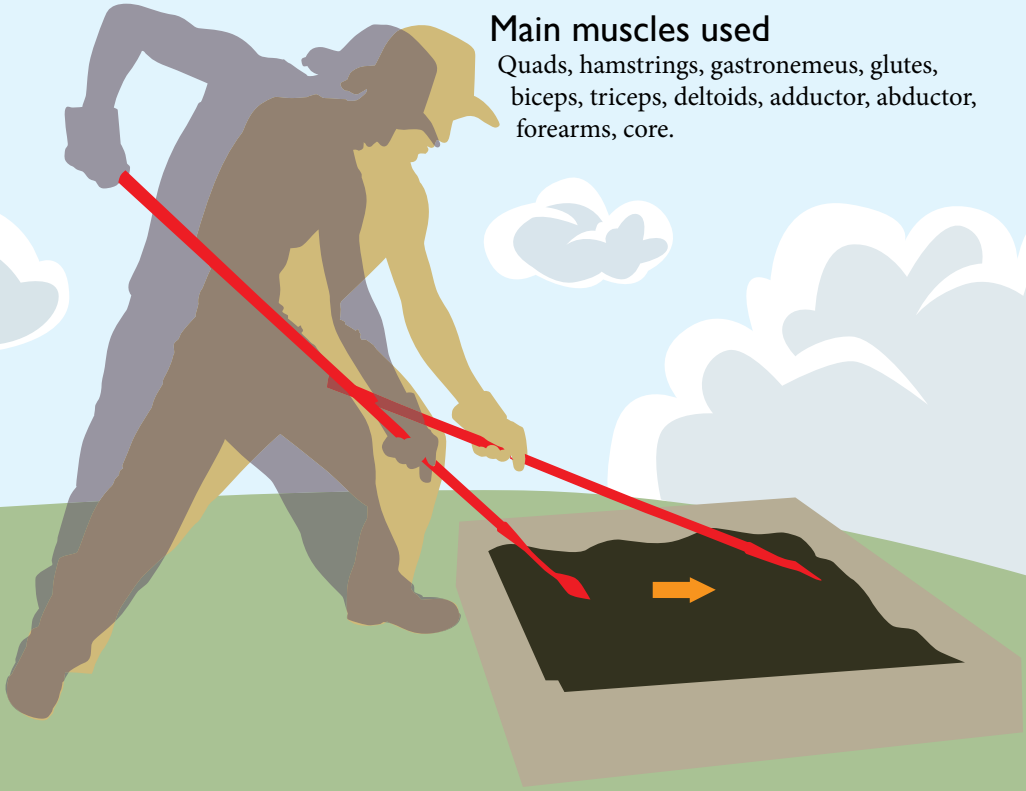
Keep your back straight – avoid edging your hands down the tool handle, which will make you bend your back. As the hoe is a long handled tool, watch out for people behind you when using it.

Tips

Switch sides regularly to avoid imbalance. As an alternative, hold the hoe with both thumbs pointing up and maintain an upright position.

Main muscles used

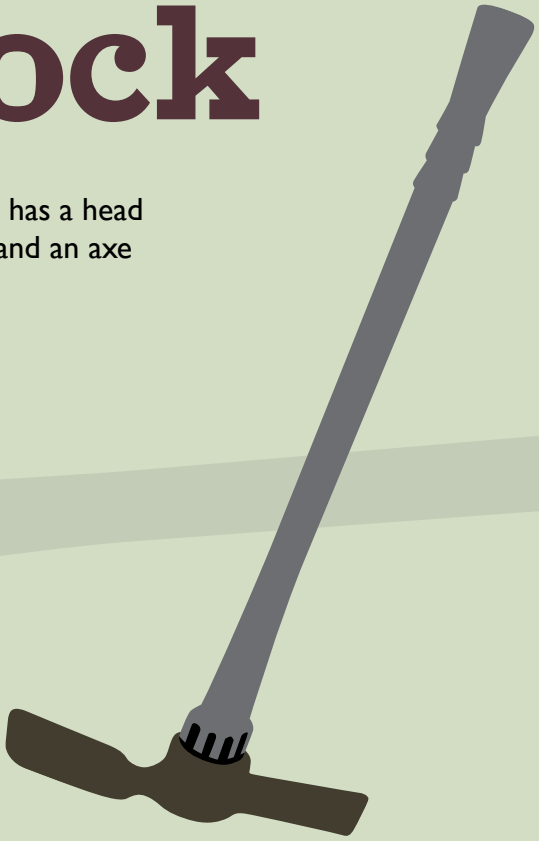
Quads, hamstrings, gastronemeus, glutes, biceps, triceps, deltoids, adductor, abductor, forearms, core.



