

Hello Trees Resource Sheet



KS1 Y1 Science Diary Item

Tests: how best to ripen picked tomatoes



You don't have to use every Science Diary suggestion!
You don't have to do everything on this sheet! Bits in **bold** recommended.

OBJECTIVE: carry out TESTS to see how best to ripen tomatoes

WHAT YOU NEED

1. **Some unripe tomatoes** (parents' homegrown ones on loan until ripe?)
2. **Trays to put tomatoes on** (ice cream tub lids?)
3. **A windowsill to put a tray of tomatoes on**
4. **A cupboard to put a tray of tomatoes in**

OPTIONAL

(depending on how many duplicate sets of tomatoes you can make)

5. Brown paper bag to put tomatoes in
6. Bananas to put with one or more sets of tomatoes
7. Ripe tomatoes to put with one or more sets of tomatoes
8. A place in the cold to put a set of tomatoes



My advice is to keep it simple. The more factors you investigate the more you have to control for all the others!

WORKING SCIENTIFICALLY

- ✓ **Experience and observe:** Look at the tomatoes; size & colour; top and bottom different.
- ✓ school locality: where the tomatoes were grown
- ✓ grow our own: perhaps pupils could say how tomatoes were grown at home/allotment
- ✓ **Curiosity and questioning** (all suggestions acceptable):

How do we know when a tomato is ripe? [colour]

Why were these picked before they were ripe? [gardeners say too late in the year for them to ripen on the plant]

What has changed to make the gardeners think the tomatoes wouldn't ripen on the plant? [colder, less light, plants too old ...]

PREDICT where tomatoes ripen best? [in light/darkness; warmth/cold; with/without ripe tomatoes; with/without a banana); spread out/clustered together; stalk end up/down ...]

RECORD PREDICTIONS

How could we test which works best? [put some tomatoes in each situation and see]

Are warmth and light the same thing? [no: could be light outside but cold]

What might give us the wrong answer? [if there was any extra difference between situations other than what we are trying to compare e.g. if more air around tomatoes in light than around the ones in the cupboard, we might think the difference was due to light but could be due to the amount of air around them]

How can we control for extra differences that might affect ripening? [make the sets of tomatoes and the conditions we are comparing as nearly the same as possible – except for the one difference we are testing]

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Decide on the question you want to answer. For example:

- ✓ Test to answer the question 'Will tomatoes ripen more quickly in the light or dark?'



1. Make up 2 sets of tomatoes making sure that in each there is the same number of tomatoes, range of sizes, green-ness, time since picked.
2. Put each set in/on a container of the same material so that tomatoes in each set are as close together as in the other set.
3. Take a photograph of each set [the basis for comparison]
4. Put one set in the light (on a windowsill?) and the other in the dark (in a cupboard?) making sure that both will have the same amount of air around them and will be at the same temperature.
5. Take a photograph of each set every day (or once a week to control for light affecting the ones in darkness?)
6. Decide which tomatoes ripened best: those in the light or those in the dark.
7. COMPARE TO PREDICTIONS.

OPTIONS

(depending on how many duplicate sets of tomatoes and conditions you can make)

1. To test whether being spread out is better than being clustered together, compare tomatoes in a brown paper bag to those spread out on a tray in a cupboard.
2. To test whether the presence of ripe tomatoes helps, try putting ripe ones in with green tomatoes and none in with a duplicate set in duplicate conditions.
3. Ditto to test whether a banana helps.
4. To test whether warmth helps, put duplicate sets indoors and outdoors.

- ✓ observe changes over time: ripening over time is being observed
- ✓ notice patterns, **compare:** compared size and colour to duplicate sets of tomatoes.

- ✓ **Use secondary sources of information:** Books, Photos, Videos:



Look at images of tomato plants. Note stem must be supported, so not a tree!
See yellow flowers, fleshy leaves. Sizes and shapes and colours of tomatoes.

- ✓ PLANTS ✓ **Identify common plants: know what tomato plants look like.**
- ✓ ANIMALS what animals would eat tomatoes? Will they be seed stealers or dispersers?

- ✓ Communicate what they find: describe tests, report results,
- ✓ **To different audiences Gardeners World!** and ✓ In different ways: *as ever*
- ✓ SEASONAL CHANGES Tomatoes develop and ripen through the Summer when it is warm

PLENARY: # We carried out TESTS TO ANSWER THE QUESTION
'Will tomatoes ripen more quickly in the light or in the dark?'
We found that the answer is ...