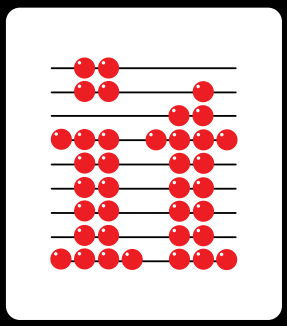
Inclusive EyeGaze

Attention and Looking

Guidebook



Attention and Looking Credits.

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Published by Inclusive Technology Ltd.

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Contents.

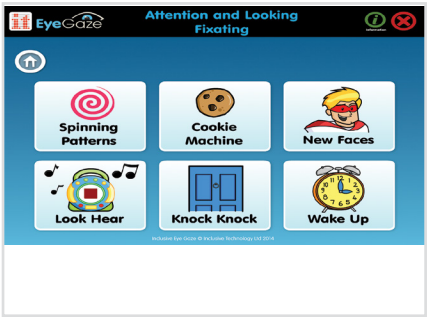
Attention and Looking - Introduction.

A unique package of 18 carefully graded activities designed to assess and teach attention and looking skills, simple access skills and understanding of eye gaze control. These fun and meaningful activities can be used with anyone in their first steps with eye gaze.

They provide a progression of skills from experiential and cause and effect to targeting, and include customisable activities to cater for specific interests and motivations. Powerful, but simple to use analysis and record keeping tools help you to assess initial skills and keep accurate records of progress.

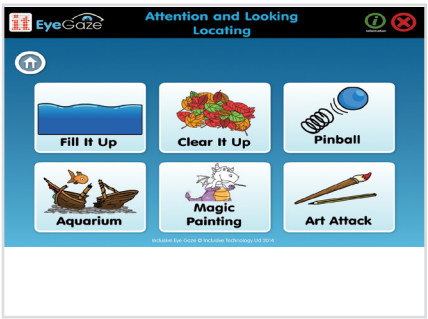
Tracking - What are you looking at?

- Eye-catching activities designed to attract attention and encourage you to look at and follow images on screen.
- Assessment of eye movement patterns, visual attention, preferences and discrimination skills.
- Graded teaching of tracking skills - magic animations to encourage purposeful looking and tracking.



Fixating - Are you looking?

- Motivating activities designed to encourage you to look and keep looking at the screen.
- Assessment of visual attention and fixation skills.
- Graded teaching of dwell select skills for single targets.



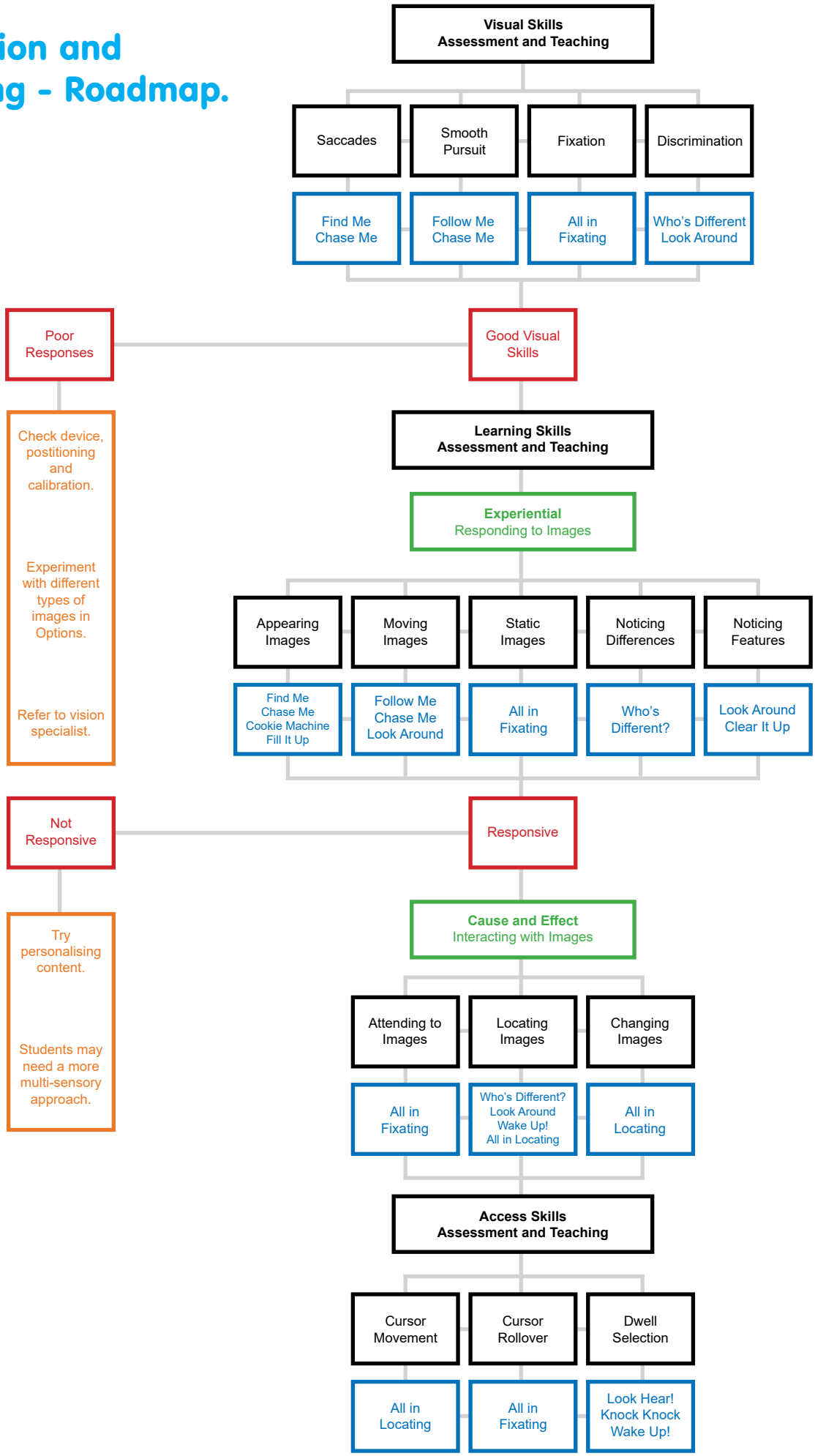
Locating - Looking around.

- Fun and meaningful activities that provide immediate success and feedback. Use your eyes to experience, interact and create.
- Assessment of visual scanning skills and ability to control the cursor with your eyes to explore the screen.
- Graded teaching of using cursor movement in a purposeful way.

For optimum use of this software, please ensure you:

- Mount and connect your eye gaze device according to manufacturers' instructions.
- Install and run appropriate software for mouse emulation and choose cursor control.
- Position the device appropriately for users' eye gaze and calibrate.
- Have fun!

Attention and Looking - Roadmap.



Options, Analysis and Guidance.

Options

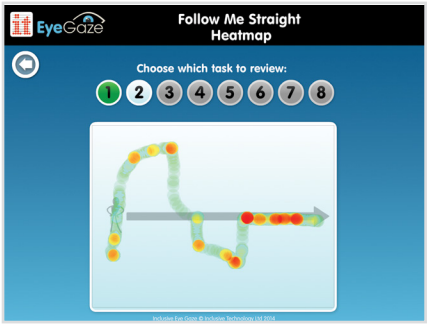
Extensive option menus allow you to:

- Personalise for assessment and teaching goals.
- Provide progressive teaching steps.
- Ensure success and motivation.

Analytics

Powerful, easy to use analysis tools allow you to record and review eye gaze skills.

- Choose **Video Playback** for showing recorded eye gaze behaviour during activity in real time.
- **Save Activity** will save all the task video recordings in this activity.
- **Load Activity** will load a previously saved activity to view all video recordings in this activity.



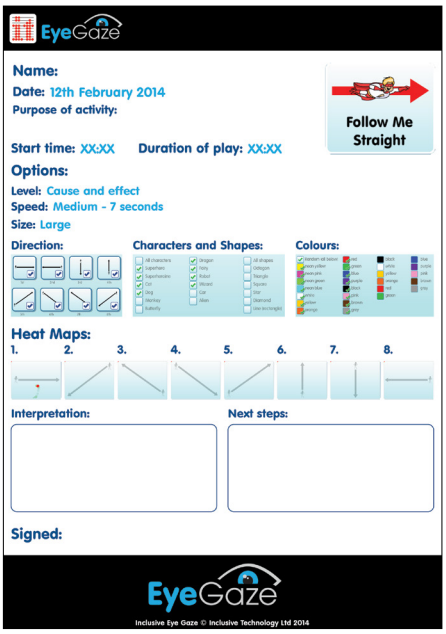
- Choose **Heat Map** for showing areas of concentrated gaze during activity.
- **Save Activity** will save all the task heat maps in this activity.
- **Load Activity** will load a previously saved activity to view all heat maps in this activity.
- Individual task heat maps can be **saved as an image** (.jpg).
- **Heat Maps** of all tasks in an activity will be used in the Summary.