Mattock

A mattock is similar to a pick axe. It has a head with a broad flat blade on one side and an axe blade on the other.

Rating: MEDIUM HARD
- this is a heavy tool.



Garden tip

This is a very versatile and effective digging tool. A mattock is useful for digging holes and trenches where the soil is hard. The flat blade is good for digging hard soils, while the axe blade is good for cutting roots.
However, if you have never used one before it can take some getting used to.



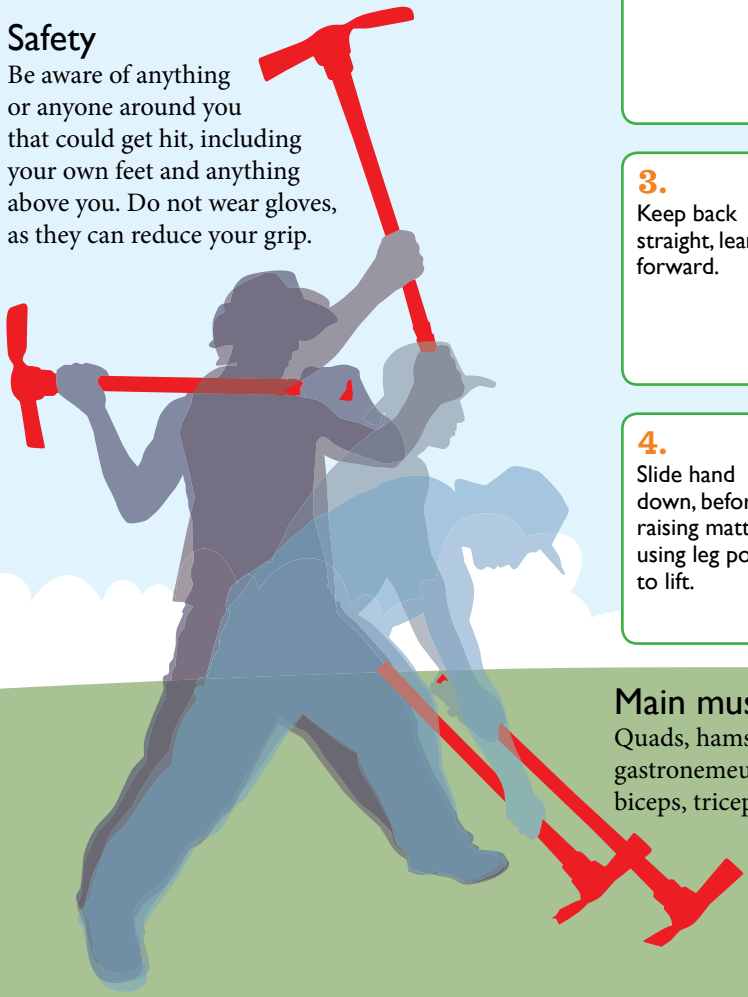


Technique

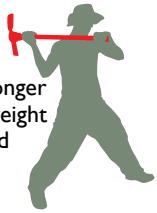
- Keep a wide stance, with your legs wider than shoulder width apart.
- Hold the handle near the top with your stronger hand, and allow the weight to drop behind your shoulder.
- Swing overhead, shifting top hand towards the bottom with a fluid movement, using gravity to generate power.
- Lean forward, keep your back straight, and slide hands towards the top of the handle. Bend front leg and lunge, using leg strength, rather than your back to lift.
- Keep core muscles engaged throughout and your back straight.
- When breaking ground, dig the point in and roll handle away from you over the point.
- If you can, switch sides regularly.

Safety

Be aware of anything or anyone around you that could get hit, including your own feet and anything above you. Do not wear gloves, as they can reduce your grip.



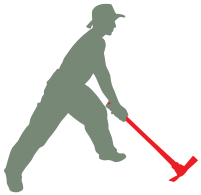
1. Grab handle near the top with your stronger hand. Allow weight to drop behind shoulder.



