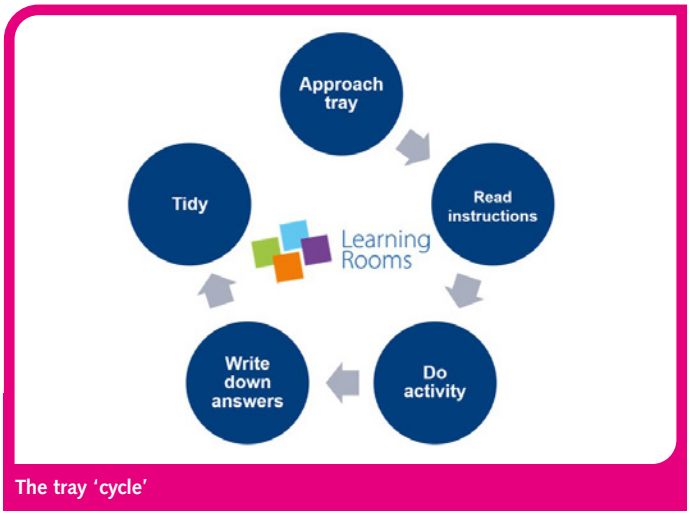
What's in My Tray?

Katherine Forsey outlines how simple and effective What's in My Tray activities can engage and enthuse children with primary science

Keywords Practical science, Small science



The tray 'cycle'

Would you like to create more practical science opportunities for your students? *What's In My Tray?* from Gratnells, makers of the iconic classroom tray, is a collection of over 100 free, tray-based practical activities that will enthuse and engage your students.

The Gatsby Foundation's *Good Practical Science* report (Holman, 2017) reported that many schools are making too little use of their often-excellent practical science facilities. Gratnells are working to support teachers and schools to increase the amount of practical work that they undertake through the publication and sharing of well-planned and purposeful practical activities that require little in the way of specialist equipment. *What's In My Tray?* activities are straightforward and can be undertaken in your usual classroom or school grounds.

All *What's In My Tray?* activities are curriculum-based (England's National Curriculum) and are easily recreated for your learners using your own classroom, commonly available, equipment. They are robust and repeatable, using minimal consumables. The *What's In My Tray?* activities can be used individually as lesson starters, for STEM Clubs or to support theory work and develop subject knowledge. The full carousel can be recreated for end-of-term round-ups, science week and open days, and the activities are a great way to raise the profile of science in your school and to cascade practical science activities to colleagues via a CPD session.

The benefits of tray-based practical work include:

- easy resource allocation;
- finite equipment access;
- simplified preparation and clearing up;
- a controlled work environment;
- a clear format for collaboration and group work;
- transportability;
- easy differentiation; and
- supporting students to take ownership of the activity.

At PSEC 2019, the *What's in My Tray?* workshop saw five teams take on a selection of five of our tray-based practical activities. With only five minutes per activity, it was a fast-paced, interdisciplinary whirlwind around five areas of the primary science curriculum. Participants had to work together to complete each task and there were Gratnells Tea Trays available as prizes for each member of the winning team. The competition was fierce, which was evidenced by the high levels of engagement from all participants. I'll whisk you through all five activities below.

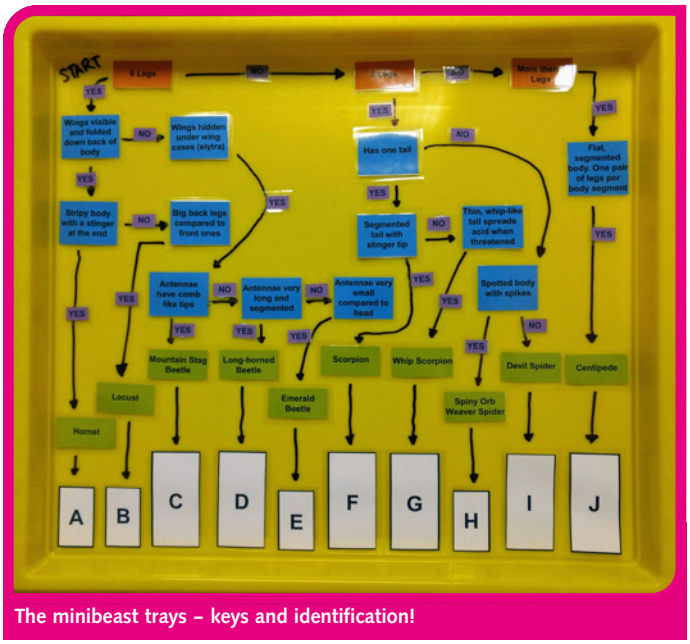
A. BrightSparks – Electricity

Teachers working through the electricity tray activity

What will allow electricity to flow? Construct a simple circuit using 'plug and play' BrightSparks modules following the circuit diagrams provided. Test nine different materials to see which are conductors and which are insulators and record your findings. Can you add a parallel circuit with a buzzer to provide an audible signal too?