- Choose **Line Trace** for showing path of eye gaze during activity.
- **Save Activity** will save all the task line traces in this activity.
- **Load Activity** will load a previously saved activity to view all line traces in an activity.
- Individual task line trace maps can be **saved as an image** (.jpg).

Guidance for interpreting eye gaze behavior is provided with each activity description in this guidebook.

Summary

Save Summary will produce a report (JPEG file) that gives you a record of:



- Activity Name.
- Date.
- Purpose of activity.
- Start time.
- Duration of play.
- Options chosen.
- Heat maps of all tasks in the activity.

Guidance on choosing the next steps with eye gaze is provided with each activity description in this guidebook.

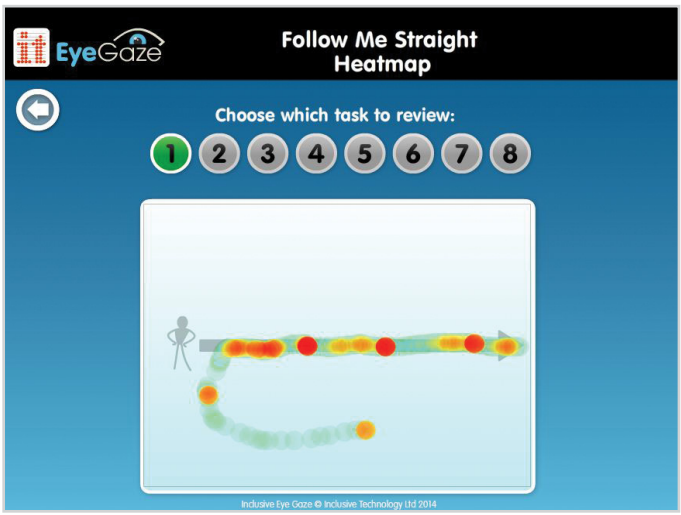
Did You Know?

Facts relating to skills and suggestions for use are provided with each activity description in this guidebook. These are intended to be used only for guidance in choosing appropriate activities for individual needs with expected responses to these activities at different learning levels.

P Scales

P Scales descriptors are provided with each activity description in this guidebook. The links to individual activities are intended to be used only for guidance in choosing appropriate activities for individual needs with expected responses to these activities at different learning levels. Opinions may vary on interpretation of learning levels (Related to UK National Curriculum P Scales for ICT).

Follow me Straight.



Description of Activity

- To assess, stimulate and develop visual tracking skills - directional visual tracking.
- Watch characters travel across the screen and come to life when you follow them.
- See and hear characters and shapes appear on the screen. Just look at the screen and they start to move. Look at them as they travel and they will reward you with an animation and sound effect. Can you follow them right across the screen?

Purpose of Activity

- To provide a stimulating visual and auditory experience to encourage the user to look at and follow moving images on a screen.
- To assess, stimulate, teach and practice simple tracking or smooth pursuit eye movements.
- To assess visual preferences for size, type, colour, speed and direction of images on screen.

Did you Know?

- Smooth pursuit eye movements allow the eyes to closely follow a moving object. It is one of two ways that people can voluntarily shift gaze (the other being saccadic eye movements).
- Most people tend to be better at horizontal than vertical smooth pursuit and are also better at downward than upward pursuit.
- Smooth pursuit requires the coordination of many brain regions that are far away from each other. This makes it particularly susceptible to impairment from a variety of disorders and conditions.
- The skill normally develops between 3 - 5 months of age.
- Very young infants prefer to attend to visually presented movement. Static objects or scenes generally arouse little interest.

Options

- **Level:** Experiential level - no interaction or feedback in activity. Cause and Effect Level - interaction and feedback in activity. Choose Experiential for assessment and visual stimulation. Choose Cause and Effect for teaching and immediate feedback of tracking skills.
- **Speed:** Changes the speed in which the character or shape travels across the screen. Choose faster speeds for assessment; choose slower speeds for teaching and practice.
- **Size:** Changes size of character or shape travelling across the screen. Choose small for assessment; choose large for visual stimulation, teaching and practice.
- **Direction:** Choose the direction in which the character or shape travels across the screen. Assess using all directions then select appropriate directions for teaching and practice.

- **Characters and Shapes:** Experiment with different characters and shapes for assessment, teaching and motivation goals.
- **Colours:** Experiment with different colours for assessment, teaching and motivation goals.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P1 (ii) I can attend briefly to lights, sounds or patterns of movement.

P2 (i) I can track moving images briefly across a screen.

P2 (ii) I can communicate a preference for certain images.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest.

P3 (ii) I can initiate interactions.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Eye gaze follows path of moving image with smooth movements.	• Good directional tracking skills.	• Try further tracking activities.
• Eye gaze follows path of moving image with jerky movements.	• May have difficulty with smooth tracking at these settings.	• Try slower speed, larger images.
• Eye gaze follows direction of moving image but at a distance from path.	• Device may not be tracking eye movements accurately.	• Try improving positioning and calibration. • Try larger images.
• Eye gaze does not follow path of moving image.	• May not be able to easily see image on screen. • May not be interested in activity. • May have visual difficulties.	• Try larger images and slower speeds. Try different characters, shapes and colours. • Try other activities in Tracking and Fixating sections. • Refer to specialist team.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Follow me Wavy.

Description of Activity

- To assess, stimulate and develop visual tracking skills - complex visual tracking.
- Watch characters wander around the screen and come to life when you follow them.
- See and hear characters and shapes appear on the screen. Just look at the screen and they start to move. Look at them as they wander around and they will reward you with an animation and sound effect. Can you follow them all around the screen?

Purpose of Activity

- To provide a stimulating visual and auditory experience to encourage the user to look at and follow moving images on a screen.
- To assess, stimulate, teach and practice complex tracking or smooth pursuit eye movements.
- To assess visual preferences for size, type, colour, speed and direction of images on screen.

Did you Know?

- Smooth pursuit eye movements allow the eyes to closely follow a moving object. It is one of two ways that people can voluntarily shift gaze (the other being saccadic eye movements).
- Most people tend to be better at horizontal than vertical smooth pursuit and are also better at downward than upward pursuit.
- The skill normally develops between 3 - 5 months of age.
- Smooth pursuit requires the coordination of many brain regions that are far away from each other. This makes it particularly susceptible to impairment from a variety of disorders and conditions.
- Very young infants prefer to attend to visually presented movement. Static objects or scenes generally arouse little interest.

Options

- **Level:** Experiential level - no interaction or feedback in activity. Cause and Effect Level - interaction and feedback in activity. Choose Experiential for assessment and visual stimulation. Choose Cause and Effect for teaching and immediate feedback of tracking skills.
- **Speed:** Changes the speed in which the character or shape travels across the screen. Choose faster speeds for assessment; choose slower speeds for teaching and practice.
- **Size:** Changes size of character or shape travelling across the screen. Choose small for assessment; choose large for visual stimulation, teaching and practice.
- **Direction:** Choose the path of movement of the character or shape that travels around the screen. Assess using all directions then select appropriate directions for teaching and practice.

- **Characters and Shapes:** Experiment with different characters and shapes for assessment, teaching and motivation goals.
- **Colours:** Experiment with different colours for assessment, teaching and motivation goals.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P1 (ii) I can attend briefly to lights, sounds or patterns of movement.

P2 (i) I can track moving images briefly across a screen.

P2 (ii) I can communicate a preference for certain images.

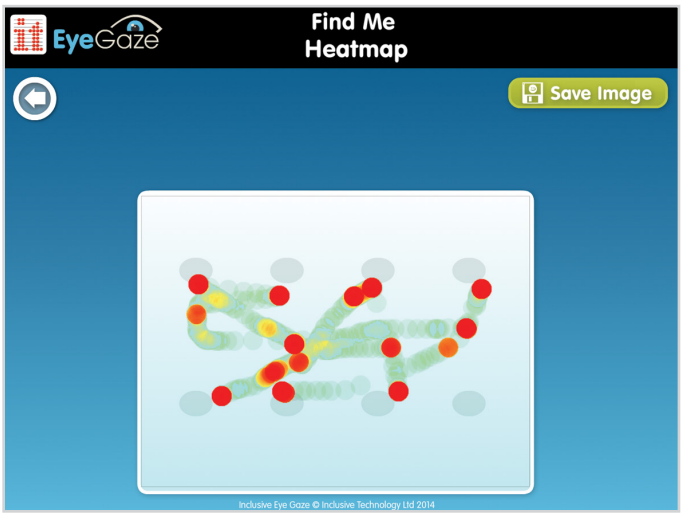
P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest.

P3 (ii) I can initiate interactions.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Eye gaze follows path of moving object with smooth movements.	• Good directional tracking skills.	• Try other tracking activities.
• Eye gaze follows path of moving object with jerky movements.	• May have difficulty with smooth tracking at these settings.	• Try slower speed and larger images.
• Eye gaze follows direction of moving object, but at a distance from path.	• Device may not be tracking eye movements accurately.	• Try improving positioning and calibration. • Try larger images.
• Eye gaze does not follow path of moving object.	• May not be able to easily see image on screen. • May not be interested in activity. • May have visual difficulties.	• Try larger images and slower speeds. Try different characters, shapes and colours. • Try other activities in Tracking and Fixating sections. • Refer to specialist team.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Find Me.



