

TTS Easi-Detectors Activity Cards



Investigate and ignite curiosity with these handheld easy-to-use metal detectors and magnifiers.

The robust detectors can be set to make a sound, light-up, vibrate or a combination of all when they come close to metal objects. This makes them perfect for adaptable teaching to meet the needs and preferences of every pupil.

The flexible goose neck and magnifying glass enable children to observe the close details of their findings, encouraging further exploration and discovery.

Great for:

- Exploring, investigating and observing
- Embedding technology into play and exploration
- Developing critical thinking skills
- Identifying properties of materials and other scientific enquiry.

Here are some ideas for using the Easi-Detectors.

Top Tip: If digging for treasure (metal objects) make sure the sand/soil tray isn't on a metal stand or table with metal supports!

Treasure Detectors Activity

A good introduction to using the Easi-Detectors



Key Skills Development

- Exploring how technology can be used
- Motor skills- digging, sweeping, picking up and examining small items
- Science- sorting and classifying objects by what material they are made of



Language Opportunities

- **Scientific/technical language**- detect, metal, material, magnetic, vibrate, sensor
- **Descriptive discovery words**- hidden, buried, shiny, clue, secret, find
- **Prediction and reasoning**- 'Why did the detector light up?' 'I think it will be...'



Activity

Take the Easi-Detectors into the outdoor provision or use them in a large sand or soil tray indoors. Bury a selection of small 'treasures' such as metal coins, magnetic letters or other interesting metallic objects under the surface. Demonstrate how to switch the detector to the preferred setting. It can light up, beep, vibrate or do all three when the treasure (metal) is found. Talk to the children about which setting they like the best. Some children may prefer a silent vibration whilst others may enjoy the excitement of sounds and lights. Encourage the children to sweep the detector over the sand or soil, watching and listening for clues that they've found a hidden object. Support them to gently dig and discover what's buried, describing what they find as they go. Children may wish to collect their findings in the Light-Up Collectors Buckets.

Extend:

Set up a themed adventure, for example a 'Pirate Treasure Hunt' or 'Dinosaur Dig'. Mark out a larger digging site with ropes, cones or blankets to create a hidden temple or cave. Create a pirate map for the children to follow and provide a range of tools for the children to use such as spoons, sieves, trowels and torches.

Adapt:

For children who prefer less sensory stimulation, use just the light setting with the vibration and sound turned off. Start with treasures placed just beneath the surface to build confidence and technique before burying them deeper.

Focus and Attention Activity

Can you use your senses to find the metal?



Key Skills Development

- Exploring how technology can be used
- Listen with increased attention to sounds
- Use their senses in hands-on exploration







Language Opportunities

- **Scientific/technical language**- detect, metal, material, magnetic, vibrate, sensor, beep
- Use **open-ended questioning** to support exploration.
- **Vocabulary** to explain and describe the controls, buttons and settings.



Activity

Hide metallic and non-metallic objects. Put on setting 1 Light up and Bleep. Can the children use their listening skills to find the metal objects? Help the children to use and develop their listening skills. Which items make a beep? Why do they beep? Put on setting 2 Light up and vibrate. Can they feel the vibration when a metal object is detected? Then use setting 3 Light-Up. Can they use their observation skills to see when they have discovered a metal object?

Settings: 1.  2.  3.  4. 

Extend:

Set up challenges for the children to find objects. Time how long they take to find an item and enjoy friendly competitions.

Adapt:

Explore each setting together. Which setting do the children prefer? Use their preferred setting to explore and discover further.

Creative Role-Play Detectors Activity

Can you create different ways to use the detectors?



Key Skills Development

- Listen to stories and respond to prompts and ideas
- Represent ideas through role-play and stories
- Begin to develop complex stories, creating different play scenarios and use their imaginations



Language Opportunities

- **Learning new vocabulary** such as, find, hidden, search, dig, explore, discover, clue.
- **Specific vocabulary** linked to the role-play setup such as construction, archaeology, airport.
- **Collaborative play** language opportunities.



