Plant disease identification guide

See how many of these diseases and pests you can find.

Common signs of plant disease or pest include:

- Stunted growth
- Abnormal growths or lumps and bumps
- Spots on leaves
- Rot
- Discoloration
- Malformed stems or leaves

Note: Although some fungi cause plant diseases, many other species of fungi are helpful for plants. Presence of mushrooms does not always mean a plant is sick.

Take photos of what you find so that if you can't identify it in the field you can use the pictures back at school to work out what it is.

Be careful!

Some plants can scratch or sting – try not to touch

Please avoid picking or damaging the plants

If you're surveying different locations, make sure to wash your shoes and equipment thoroughly – you don't want to spread diseases!

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Rose black spot

- A disease caused by the fungal pathogen *Diplocarpon rosae*
- Mainly affects rose bushes
- Look for purple or black spots on the leaves
- Leaves may be yellow and can drop off the plant

Mosaic virus

- A viral disease
- Two types you're likely to encounter: tomato mosaic virus and tobacco mosaic virus (affects other crops as well as tobacco)
- Look for yellow and green leaves. Leaves are sometimes curled and distorted
- Sometimes signs of stunted growth and malformed fruits

Aphids

- Small sap-sucking insects, usually black, white or pale green
- Found on shoot tips, flower buds, stems and the underside of younger leaves
- Can cause stunted growth with curled leaves
- Many aphids excrete a sticky honeydew which you can see and feel on the leaves

Powdery mildew

- A fungal disease
- Look for white powdery patches that spread on the upper and lower surfaces of the leaf, stem and sometimes flowers and fruit
- Plants affected include marrows, cucumbers, peas, grasses, roses and English Oak trees

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Oak knopper gall

- Caused by a parasitic wasp (*Andricus quercuscalicis*) which lays its eggs on acorn buds
- The plant responds by forming a lumpy growth on the acorn which the larvae grows inside before emerging in winter
- The gall can be sticky and either green or reddish in Summer, turning brown in Autumn
- The galls can reduce the size of the acorns or push them out of their cups

Ash dieback

- Disease affecting ash trees, caused by the fungus *Hymenoscyphus fraxineus*
- Look for black blotches on leaves and dark brown diamond shaped lesions in the bark where the branches meet the trunk
- Trees might lose leaves early, especially from the crown (top of the tree)
- You might see the small white fruiting bodies (mushrooms) of the fungus in the leaf litter in Autumn

Rust fungus

- Fungal disease caused by approximately 7000 different species of rust fungus
- Look for small orange, red or brown spots on the underside of leaves, changing to brown in the summer.
- Common in garden plants - trees, shrubs, herbaceous and bedding plants, grasses, bulbs, fruit and vegetables can all be affected

Canker

- Cankers are diseases caused when splits or damage to the bark allow fungal or bacterial pathogens in to infect the tree
- Affects woody species (trees and shrubs)
- Look for irregular, swollen, sunken and/or discoloured patches on the bark. There may be a sticky liquid oozing out

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Honey fungus

- Honey fungus refers to many species of fungi in the Genus *Armillaria.*
- Honey fungus spreads underground and kills plants' roots. Once the plant is dead the fungus then feeds on the decaying wood.
- Look for clumps of honey coloured mushrooms at the base of trees or stumps in Autumn
- Under the bark at the base of the tree there will be a thin layer of white fungal tissue

Tar spot

- Disease caused by the fungal pathogen *Rhytisma acerinum*
- Look for raised, shiny black spots on the leaves
- The spots can grow up to 1.5 inches (4 cm) in diameter
- Affects *Acer* species - mostly found on sycamore trees

Horse chestnut leaf miner - *Cameraria ohridella*

- This moth lays its eggs on horse chestnut (conker tree) leaves. The larvae then burrow into the leaf and feed on it before emerging
- Look for long white or brown patches on the leaves. If you hold the leaf up to the light sometimes you can see the larvae inside

Holly leaf miner - *Phytomyza ilicis*

- This small fly lays its eggs on holly leaves. The larvae then burrow into the leaf and feed on it before emerging
- Look for long irregular blotches on the leaves where the larvae has tunnelled. These might be raised. If the larvae have emerged you might see a hole