Description of Activity

- To assess, stimulate and develop visual attention skills - appearing images.
- Spot the characters as they appear on screen to 'pop' them away!
- Characters and shapes appear on the screen and you just have to look at them to make them 'pop'. As increasing locations appear, are you quick enough to catch them?

Purpose of Activity

- To provide a stimulating visual and auditory experience to encourage the user to attend to appearing images on a screen.
- To assess, stimulate, teach and practice rapid or saccadic eye movements.
- To assess visual preferences for size, form and colour of images on screen.

Did you Know?

- Saccades refer to the eye's ability to quickly and accurately shift from one target to another. This is an important visual skill, allowing us to accurately control where we aim our eyes.
- Saccadic movements help us obtain a complete picture of our visual field and are very important in reading development.
- Saccadic eye movements are normally present from birth.

Options

- **Level:** Experiential level - no interaction or feedback in activity. Cause and Effect Level - interaction and feedback in activity. Choose Experiential for assessment and visual stimulation. Choose Cause and Effect for teaching and immediate feedback of looking skills.
- **Time on Screen:** Only applicable in Experimental Level. Experiment with different lengths of time image stays on screen, choosing longer times for students needing more time to respond.
- **Size:** Changes size of character or shape appearing on the screen. Choose small for assessment; choose large for visual stimulation, teaching and practice.
- **Locations:** Select the number of locations you want characters and shapes to appear in. Choose fewer locations for easier visual scanning. Choose more locations to assess and teach attention to different areas of screen
- **Characters and Shapes:** Experiment with different characters and shapes for assessment, teaching and motivation goals.
- **Colours:** Experiment with different colours for assessment, teaching and motivation goals.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P1 (ii) I can attend briefly to lights, sounds or patterns of movement.

P2 (i) I can attend to appearing images on a screen for short periods.

P2 (ii) I can communicate a preference for certain images.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Eye gaze shifts to appearing images with rapid movements.	• Good visual attention and saccadic eye movements.	• Try further tracking activities.
• Eye gaze shifts to some appearing images with rapid movements.	• May be able to see some images better than others.	• Try larger images, different images and colours. Try different screen locations. Try slower speeds.
• Eye gaze shifts near to appearing images but does not land on image.	• May struggle to access some areas of screen.	• Try improving positioning and calibration.
• Eye gaze does not shift to appearing images.	• Device may not be tracking eye movements accurately. • May need more time to process. • May not be able to easily see image on screen. • Appearing images may be disappearing too fast to notice. • May not be interested in activity. • May have visual difficulties.	• Check postioning and calibration. • Try larger images and slower speeds. • Try different characters, shapes and colours. • Increase time on screen. • Try other activities in Tracking and Fixating sections. • Refer to specialist team.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Chase Me.

Description of Activity

- To assess, stimulate and develop visual tracking skills - multiple moving images.
- Follow and find characters as they flow across the screen.
- Characters and shapes are travelling together in this activity. Follow them as they flow across the screen to 'pop' them, and then watch out for more and more appearing! Can you 'pop' them all?

Purpose of Activity

- To provide a stimulating visual and auditory experience to encourage the user to locate and track multiple moving images on a screen.
- To assess, stimulate, teach and practice simple tracking and locating skills or smooth pursuit and saccadic eye movements.
- To assess visual preferences for size, type, speed and colour of images on screen.

Did you Know?

- The optokinetic reflex is a combination of a saccade and smooth pursuit eye movements.
- The optokinetic reflex allows the eye to follow objects in motion when the head remains stationary.
- The reflex develops at about 6 months of age.
- Presence of the optokinetic reflex or nystagmus indicates an intact visual pathway.
- Very young infants prefer to attend to visually presented movement. Static objects or scenes generally arouse little interest.

Options

- **Level:** Experiential level - no interaction or feedback in activity. Cause and Effect Level - interaction and feedback in activity. Choose Experiential for assessment and visual stimulation. Choose Cause and Effect for teaching and immediate feedback of looking skills.
- **Timeout:** Changes the length of time the characters and shapes appear on screen before changing to a different direction. Choose a short time for assessment and for users with limited attention skills. Choose longer times for visual stimulation and development of tracking and locating skills.
- **Speed:** Changes the speed in which characters and shapes travel across the screen. Choose fast speeds for assessment and skill building. Choose slower speeds for visual stimulation and easier tracking.
- **Frequency:** Changes the rate at which new characters and shapes appear on the screen. Choose faster frequency for lots of images on the screen at the same time - good for visual

stimulation and skill building.

- **Size:** Changes size of character or shape travelling across the screen. Choose small for assessment; choose large for visual stimulation, teaching and practice.
- **Directions:** Choose the direction in which the character or shape travels across the screen. Assess using all directions then select appropriate directions for teaching and practice.
- **Characters and Shapes:** Experiment with different characters and shapes for assessment, teaching and motivation goals.
- **Colours:** Experiment with different colours for assessment, teaching and motivation goals.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P1 (ii) I can attend briefly to lights, sounds or patterns of movement.

P2 (i) I can track moving images briefly across a screen.

P2 (ii) I can communicate a preference for certain images.

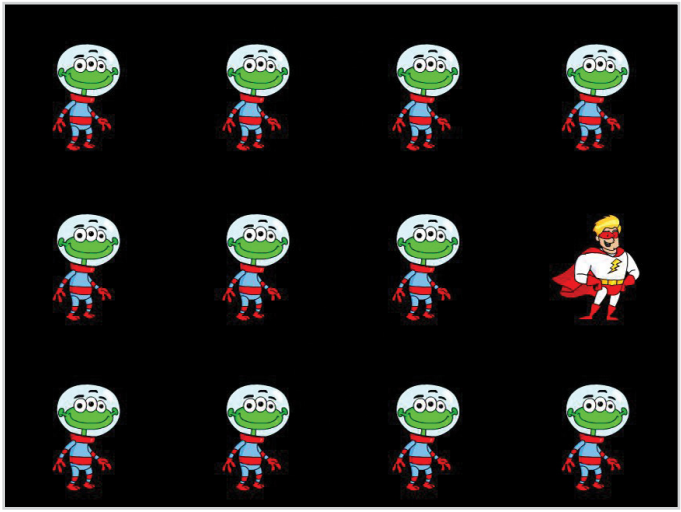
P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest.

P3 (ii) I can initiate interactions. I can respond to an option or choice. I can actively explore objects and events for more extended periods.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Eye gaze follows path of moving image with smooth movements and shifts rapidly to appearing images.	• Good visual tracking and attention skills.	• Try further tracking activities.
• Eye gaze follows some moving images and shifts rapidly to some appearing images.	• May be able to see some images better than others. • May struggle to access some areas of screen. • May need more time to process.	• Try larger images and slower speeds. Try different characters, shapes and colours. • Try larger images and different directions. Increase frequency to give more opportunities to track and locate. Try other activities in Tracking and Locating sections. • Try slower speeds and larger images.
• Eye gaze follows direction of moving images but at a distance from path.	• Device may not be tracking eye movements accurately.	• Try improving positioning and calibration.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Who's Different?



Description of Activity

- To assess, stimulate and develop visual discrimination skills - noticing differences.
- There's someone different hiding in the crowd. Can you spot them?
- A collection of characters and shapes appear on the screen. All are exactly alike, except one. Just look at the 'odd one out' to see it grow and animate. With different numbers and types of images to check, how many can you spot?

Purpose of Activity

- To provide a stimulating visual and auditory experience to encourage the user to visually scan, compare and discriminate.
- To assess, stimulate, teach and practice basic visual discrimination skills - noticing the differences between images.
- To assess visual preferences for size, type and colour of images on screen.

Did you Know?

- Visual discrimination lets us see differences between objects that are similar. Good visual discrimination helps keep us from getting confused. For example, when we read, its visual discrimination that lets us see the 'was' and 'saw' are different even though they have the same letters.
- Babies can normally differentiate and respond to the full range and shades of colors at 4 months of age.
- Babies can normally notice difference in size, shape and position of objects between 6 - 8 months of age.

Options

- **Level:** Experiential level - no interaction or feedback in activity. Cause and Effect Level - interaction and feedback in activity. Choose Experiential for assessment and visual stimulation. Choose Cause and Effect for teaching and immediate feedback of discrimination skills.
- **Comparison Criteria:** Choose different criteria to compare against to gain more detailed knowledge of discrimination skills for shape, colour and size. Character - spot the 'odd one out' using different characters. Shape - spot the 'odd one out' using different shapes. Colour - spot the 'odd one out' using different colours. Size - spot the 'odd one out' using different sizes.
- **Number of Objects:** Changes the number of images presented on screen. Choose fewer objects for easier visual scanning; choose more objects to assess and teach scanning and attention skills of more complex visual scenes.

- **Characters and Shapes:** Experiment with different characters and shapes for assessment, teaching and motivation goals. Choosing a limited number of characters and shapes can help determine visual preferences.
- **Colours:** Experiment with different colours for assessment, teaching and motivation goals. Choosing a limited number of colours can help determine visual preferences.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P2 (ii) I can communicate a preference for certain images.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest.