Activity

Talk about who uses metal detectors and where the children might have seen them. For example, a security officer at the airport using them to scan passengers when they go through security. You could:

- Set up different role-play areas such as a construction site or archaeological dig area.
- Use the detectors to scan, seek and discover.
- Find relics and artefacts from long ago and ask questions about the past.
- Use to retell a story and find related items.
- Create a storyboard or map with clues to discover and solve.

Extend:

Develop storylines in their pretend play and provide a wide range of props to encourage imaginations and language development.

Adapt:

Keep the role-play area simple and link to what the children already know through personal experiences and stories read.

Outdoor ICT Detectors Activity

Using the detectors outside



Key Skills Development

- Explore how things work and recognise technology
- Playing, exploring, investigating and experiencing new things
- Use tools and equipment for different purposes
- Develop fine motor skills



Language Opportunities

- **Vocabulary development** such as metal detectors, controls, buttons.
- **Scientific language**, such as magnetic, non-magnetic, properties.
- **Collaborative play** language opportunities.



Activity

Take children outside. Discuss how metal detectors work and how they are used as a tool. How can we use them outside? What might we want to use them for when outdoors?

Work as a team to explore the outdoor area and search for metal objects in the outdoor space (you may want to place a few objects around for the children to discover). Encourage children to take turns with the detectors. Focus on developing language as they find, explore and investigate different metal items within the environment.

Extend:

Explore and introduce further natural processes such as a magnet attracting an object and encourage the children to test and ask questions.

Adapt:

Spend more time modelling how to use the detectors so that children can copy and learn techniques.

Nature Explorer Activity

Can you use the magnifiers to identify and discover the world around you?



Key Skills Development

- Explore the natural world around them
- Make observations
- Playing, exploring, investigating and experiencing new things



Language Opportunities

- **Vocabulary development** such as magnifiers, controls, buttons, and naming items they find
- **Investigational language**, such as explore, discover, identify.
- **Collaborative play** language opportunities.



Activity

Take children outside. Discuss how magnifiers work and how they are used as a tool. How can we use them outside? What might we want to use them for when outdoors? Model how to use the magnifiers to look at things. Give children time to explore different objects in the outdoor space and use the magnifier to take a much closer look at the objects – is there anything we can see with the magnifier that we don't usually see? They might want to look at minibeasts, leaves, plants, different surfaces. Help them to define colours, shapes, textures in their own words. Discuss children's responses to what they see.

Extend:

Use the magnifiers to look at patterns and explore details you wouldn't normally see. These discoveries can help draw out new vocabulary and observations which the children can share together. You could also ask them to draw pictures of their observations.

Adapt:

Encourage children to talk about what they see. Alongside the children, identify and name things discovered to build and develop vocabulary.

Number/Letter Matching Activity

Can you use the detectors to discover the hidden numbers/letters?



Key Skills Development

- Notice letters and numbers
- Use phonics to decode words
- Recognise numbers and link numerals to amounts



Language Opportunities

- **Vocabulary development** such as magnifiers, controls, buttons, find, treasure, hidden, search.
- **Collaborative play** language opportunities.



Activity

- Hide either coins and other metallic items with numbers on, or metallic letters in sand or soil.
 - Use the Easi-Detectors to find the hidden numbers or letters. Can children name the number/letter? Can they put them in order?
 - **Numbers** - You could also ask children to use objects to make the number to match.
 - **Letters** – Can children make a word with the letters that they find?
- You could also hide pairs of numbers or letters, so that children must hunt using the Easi-Detectors to find matching pairs.

Extend:

With the numbers/letters found set a challenge to see how many number sentences or words can be made. Who can make the most?

Adapt:

Hide letters and numbers children are familiar with at first and use these to spell out children's names and use numbers to talk about how old they are.

Map Work Activity

Can you use map skills to find the treasure (metal) or plot where the treasure was found?