Full activity details here: learning-rooms.com/brightsparks-electricity

B. Minibeast Key



The minibeast trays – keys and identification!

Preparation: Cut out the free minibeast key download and use it along with a Sharpie to create a giant key in an art tray.

Activity: Use brushes and spoons to hunt through a woodchip-filled tray and uncover an amazing collection of minibeasts from Natural Selection Learning. Follow the key to identify all 10 minibeasts. Use a magnifying glass to see all their interesting features. Place each minibeast onto its own space at the bottom of the key and record your answers.

Full activity details here: learning-rooms.com/minibeast-key

C. Dinosaurs Love Bridges – STEM Challenge

Preparation: Half-fill two dark blue shallow trays with blue rehydrated water beads.

Activity: Dinosaurs migrate too! Help the dinosaurs to escape the long dark winter and get to land with more food and water by building them two bridges over the river (water bead trays). The two bridges must be of differing designs. The bridges must span the longest length of the tray. If any dinosaurs fall in the river, they will be swept away – you cannot pick them up out of the water once they have fallen. When the buzzer goes, note down how many dinosaurs are standing on your bridges and how many are in the river. Take a photograph to evidence your work.

Full activity details here: learning-rooms.com/dinosaurs-love-bridges

Helping dinosaurs migrate with bridge construction!

D. Digestive System

Preparation: Collect an assortment of recycled bottles, tubes and pipes into a jumbo tray. Print out the name and function labels contained in the free download.

Activity: Use the items in the jumbo tray to build a model digestive system in the large art tray. Label each part of the model with its name and function. Take a photograph of your completed, labelled digestive system to evidence your work. Record the letters and numbers of the matched parts and functions on the answer sheet.

Full activity details here: learning-rooms.com/digestive-system

'Fast and furious science fun!!! Loved these ideas, especially Dinosaurs Love Bridges. I want to run this carousel at a staff meeting – it will be a great way to get people working as a team and putting them in the place of the children, whilst sharing new ideas'

(Anonymous teacher participant feedback)

E. Investigate – Properties

Investigating the properties of many different objects

Preparation: Gather an eclectic collection of objects and a few magnets into a 30-section tray insert. Half fill a deep tray with water.

Activity: Investigate the properties of the objects in the shallow tray. Use your hands, the table, water tray and magnets for your investigation. Match each item to the properties listed on the answer sheet. There may be more than one example of each set of properties, for example, magnetic and sinks = paper clip and spring.

Full activity details here: learning-rooms.com/investigate-properties-2

After five rounds of activity, the teams swapped answer sheets and totted up their scores. The winning team is shown here with their Gratnells Tea Tray prizes. No one went away empty-handed though; all workshop participants went home with their very own Gratnells mini tray.

The winning team at PSEC 2019

Full details of each activity, including kits lists, printable instructions and answer sheets are freely available, along with over 100 more curriculum-based, practical *What's In My Tray?* activities via the Gratnells Learning Rooms website. We have also put together a short video, which captured this *What's In My Tray?* CPD carousel at its first outing of the year at the ASE Annual Conference 2019. You can watch it here: learning-rooms.com/teaching-resources/whats-in-my-tray/cpd-workshops/ase-annual-conference-primary-2019

I hope I have inspired you to try out the *What's In My Tray?* activities for yourself and increase the amount of practical science you are undertaking with your pupils. We would love to see photographs and videos of your *What's In My Tray?* recreations. You can share them with us via any social media platform using #WhatsInMyTray. We would also love to hear your ideas for new *What's In My Tray?* activities and work with you to publish them on the Gratnells Learning Rooms platform. We develop, create and release new *What's In My Tray?* activities and videos all the time, so keep an eye on learning-rooms.com or follow #WhatsInMyTray.

Reference

Holman, J. (2017) *Good Practical Science*. The Gatsby Foundation

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