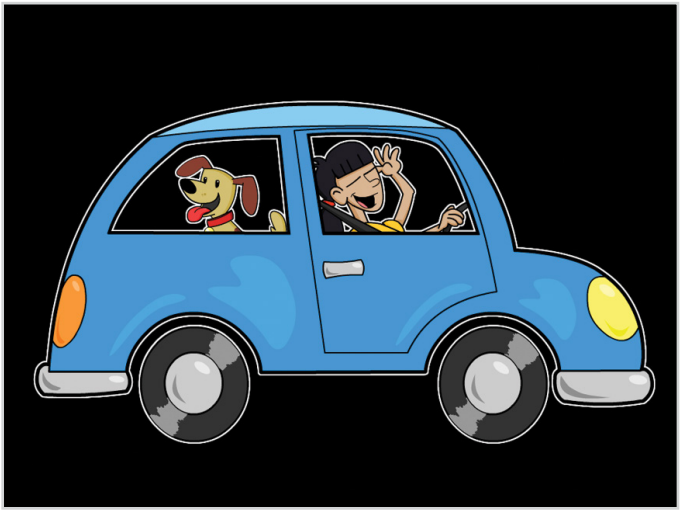
P3 (ii) I can respond to an option or choice. I can actively explore objects and events for more extended periods.

P4 I can intentionally communicate meaning by selecting images from a screen. I know that certain actions produce predictable results.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Eye gaze moves to most odd images quickly.	• Good visual discrimination skills.	• Try other comparison criteria, and different types of images. Try other tracking activities.
• Eye gaze moves to some odd images.	• May be able to see some images better than others. • May struggle to access some areas of screen. • May need more time to process.	• Try larger images, different images and colours. • Try different number of objects. • Use Cause and Effect level.
• Eye gaze moves near to odd images but not on them.	• Device may not be tracking eye movements accurately.	• Try improving positioning and calibration.
• Eye gaze moves to odd images but only after prompt.	• May not be able to distinguish differences between some images.	• Try larger, more contrasting images and colours. Reduce number of images on screen. Try other comparison criteria. Refer to specialist team.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Look Around.



Description of Activity

- To assess, stimulate, teach and practice basic visual discrimination skills - noticing features.
- Follow the picture as it's drawn on screen and find the features to bring it to life.
- Watch as a picture magically appears feature by feature. Look around the picture to make features animate and make noises. Have you noticed all the interesting areas?

Purpose of Activity

- To provide a stimulating visual and auditory experience to encourage the user to explore and attend to important features in an image.
- To assess, stimulate, teach and practice basic visual discrimination skills and understanding of images - noticing and attending to important features of images.
- To assess preferences and perceptual skills for specific images and their features.

Did you Know?

- Visual discrimination lets us see differences between objects that are similar. Good visual discrimination helps keep us from getting confused. For example, when we read, its visual discrimination that lets us see the 'was' and 'saw' are different even though they have the same letters.
- Learning about distinctive features of objects is the basis for classifying things and the principal means of perceptual learning.
- Babies normally pay attention to internal features of a face, the eyes and mouth, at around 2 months of age.
- Babies can normally recognise a parents face from all others between 4 - 5 months of age.
- Babies normally attend to objects and their distinctive features between 5 - 8 months of age.

Options

- **Level:** Choose Experiential for assessment and visual stimulation. Choose Cause and Effect for teaching and immediate feedback of discrimination skills.
- **Timeout:** Changes time image stays on screen before changing to next image. Choose a short time for users with limited attention skills. Choose longer times for increased opportunities for assessment and exploration.
- **Pictures:** Choose individual pictures to meet assessment, teaching or motivational goals.
- **Your Images:** Use the sample pictures to gain an understanding of the types of images the user responds well to e.g. photographs of faces, scenes, symbolic drawings and text. Insert your own images to meet assessment, teaching or motivational goals.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P2 (i) I can track moving images briefly across a screen.

P2 (ii) I can communicate a preference for certain images.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest. I can explore different images in increasingly complex ways.

P3 (ii) I can initiate interactions. I can respond to an option or choice. I can actively explore objects and events for more extended periods.

P4 I can intentionally communicate meaning by selecting images from a screen. I know that certain actions produce predictable results.

P5 I can operate a simple programme to animate images on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Eye gaze follows path of drawing well. • Concentrated gaze on important features.	• Good visual tracking and discrimination skills for these images.	• Try adding your own images for more specific assessment of skills, e.g. responding to verbal descriptions.
• Eye gaze follows some of the path of the drawing. Concentrated gaze on some features.	• May be able to see some images better than others. • May struggle to access some areas of screen. • May need more time to process.	• Try different pictures and images. • Try teaching feature identification using cause and effect level. • Try longer time on screen for images.
• Eye gaze follows direction of drawing path, but not on it. Concentrated gaze on some areas of screen, but not on target areas.	• Device may not be tracking eye movements accurately. • May have specific interest in peripheral features of images.	• Try improving positioning and calibration. • Try a range of different images or other activities in Tracking section to help determine preferences.
• Eye gaze does not follow direction of drawing path. Few or no areas of concentrated gaze.	• May not be able to distinguish features of images. • May not be interested in images on screen. • May have visual difficulty.	• Try with different image types. • Try activities in Fixating section or other activities in Tracking section. • Refer to specialist team.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Spinning Patterns.

Description of Activity

- To assess, engage and develop visual attention skills - single image fixation.
- Bright, bold patterns which spin and whizz with just a look. Animation and sound effects occur when images are looked at and stop when you look away.

Purpose of Activity

- To encourage users to look and keep looking at the screen.
- To teach cause and effect understanding of using your eyes for simple control.
- To assess and develop visual skills of fixation on a central image.
- To develop initial skills for dwell selection.

Did you Know?

- Fixation is the maintaining of the visual gaze on a single location and the point during which virtually all visual input occurs.
- Visual fixation is never perfectly steady; tiny eye movements occur involuntarily.
- Newborns and infants prefer to visually attend to:
  - Moving stimuli.
  - Outer contours or edges.
  - Sharp color contrasts.
  - Patterns with some detail or complexity.
  - Symmetrical patterns.
  - Curved patterns.
  - Patterns that resemble the human face.

Options

- **Dwell Time:** How long the user has to look at the image before it changes to a different one. Choose a short dwell time to help maintain short attention skills initially and longer dwell times to help increase length of visual attention.
- **Colours:** Experiment with different colours for assessment and motivation goals.
- **Images:** Select individual images for assessment and motivation goals.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P2 (ii) I can communicate a preference for certain images. I can repeat an action.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest. I can remember a learned response over more extended periods.

P3 (ii) I can initiate interactions. I can actively explore objects and events for more extended periods.

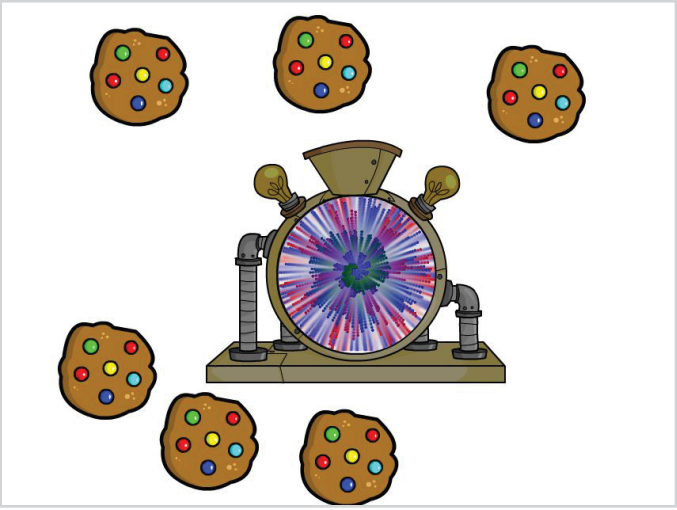
P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Lots of concentrated gaze on central image.	• Good visual attention and fixation skills.	• Try other activities in Fixating section.
• Some concentrated gaze on central image and some eye gaze movement outside of image.	• May be able to see or prefer some patterns better than others. • May not understand eye gaze control. • Activity may be too long for attention skills.	• Try different patterns. • Model activating pattern. Try longer dwell times and other activities in Fixating section. • Try shorter dwell times.
• Lots of concentrated gaze on some areas of screen, but not on centre of image.	• Device may not be tracking eye movements accurately. • May have specific interest in peripheral features of images.	• Try improving positioning and calibration. • Try a range of different images or other activities in tracking section to help determine preferences.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Cookie Machine.



Description of Activity

- To assess, engage and develop visual attention skills - single image fixation with peripheral awareness.
- Keep the Cookie Machine cranked and catch the cookies when they're cooked! Animation and sound effects occur when the centre of the cookie machine is looked at. Keep looking and a cookie will shoot out of the centre. Look away and the cookie machine will stop. Look at the cookies to 'eat' them all up, yum!