Key Skills Development

- Discuss routes and locations
- Draw information from a simple map
- Play cooperatively and take turns



Language Opportunities

- **Learning Prepositions** - use words like 'in front of' and 'behind'
- **Vocabulary learning** – including words such as pinpoint (find the exact location), explore, discover



Activity

Use a printed map of your outdoor provision, school grounds or even local park (if that was safe and possible). Hide metal objects in the sand or soil at different locations on the map that children will be able to find with the Easi-detectors. Mark the locations where the objects can be discovered on to the map. Send children off on their very own treasure hunt to find the buried treasure by reading the locations on the map and searching with the Easi-detectors. Offer opportunities to draw simple maps of the area they are investigating and plot onto their map the items that they find.

If you wanted to do this on a smaller scale, you could create a landscape in a container, such as a sandpit using small world figures/construction materials and create a map of the sand pit landscape for your treasure hunting.

Extend:

Build a range of map skills including using a key, using co-ordinates and following a route using directional language and compass points.

Adapt:

Start with a small location to explore. Make sure treasure is placed just beneath the surface to build confidence and technique before burying them deeper.

Materials Activity

Can you sort the materials?



Key Skills Development

- Explore materials with different properties
- Talk about similarities and differences between objects
- Talk about what they find using a wide vocabulary and ask questions to find out more



Language Opportunities

- **Key vocabulary and scientific language** – such as metal, other material names, magnetic, non-magnetic.
- **Additional vocabulary** such as explore, discover, sort.



Activity

Explain to the children that you have received lots of different materials that need to be sorted. Using a pile of objects, ask the children to use their Easi-detectors to find, pick out and sort the metal objects into a separate group. Explore what things are made of and learn about the properties of materials such as whether an object is magnetic or not. You can discuss and sort the items in different ways. Use the magnifier to look closely and observe details about the objects.

Fine motor skills and coordination can be developed when sorting the objects and if some objects are larger, gross motor skills will also be used to move the items to the different groups.

Extend:

Add additional sorting criteria, e.g. metal and flexible, metal and shiny. You could link this activity to a topic about recycling and how our rubbish is sorted. Introduce ecological language about recycling, reusing, reducing and repurposing.

Adapt:

This activity could be adapted to incorporate more or less sorting criteria, depending on the learning stage of the pupils.

Pieces of Eight Activity

Can you use the detectors to find Captain Jack's hidden pirate treasure?



Key Skills Development

- Develop storylines in their pretend play
- Work as part of a group
- Explore different materials



Language Opportunities

- **Vocabulary development** – such as treasure, find, hidden, search, explore, discover, pinpoint
- **Actions (verbs) vocabulary** - Sweeping, digging, searching,



Activity

Use the sand tray within the dress up/role-play area to bring the topic of 'Pirates' to life. You could also get children to dress up as a pirate to add to the experience. Use the Easi-detectors to find pieces of Captain Jack's (for example) treasure that are hidden and buried in the sand tray. You could also bury a selection of 'red herrings' in the sand too made out of non-metallic materials.

Talk with the children about the differences between the real pieces of treasure and the 'red herrings'.

Extend:

Provide a wide range of props to encourage imaginations. Count and sort their treasure findings. Children could even get creative and design their own treasure maps.

Adapt:

Start with treasures placed just beneath the surface to build confidence and technique before burying them deeper.

Treasure Hunt Activity

Can you follow the hidden treasure trail?



Key Skills Development

- Follow instructions
- Read simple sentences and discuss what read
- Develop problem solving skills as they play and explore



Language Opportunities

- **Vocabulary development** – such as find, treasure, hidden, search, clue, pinpoint
- **Collaborative play** language opportunities.



Activity

Plan a treasure hunt.

Set a starting point for the treasure hunt and hide the first clue to be discovered with a piece of tin foil attached so that it can be detected using the metal detectors. Each clue could be a picture, maths or word-based clue that will point the children to the next location for the next clue. Set up different clues to be found until they reach the end and find the hidden treasure. This can be a great problem-solving activity that will prompt the children to discuss ideas of where the next clue could be and use their logical thinking skills to complete the challenge. It is a good activity for introducing basic map skills.

Extend:

Challenge the children to plan their own treasure hunts and write clues for a friend to follow.

Adapt:

Use picture clues to support children. These can be hints to help pupils find each of the clues in turn and have success in finding the end treasure.