2. Swing over head, using gravity to generate power.



3. Keep back straight, lean forward.



4. Slide hand down, before raising mattock, using leg power to lift.

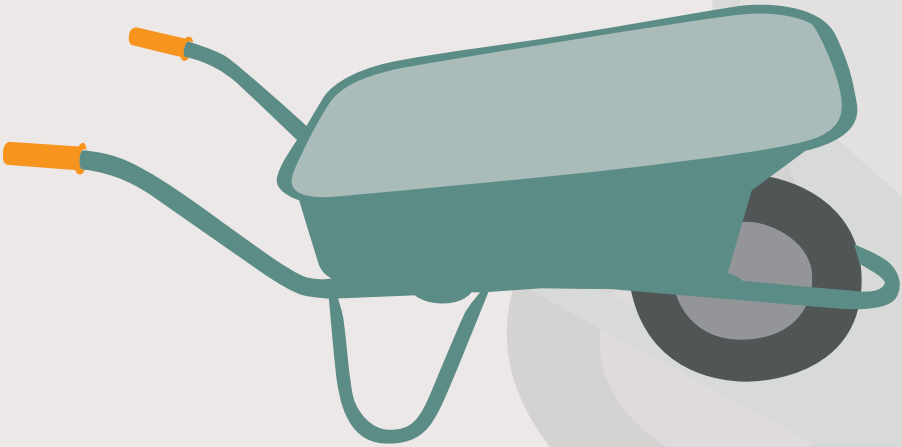


Main muscles used

Quads, hamstrings, glutes, gastronemeus, trapezius, rhomboids, biceps, triceps, forearms, core.

Wheelbarrow

A wheelbarrow is frequently used in the garden to carry tools, move compost, wood chip, gravel and much more. It is invaluable when lots of material needs moving in one go.



Rating: MODERATE TO MEDIUM/HARD
depending on the weight of material being moved.

Garden tip

When choosing a wheelbarrow, consider the height of the handles. Ideally you want to be able to keep your arms straight whilst pushing it along.





Technique

- Keep your shoulders square and upright and avoid hunching your shoulders.
- Bend and then straighten your knees when picking up the wheelbarrow, pushing with your legs.
- If you can, keep your arms slightly bent and muscles engaged when pushing the barrow.

Tips

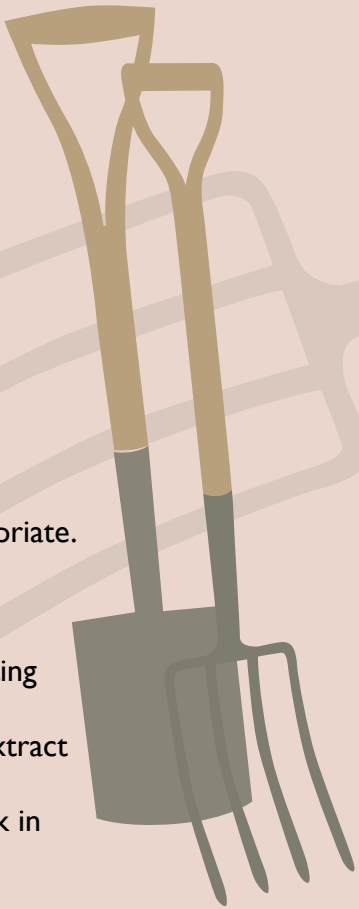
Try to place most of the weight of the load over the wheel to reduce effort. Avoid overfilling the wheelbarrow.

Main muscles used

Quads, hamstrings, glutes, gastronemeus, soleus, deltoids, trapezius, biceps, forearms, core. Moving downhill emphasizes hamstrings and posterior deltoid while moving uphill emphasises quads, soleus, biceps and anterior deltoid. Tipping involves pectorals, triceps and anterior deltoid.



Digging



A spade or fork are both used for digging or loosening the earth.

Use a spade to:

- dig and remove earth
- dig over a garden plot
- lift up plant roots without breaking them apart
- dig holes to plant shrubs and trees

In some circumstances, a fork will be more appropriate.

Use a fork to:

- dig with less damage to worms and soil
- avoid damaging crops such as potatoes when lifting out of the soil
- dig up weeds, sifting away soil from clumps to extract weed in one piece
- open up soil surface to lightly cultivate and work in compost/manure around plants

Rating: MODERATE

Garden tip

A spade has a broad flat blade with a sharp lower edge. It has rests for the feet to drive the spade into the ground.