Purpose of Activity

- To encourage users to look and keep looking at the screen.
- To teach cause and effect understanding of using your eyes for simple control.
- To assess and develop visual skills of fixation on a central image; plus awareness of images in peripheral vision.
- To develop initial skills for dwell selection.

Did you Know?

- Fixation is the maintaining of the visual gaze on a single location and the point during which virtually all visual input occurs.
- Peripheral vision is a part of vision that occurs outside the very center of gaze. Peripheral vision is good at detecting motion.
- A strong integration between our central and peripheral vision systems is critical to gaining visual information and making sense of it.
- Our peripheral vision allows us to locate objects and process where they are in space; our central vision tells us what it is we're looking at.
- In reading, our central vision processes the letters, while our peripheral vision locates the next word and tells us where to aim our eyes next.

Options

- **Dwell Time:** How long the user has to look at the centre of the cookie machine before it pops out a cookie. Choose a shorter dwell time for assessment and for improving reaction times and longer dwell times to help increase attention and teach peripheral awareness.
- **Level:** Choose Easy level for assessment and initial teaching - cookies will be 'eaten' with any eye movement towards periphery. Choose Hard level for improving peripheral awareness skills and targeting – cookies must be looked at to 'eat' them.

- **Colours:** Change the background colour of the activity.
- **Patterns:** Select individual patterns for assessment and motivation goals.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest. I can remember a learned response over more extended periods.

P3 (ii) I can initiate interactions. I can actively explore objects and events for more extended periods.

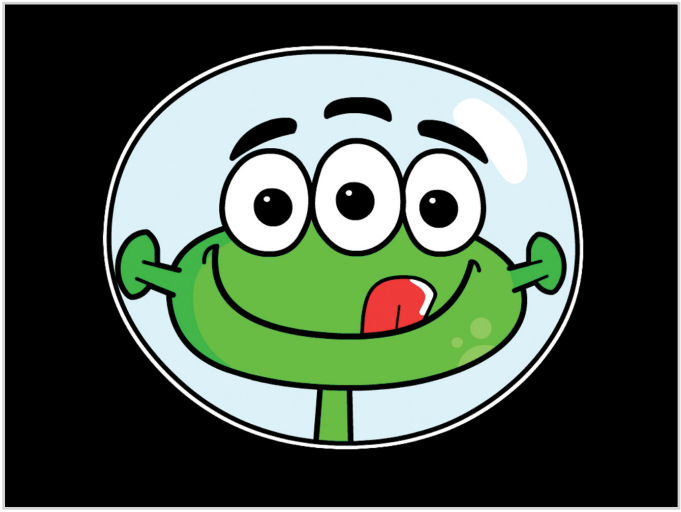
P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Lots of concentrated gaze on central image with movement towards peripheral images and some concentrated gaze on peripheral images.	• Good visual attention, fixation and peripheral awareness skills.	• Try other activities in Fixating section.
• Some concentrated gaze on central image and some eye gaze movement towards periphery.	• May be able to see or prefer some images better than others. • May not understand eye gaze control. • Dwell time may be too long for attention skills. • Cookies may appear too quickly to attend to.	• Try different patterns. • Try teaching cause and effect understanding using modelling and other activities in Fixating section. • Try shorter dwell times. • Try longer dwell time or Hard level so that cookies stay on screen until looked at.
• Lots of concentrated gaze on some areas of screen, but not on centre of pattern. • Eye gaze movement towards peripheral images, but no concentrated gaze on them.	• Device may not be tracking eye movements accurately. • May have specific interest in peripheral features of images.	• Try improving positioning and calibration. • Try other activities in Tracking and Fixating sections to help determine preferences.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

New Faces.



Description of Activity

- To assess, engage and develop visual attention skills - single image fixation with feature awareness.
- Look at my face and I'll wink, smile and wiggle my nose. But watch out for bogies! The character's face will animate and make sound effects when looked at and stop when you look away. The eyes, nose and mouth areas animate to encourage attention to these features.

Purpose of Activity

- To encourage users to look and keep looking at the screen.
- To teach cause and effect understanding of using your eyes for simple control.
- To assess and develop visual skills of fixation on a central image plus awareness of important features.
- To develop initial skills for dwell selection.

Did you Know?

- Fixation is the maintaining of the visual gaze on a single location and the point during which virtually all visual input occurs.
- Newborn babies normally spend more time attending to faces than other visual stimuli and prefer to look at patterns that most resemble the human face.
- A newborn will look at the hairline or edge of a face. By 2 months of age, infants begin to pay more attention to internal features of the face, especially the eyes and mouth, and by 4 - 5 months of age they can recognize a parents' face from all others in the world.

Options

- **Dwell Time:** How long the user has to look at the face before it changes to a different one. Choose a shorter dwell time for assessment and for gaining initial attention and longer dwell times to help increase attention span and teach awareness of important features.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P2 (ii) I can communicate a preference for certain images. I can repeat an action.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest. I can remember a learned response over more extended periods. I can explore different images in increasingly complex ways.

P3 (ii) I can initiate interactions. I can actively explore objects and events for more extended periods.

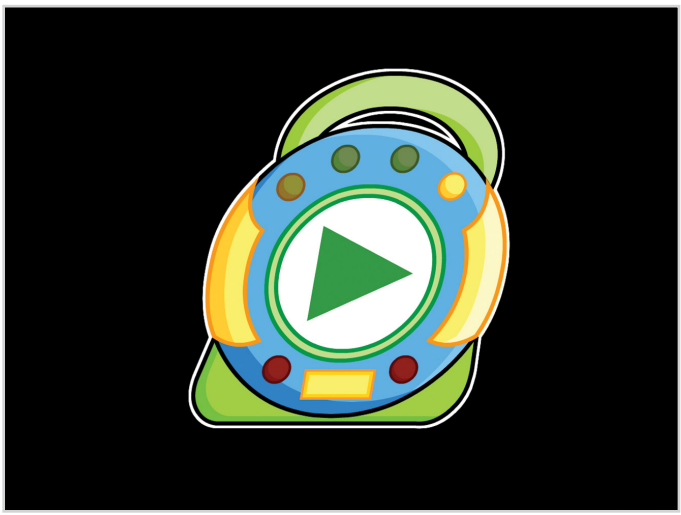
P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Lots of concentrated gaze on face, particularly on eyes, nose and mouth areas.	• Good visual attention to important features of faces.	• Try other activities in Fixating section.
• Some concentrated gaze on some areas of face, but not particularly eyes, nose or mouth.	• May be able to see or prefer some images better than others. • May not be able to distinguish important features easily.	• Try different faces. Try other activities in Tracking section to help determine visual skills and preferences. • Increase dwell time to give longer opportunities to teach attention to features.
• Lots of concentrated gaze in some areas but not on eyes, nose or mouth.	• Device may not be tracking eye movements accurately. • May have specific interest in peripheral features of images.	• Try improving positioning and calibration. • Try other activities in Tracking section e.g. Look Around, for further evidence.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Look Hear!



Description of Activity

- To assess, engage and develop visual attention skills - single image dwell selection with auditory feedback.
- Play your favourite boogie beats on the funky sound machine. To start the funky sound machine you have to dwell on the image. A sound track will continue to play as long as you keep looking at the image. The sound track will pause when you look away and resume when looked at again until the end of the track.

Purpose of Activity

- To encourage users to look and keep looking at the screen.
- To assess and teach cause and effect understanding of using your eyes for simple control.
- To assess and develop visual skills of fixation on a central image using specific sound feedback.
- To develop skills for dwell selection.

Did you Know?

- Fixation is the maintaining of the visual gaze on a single location and the point during which virtually all visual input occurs.
- Babies can learn, remember and develop preferences for music while in the womb.
- Infants respond well to music as the lilting melody combined with words, pitch, intonation and phrasing help the baby to remember.
- Music activates creative and learning structures in the brain and can be a great motivator for many.

Options

- **Dwell Time:** How long the user has to look at the funky sound machine before it starts playing a sound track. Choose a shorter dwell time for initial easy access and cause and effect teaching. Choose longer dwell times to help increase fixation time towards deliberate activation.
- **Music Tracks:** Select individual tracks or add your own sound tracks for assessment, teaching and motivation goals.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P2 (ii) I can repeat an action. I can communicate a preference for certain sounds.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest. I can remember a learned response over more extended periods.

P3 (ii) I can initiate interactions. I can actively explore objects and events for more extended periods.

P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Lots of concentrated gaze on funky sound machine.	• Good visual attention and fixation skills.	• Try other activities in Fixating section, e.g. Knock Knock and Wake Up!
• Some concentrated gaze on funky sound machine.	• May not be very motivated by image or sound track. • May not understand cause and effect eye control.	• Try different sound tracks. Add your own sound tracks that are familiar/liked by user. • Model activating funky sound machine. Add your own sound tracks that are familiar to user. Try other activities in Locating section.
• Areas of concentrated gaze but not on or near centre of funky sound machine.	• Device may not be tracking eye movements accurately. • May have specific interest in peripheral features of images.	• Try improving positioning and calibration. • Try other activities in Tracking section e.g. Look Around for further evidence.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Knock Knock.

Description of Activity

- To assess, engage and develop visual attention skills - sequential dwell selection.
- Who's there? Why don't you open the door and find out! You have to look at and dwell on the door to open it then look and dwell on the character to say hello. Look away and the door will close and the character will leave without greeting. Lots of different doors and characters to explore.

Purpose of Activity

- To encourage users to look and keep looking at the screen.
- To assess and teach cause and effect understanding of using your eyes for simple control.
- To assess and develop visual skills of fixation on central images.
- To assess, teach and develop dwell selection skills.

Did you Know?

- Fixation is the maintaining of the visual gaze on a single location and the point during which virtually all visual input occurs.
- Dwelling or fixing your gaze on a single location is the most common way of making selections on a screen (equivalent to a mouse click) with eye gaze.
- Most people will find it difficult to fix their gaze for more than two seconds to select a specific area on screen, unless the target is large.

Options

- **Dwell Time:** How long the user has to look at the door before it opens and how long they have to look at the character before it says hello. Choose a shorter dwell time for initial easy access and cause and effect teaching. Choose longer dwell times to help increase fixation time towards deliberate activation.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest. I can remember a learned response over more extended periods.

P3 (ii) I can initiate interactions. I can actively explore objects and events for more extended periods.

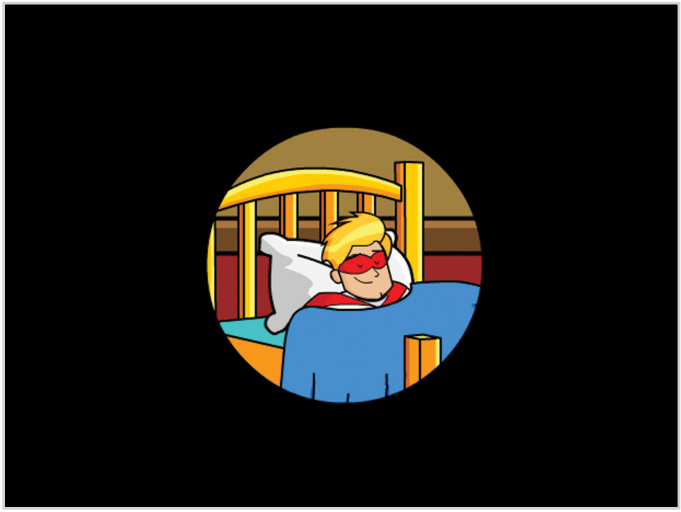
P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Lots of concentrated gaze on door and character.	• Good visual attention and fixation skills.	• Try increasing dwell time if needed to encourage deliberate activation. Try other activities in Fixating section, e.g. Wake Up!
• Some concentrated gaze on door and character, but not enough to activate animation sequence.	• Dwell time may be too long for fixation skills. • May not understand cause and effect eye control. • May not be very motivated by activity.	• Shorten dwell time. • Model activating door and character. Try other activities in Locating section. • Try different activities in Fixating and Locating sections.
• Areas of concentrated gaze but not on or near door or character.	• Device may not be tracking eye movements accurately. • May have specific interest in peripheral features of images.	• Try improving positioning and calibration. • Try other activities in Tracking section e.g. Look Around for further evidence.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Wake Up!



Description of Activity

- To assess, engage and develop visual scanning and closure skills - dwell selection.
- It's time to wake up! Sweep your spotlight round the room to find the sleepyhead.
- You are in control of the spotlight in a dark room. Wherever you move your eyes, the scene will be revealed in the spotlight circle. Your mission is to find the character in the scene with your spotlight and shine it in their faces (dwell) to wake them up.

Purpose of Activity

- To encourage users to visually scan the screen and attend to important features of a scene.
- To assess and teach cause and effect understanding of using your eyes for simple control.
- To assess, teach and develop visual scanning and closure skills.
- To assess, teach and develop dwell selection skills.

Did you Know?

- Fixation is the maintaining of the visual gaze on a single location and the point during which virtually all visual input occurs.
- Visual Closure is the ability to visualize a complete whole when given incomplete information or a partial picture. This skill helps us understand things quickly because our visual system doesn't have to process every detail to recognize what we're seeing.
- Most people will find it difficult to fix their gaze for more than two seconds to select a specific area on screen, unless the target is large.

Options

- **Dwell Time:** How long the user has to look at the character's face to wake them up. Choose a shorter dwell time for initial easy access and cause and effect teaching. Choose longer dwell times to help increase fixation time towards deliberate activation.
- **Size:** Changes the size of the spotlight area or visible portion of the scene. Choose large for easier visual scanning. Choose small for developing scanning and visual closure skills.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P3 (ii) I can initiate interactions. I can actively explore objects and events for more extended periods. I can respond to an option or choice.

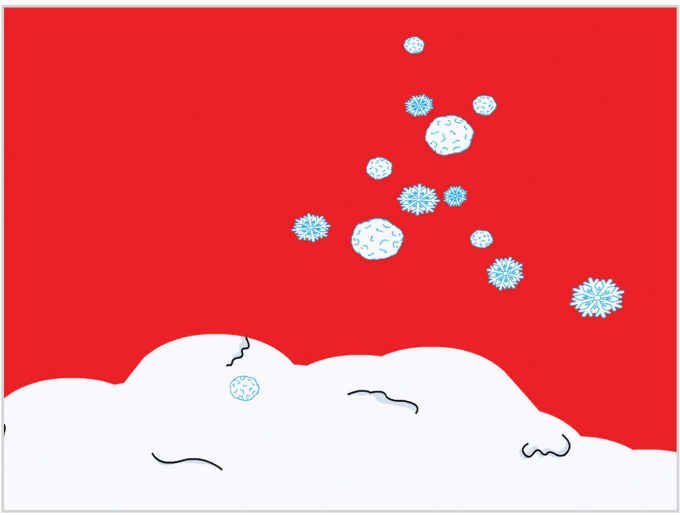
P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Lots of eye gaze movement around most of screen area with concentrated gaze on character.	• Good visual scanning and fixation skills.	• Try increasing dwell time if needed to encourage deliberate activation and to assess visual closure skills. Try other activities in Locating section.
• Some eye gaze movement around parts of screen with some areas of concentrated gaze.	• May have difficulty accessing some parts of screen. • May have visual scanning or closure difficulties. • May not understand purpose of task. • May not be very motivated by activity.	• Try other activities in Locating section. • Try a larger spotlight and give verbal direction. Try other visual scanning or closure activities. • Decrease dwell time. Model using spotlight to wake character. • Try other activities in Locating section.
• Lots of eye gaze movement and areas of concentrated gaze but not on or near character.	• Device may not be tracking eye movements accurately. • May have specific interest in peripheral features of scene.	• Try improving positioning and calibration. Try different activities in Fixating and Locating sections. • Try other activities in Tracking section e.g. Look Around for further evidence.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Fill It Up.



Description of Activity

- To assess, engage and develop cursor control - personalised sensory exploration.
- Move your magic fountain to fill the screen with your favourite effects.
- You just have to look at the screen and it starts to magically fill with your favourite effects - bubbles, snow or pumpkins! Look around the screen and the effects will follow you until you fill the screen. Add your own images in the background to make this activity meaningful and motivating.

Purpose of Activity

- To provide a stimulating personalised sensory experience to encourage the user to look at and explore the screen.
- To assess and teach cause and effect understanding of using your eyes for simple control.
- To assess, teach and develop cursor control skills.

Did you Know?

- This activity can be used to support seasonal or topic work by selecting the appropriate effect in the options e.g. pumpkins - Halloween/Food, snowflakes - Winter/Weather, flowers - Summer/ Living Things.
- Adding your own images that are relevant or meaningful to the user can make this activity particularly useful in assessing what types or parts of images the user attends to the most.
- Cursor control is one of the fundamental skills needed for computer access (alongside dwell selection) for eye gaze users.

Options

- **Frequency:** How fast the images flow out/screen fills up with effects and moves onto the next scene. Choose fast for a more dramatic effect and to accommodate shorter attention spans. Choose slow for a gentler effect and for those needing more time to explore.
- **Fill With:** Changes the type of effect the screen fills with. Choose individual effects to meet teaching or motivational goals.
- **Your Images:** Add your own images to meet assessment, teaching and motivational goals.
- **Fill Option:** You can turn the fill effect off to just experience effects flowing around the screen where you look.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P1 (ii) I can attend briefly to lights, sounds or patterns of movement.

P2 (i) I can track moving images briefly across a screen. I can interact with the screen by looking at it. I engage in shared exploration of an image.

P2 (ii) I can communicate a preference for certain images or sounds. I can cooperate with shared exploration.