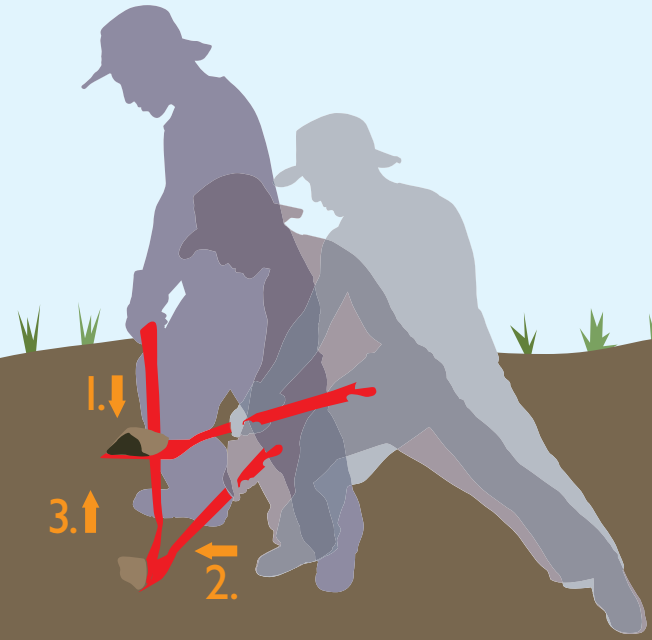
Technique

- Keep the tool vertical, place the ball of your foot on the top of the spade or fork and use your body weight to push down.
- Once the spade or fork is deep enough, use your weight to lever the handle towards you.
- Stand with your feet wider than shoulder width apart, making sure your knees stay above your toes. Keep your core muscles braced throughout and your back straight - avoid hunching.
- Keep your knees slightly relaxed throughout and avoid locking your legs.
- Use your legs to lift, not your back. Switch sides regularly.

Safety

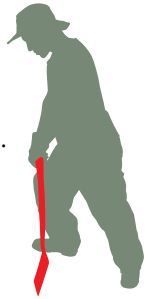
Use the ball of your foot and not the arch or heel. The arch is very tender and be injured if lots of pressure is put on it. Using your heel could cause injury if you slipped.

- Avoid kicking down or jumping on the tool with both feet.
- Position your feet carefully to avoid cutting them with spades or impaling them with forks.
- Wear appropriate footwear; sturdy or steel toe-capped boots.



1.

Use your body weight to push down. Use the ball of your foot.



2.



Try not to bend over as this strains your back. Use leg power to exercise the legs.

3.



Use your legs to lift, not your back.

Main muscles used

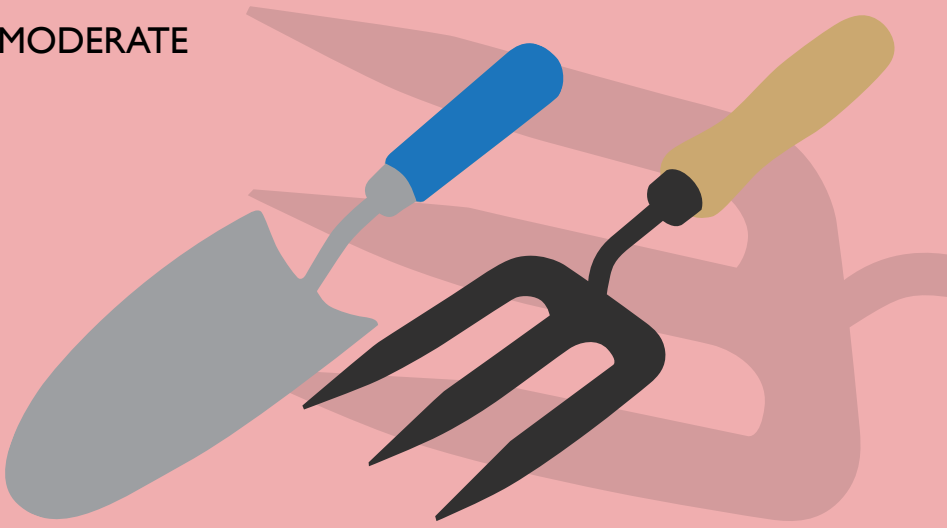
Quad, hamstrings, gastronemeus, soleus, glutes, biceps, triceps, deltoids, forearms, core.