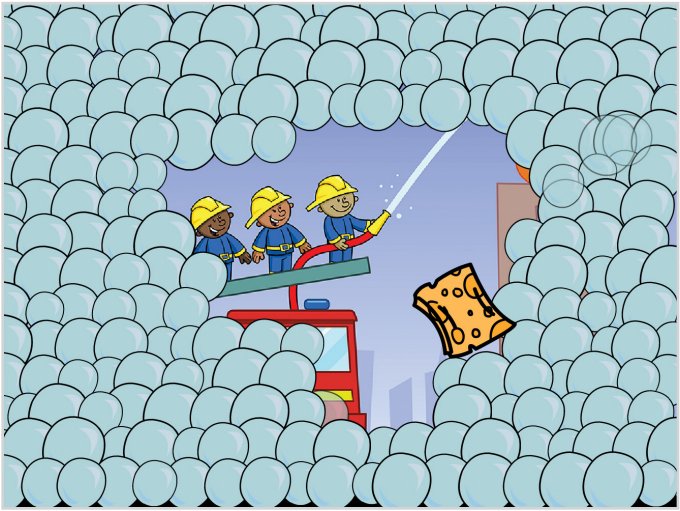
P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest.

P3 (ii) I can actively explore objects and events for more extended periods. I can respond to an option or choice.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Lots of eye gaze movement around most of screen area with scattered areas of concentrated gaze.	• Good cursor control and exploratory skills.	• Try other effects and images. Try other activities in Locating section.
• Some eye gaze movement around parts of screen with some areas of concentrated gaze.	• May have difficulty accessing some parts of screen. • May not understand eyes are controlling cursor movement. • May not be very motivated by activity.	• Give frequent opportunities to play and explore and look for signs of progress. Try other activities in Locating section. • Try different speeds, effects and images and give frequent opportunities to play and explore. Model using cursor to explore the scene. Try other activities in Locating section. • Try different activities in Fixating and Locating sections.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Clear It Up.



Description of Activity

- To assess, engage and develop cursor control - personalised scene reveal.
- Somebody has made a mess. Can you clear it up and find the hidden picture?
- The screen is filled to bursting with bubbles, leaves or fireworks! You have to sponge, blow or magic them away by looking around the screen to reveal the hidden picture. Did you guess what it was?

Purpose of Activity

- To provide a stimulating personalised sensory experience and to encourage the user to look at and explore the screen.
- To assess and teach cause and effect understanding of using your eyes for simple control.
- To assess, teach and develop cursor control skills and whole screen access.

Did you Know?

- This activity can be used to support seasonal/topic work by selecting the appropriate effect in the options e.g. pumpkins - Halloween/Food, snowflakes - Winter/Weather, flowers - Summer/ Living Things.
- Adding your own images that are relevant or meaningful to the user can make this activity particularly useful in assessing what kinds of images the user can attend or respond to.
- Cursor control is one of the fundamental skills needed for computer access for eye gaze users (alongside dwell selection).

Options

- **Size:** Changes the size of the cursor or reveal area. Choose large for easier/quicker reveal activity. Choose small for assessment and development of cursor control.
- **Fill With:** Changes the type of effect the screen fills with. Choose individual effects to meet teaching or motivational goals.
- **Your Images:** Add your own images to meet assessment, teaching and motivational goals.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P2 (i) I can interact with the screen by looking at it. I engage in shared exploration of an image.

P2 (ii) I can communicate a preference for certain images or sounds. I can cooperate with shared exploration.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest. I can remember a learned response over more extended periods. I can explore different images in increasingly complex ways.

P3 (ii) I can actively explore objects and events for more extended periods. I can respond to an option or choice. I can initiate interactions.

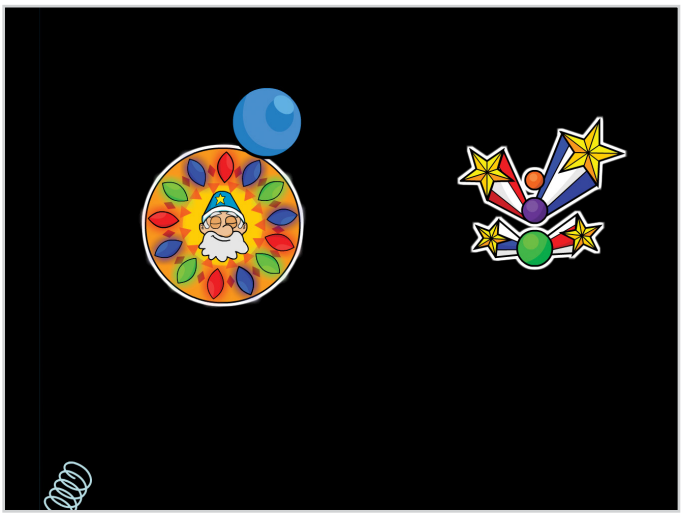
P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Activity completed quickly. • Lots of eye gaze movement around most of screen area with scattered areas of concentrated gaze.	• Good cursor control and exploratory skills.	• Try other effects and images. Try other activities in Locating section.
• Activity completed slowly. • Some eye gaze movement around parts of screen with some areas of concentrated gaze.	• May have difficulty accessing some parts of screen. • May not understand eyes are controlling cursor movement. • May not be very motivated by activity.	• Increase cursor size. Give frequent opportunities to play and explore and look for signs of progress. Try other activities in Locating section. • Try large size, different effects and images and give frequent opportunities to play and explore. Model using cursor to reveal the scene. Try other activities in Locating section. • Try different activities in Fixating and Locating sections.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Pinball.



Description of Activity

- To assess, engage and develop cursor control - image interaction.
- Are you a pinball wizard? Light up all the bumpers to get the high score.
- Watch the pinball as it springs onto the screen and bounces off the bumpers. Now you are in control! Wherever you look the pinball moves and interacts with the images on screen with exciting animations and sound effects. Try different pinball machines with increasing numbers of interactive areas to explore.

Purpose of Activity

- To provide a stimulating visual and auditory experience to encourage the user to look at and explore different areas of the screen.
- To assess and teach cause and effect understanding of using your eyes for simple control.
- To assess, teach and develop cursor control skills and whole screen access.

Did you Know?

- Cursor control is one of the fundamental skills needed for computer access for eye gaze users (alongside dwell selection).
- Understanding that different images on screen produce different effects when looked at is an important step in learning cursor control and dwell selection.
- This activity may appeal to users needing strong visual contrasts and effects and for those who enjoy flashing lights, patterns and unusual sounds!

Options

- **Activity Time:** Changes the time the activity lasts before moving onto the next pinball machine. Choose a short activity time for assessment and for users with limited attention skills. Choose a longer activity time to allow more opportunities to explore and develop skills.
- **Size:** Changes the size of the pinball and the area activated. Choose the large size for easier activation of areas. Choose the small size for assessment and development of skills.
- **Target Areas:** Choose individual target areas to meet assessment, teaching and motivational goals.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P2 (ii) I can communicate a preference for certain images or sounds. I can cooperate with shared exploration. I can repeat an action.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest. I can remember a learned response over more extended periods. I can explore different images in increasingly complex ways.

P3 (ii) I can actively explore objects and events for more extended periods. I can respond to an option or choice. I can initiate interactions.

P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Lots of eye gaze movement around most of screen area with concentrated gaze in active areas.	• Good cursor control and exploratory skills.	• Try other activities in Locating section.
• Some eye gaze movement around parts of screen with some areas of concentrated gaze.	• May have difficulty accessing some parts of screen. • May not understand eyes are controlling cursor movement. • May not be very motivated by activity.	• Increase pinball size. Try different target areas to gain more information. Give frequent opportunities to play and explore and look for signs of progress. Try other activities in Locating section. • Try large size, different target areas and give frequent opportunities to play and explore. Model using cursor to activate areas. Try other activities in Locating section. • Try different activities in Fixating and Locating sections.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Aquarium.

Description of Activity

- To assess, engage and develop cursor control - scene interaction.
- Goldie has a new fish tank. Help her swim around and explore what's inside.
- You can control where Goldie the fish swims and explores. Just look around the screen for interesting things to look at and Goldie will follow where you look. Together you can light up the shipwreck, nibble the diver and frighten the crab from under his rock! With increasing numbers of objects to interact with in the aquarium, there is always something to do.

Purpose of Activity

- To provide an interesting visual and auditory experience to encourage the user to look at and explore different areas of the screen.
- To assess and teach cause and effect understanding of using your eyes for simple control.
- To assess, teach and develop cursor control skills and whole screen access.

Did you Know?

- Cursor control is one of the fundamental skills needed for computer access for eye gaze users (alongside dwell selection).
- Understanding that different images on screen produce different effects when looked at is an important step in learning cursor control and dwell selection.
- This activity may appeal to users preferring a calmer exploratory experience.
- There can be lots of opportunities for providing language input, commentary and joint attention whilst playing this activity.

Options

- **Activity Time:** The length of time Goldie has to explore a scene before it moves onto the next. Choose a short activity time for assessment and for users with limited attention skills. Choose a longer activity time to allow more opportunities to explore and develop skills.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P3 (i) I can sustain concentration for short periods. I can observe the result of my action with interest. I can remember a learned response over more extended periods. I can explore different images in increasingly complex ways.

P3 (ii) I can actively explore objects and events for more extended periods. I can respond to an option or choice. I can initiate interactions.

P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Lots of eye gaze movement around most of screen area with concentrated gaze in active areas.	• Good cursor control and exploratory skills.	• Try other activities in Locating section.
• Some eye gaze movement around parts of screen with some areas of concentrated gaze.	• May have difficulty accessing some parts of screen. • May not understand eyes are controlling cursor movement. • May not be very motivated by activity.	• Try different number of objects to gain more information. Give frequent opportunities to play and explore and look for signs of progress. Try other activities in Locating section. • Try fewer number of objects and give frequent opportunities to play and explore. Model using cursor to activate areas. Try other activities in Locating section. • Try different activities in Fixating and Locating sections.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Magic Painting.

Description of Activity

- To assess, engage and develop cursor control - personalised scene reveal.
- Somebody has made a mess. Can you clear it up and find the hidden picture?
- The screen is filled to bursting with bubbles, leaves or fireworks! You have to sponge, blow or magic them away by looking around the screen to reveal the hidden picture. Did you guess what it was?

Purpose of Activity

- To provide an interesting visual and auditory experience to encourage the user to look at and explore the whole of the screen.
- To assess and teach cause and effect understanding of using your eyes for simple control.
- To assess, teach and develop cursor control skills and whole screen access.

Did you Know?

- Cursor control is one of the fundamental skills needed for computer access for eye gaze users (alongside dwell selection).
- Understanding that you can control the cursor with your eyes and move it appropriately to gain the desired effect is an important step in learning cursor control and dwell selection skills.
- This activity can be used as part of early creative curriculum goals - e.g. making marks and exploring colours.

Options

- **Brush Size:** The size of the cursor or area painted. Choose large size for easy completion. Choose small size for practice and development of cursor control skills.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P3 (ii) I can actively explore objects and events for more extended periods. I can respond to an option or choice. I can initiate interactions.

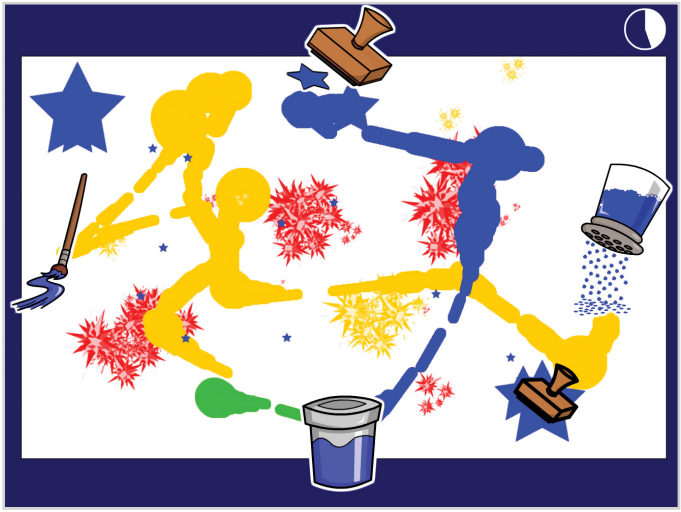
P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• Activity completed quickly. • Lots of eye gaze movement around all of screen area with scattered areas of concentrated gaze.	• Good cursor control skills.	• Try smaller brush size. Try other activities in Locating section or move onto other Inclusive Eye Gaze titles e.g. Exploring and Playing.
• Some eye gaze movement around parts of screen with some areas of concentrated gaze.	• May have difficulty accessing some parts of screen. • May not understand eyes are controlling cursor movement. • May not be very motivated by activity.	• Try larger brush size. Give frequent opportunities to play and explore and look for signs of progress. Try other activities in Locating section. • Try larger brush size and give frequent opportunities to play and explore. Model using cursor to paint. Try other activities in Locating section. • Try different activities in Fixating and Locating sections.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Art Attack.



Description of Activity

- To assess, engage and develop cursor control - creative picture making.
- Create a beautiful work of art good enough to frame, with paint, stampers and glitter.
- Choose which tools to use - paint brush, glitter pot or stamper and choose your colour. Now you are ready to create a beautiful work of art. Just look around the canvas to make your marks. Dwell on an area to make big splodges and move your eyes quickly to make little marks. Can you paint a picture good enough to frame in just one minute?

Purpose of Activity

- To provide an interesting visual and auditory experience to encourage the user to look at and explore the whole of the screen.
- To assess and teach cause and effect understanding of using your eyes for simple control.
- To assess, teach and develop cursor control skills and whole screen access.

Did you Know?

- Cursor control is one of the fundamental skills needed for computer access for eye gaze users (alongside dwell selection).
- Understanding that you can control the cursor with your eyes and move it appropriately to gain the desired effect is an important step in learning cursor control and dwell selection skills.
- This activity can be used to meet early creative curriculum goals - e.g. making marks, exploring colours and materials and free creative expression.
- The path, type and size of marks made on the canvas can give good indications of ability to access different areas of screen, fixation skills and understanding of cursor control.

Options

- **Brush Size:** The size of the cursor or mark made. Choose large size for easy completion and bold effects. Choose small size for practice and development of cursor control skills.

Examples of use with UK National Curriculum P Scales (ICT)

These are intended for use as guidance for choosing appropriate activities with expected outcomes at different learning levels. Opinions may vary on interpretation of learning levels.

P3 (ii) I can actively explore objects and events for more extended periods. I can respond to an option or choice. I can initiate interactions.

P4 I know that certain actions produce predictable results. I can demonstrate that I have an emerging awareness that looking controls what happens on screen.

P5 I can operate a simple programme to animate images on screen. I can make connections between the control device and information on screen.

Examples of Analysis results, possible interpretations and suggested next steps

Video/Heat Map/Line Trace	Interpretations	Next Steps
• All tools used. • Lots of marks made around the whole of canvas with scattered areas of small and large splodges.	• Good cursor control skills.	• Try smaller brush size. Try other activities in Locating section or move onto other Inclusive Eye Gaze titles e.g. Exploring and Playing.
• Some tools used. • Some marks made around parts of canvas with some areas of small and large splodges.	• May have difficulty accessing some parts of screen. • May not understand eyes are controlling cursor movement. • May not be very motivated by activity.	• Try larger brush size. Give frequent opportunities to try painting and look for signs of progress. Try other activities in Locating section. • Try larger brush size and give frequent opportunities to try painting. Model using cursor to paint. Try other activities in Locating section. • Try different activities in Fixating and Locating sections.
• Little, unusual or no eye gaze movement detected.	• Device may not be detecting eyes properly. • May be distracted or not interested. • May not have cognitive skills to engage with on screen images. • May have visual difficulties.	• Check device is working. Check positioning and calibration. • Try distraction free environment. Try other activities in Fixating section. • Eye gaze technology may not be appropriate for user at this time. Try other multisensory approaches. • Refer to specialist team.

Next Steps...

Attention and Looking is the first in the Inclusive Eye Gaze Learning Curve Suite.
You might also be interested in:

Exploring and Playing

18 fun packed games and exploring opportunities to play on your own and with friends. Assess and improve your targeting and access skills and progress from cause and effect to early choice making. Learn to take turns or do just what you want. You can even make your own music machine!

1. Take Turns

- Introduce the concept of choosing from two or three items on a screen. Includes exploration, forced order and two player access.
- Assessment of 2 and 3 target access.
- Teaching turn taking concepts; take turns to interact, take turns to do a job, take turns to play a game.

2. Explore

- A progression of easy to access multiple target activities designed to encourage exploration of the screen, develop dwell selection and introduce click and drag skills.
- Assessment of 4,5,6,7,8+ target access.
- Teaching Cause and Effect of dwell select plus click and drag in a purposeful way.

3. Choose Anything

- Reinforcing and developing dwell selection and click and drag skills with multiple targets and errorless choices.
- Assessment of multiple target access.
- Teaching early choice making skills and giving opportunities to show preferences in an error free environment.

Choosing and Learning

The Choosing and Learning package is designed to prepare eye gaze users for further communication and learning activities by developing choice making and access skills. 18+ motivating and meaningful activities are designed to develop:

- Understanding of early language and learning concepts.
- Expressive skills - show preferences, give commands and express opinions.
- Accuracy of targeting, selecting and drag and drop access.
- Add your own pictures and sounds to extend the activities to your specific communication and curriculum needs.

1. Preferred Choices

- Introducing a cognitive or decision making element to choosing with easy access targets. Preparation for simple quiz access e.g. ChooseIt! Maker 3.
- Assessment of early concept understanding and decision making abilities.
- Teaching decision making skills using early concepts and giving opportunities to show preferences with consequences.

2. Linear Choices

- Introducing multiple choices presented one at a time for easy decision making. Preparation for simple book access.
- Assessment of choice making skills.
- Teaching ‘scrolling’ through choices and simple decision making.

3. Multiple Choices

- All activities have a cognitive or decision making element to choosing with multiple targets; including dwell selection and click and drag access. Preparation for word or symbol grids access.
- Assessment of choice making skills with multiple choices.
- Teaching categorisation skills and making choices to communicate and learn.

Inclusive

EyeGaze Education

A complete eye gaze solution for the classroom.

The Inclusive EyeGaze Education package includes a full set of Inclusive Eye Gaze titles, Attention and Looking, Exploring and Playing, Choosing and Learning, and the Irisbond Duo Eye Tracker with EasyClick Lite.

inclusive.co.uk/inclusive-eyegaze-education

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