Weeding

Harvesting & planting out

A lot of gardening involves being close to the ground, for example kneeling and crouching to harvest low-growing plants, weeding, sowing seeds, and planting out.

Rating: MODERATE



Garden tip

Keep your growing beds narrow - about 1m-1.2m is a reasonable width. This helps prevent you stooping over too much while working, and reduces treading on the soil, which compacts it.





Use knee pads if you kneel down for a long time.

Technique

Keep your back straight and engage your core muscles. Take the weight off your lower back by putting the weight of your torso over your knees. Vary your position with some of the following:

- Kneel on both knees.
- Squat with a straight back, support weight with both knees if possible.
- Kneel on one knee, keeping elbow relaxed. Alternate sides regularly.

Occasionally it's ok to bend from a standing position to vary your posture for 10-15 seconds.

Tips

Avoid hunching. If working in this position for a long time, try alternating between all the positions every few minutes or so.
Use knee pads or a padded kneeler.
Get close to what you are working on, to avoid strain in your neck or lower back.

If you are working for a while in a crouching position, get up every 10 minutes or so to have a stretch and straighten your back.

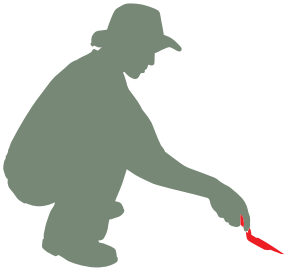
Main muscles used

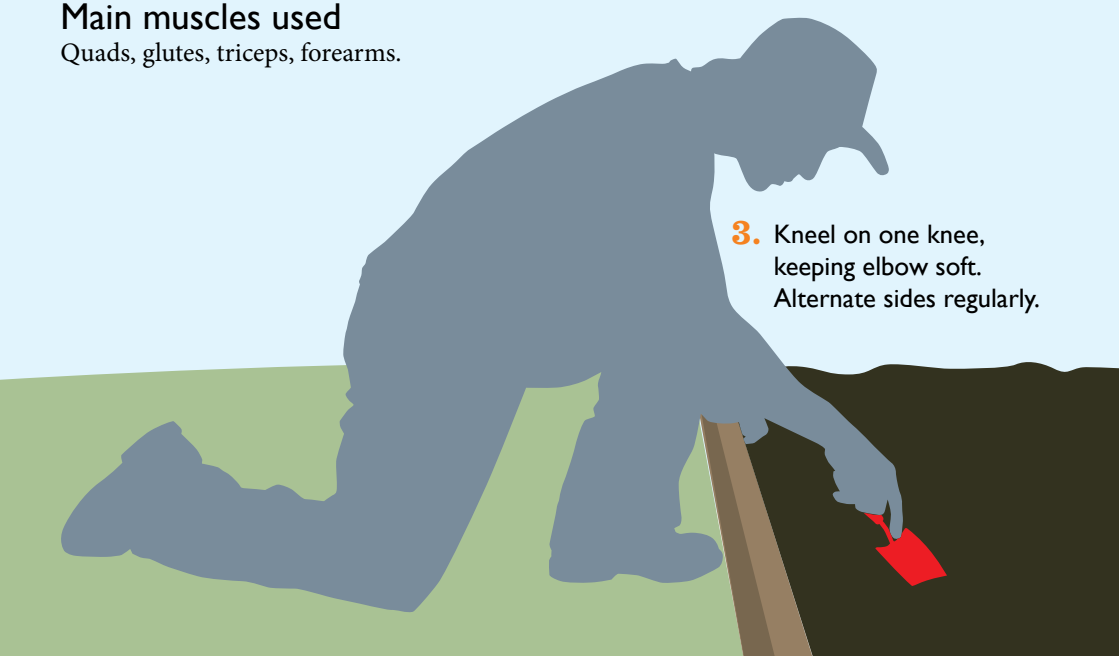
Quads, glutes, triceps, forearms.

1. Kneel on both knees - if possible use a padded mat.



2. Squat with a straight back, support weight with both knees if possible.





3. Kneel on one knee, keeping elbow soft. Alternate sides regularly.