

Drawing for Science, Invention & Discovery Even If You Can't Draw by Paul Carney

[Paul Carney](#), educational consultant and author has created six activities for AccessArt that meet the National Curriculum needs of both Science and Art & Design. The following resources explore methodical and chance drawing processes, together with visualisation, adaptation and memory drawing activities. The projects encourage observation, recording, creative thinking and invention; skills fundamental to the roles of artist and scientist.

Adapted from the book '*Drawing for Science, Invention & Discovery*' by [Paul Carney](#)

www.paulcarneyarts.com

paul carney arts

Methodical Drawing



This activity demonstrates how drawing is used by scientists as a means of

recording and cataloguing large amounts of complex information. It shows you how and why drawing can help us to better understand the objects we are studying and the importance of organising and sorting information.[Read More](#)

Serendipity Drawing



Many of the world's greatest inventions have occurred by chance. This activity shows you how chance plays an integral part of the making process in art and shows you how artists try to manipulate it to further their creative purposes.[Read More](#)

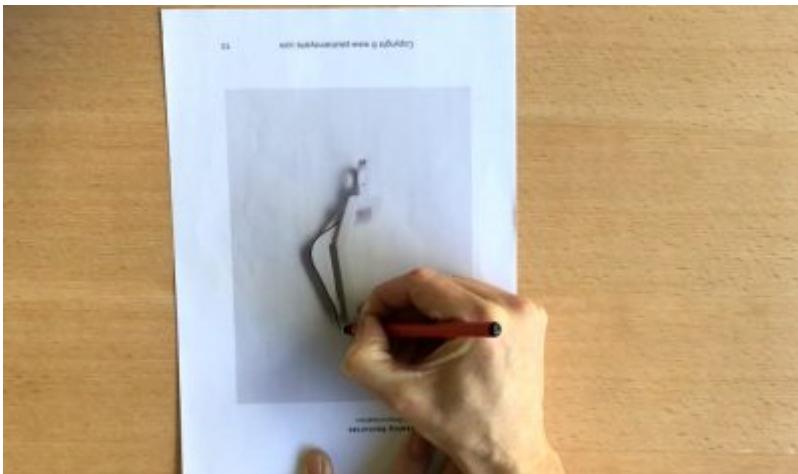
Trial and Error Drawing



Mistakes aren't an unwanted outcome of the creative process, they are integral; a

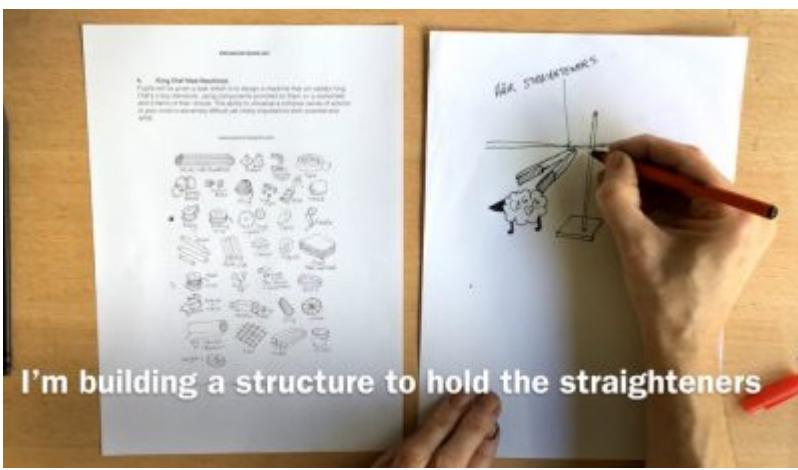
vital part of making. In this session we learn how to develop our working memory so that we might understand the creative process of action, mistakes and action better.[Read More](#)

Adaptation Drawing



[This session is](#) designed to explain the cognitive approach used by scientists to utilise the properties of one material for another, quite different purpose. It will also assist in developing pupil's ability to cognitively imagine and invent.[Read More](#)

Visualisation Drawing



[Can we learn how to](#) improve our ability to visualise complex sequences of information in our mind? Artists and scientists use this skill when thinking about the possible future stages of their work, but can we learn how to get better at it, so that we might become more successful practitioners?[Read More](#)

Doppelganger Drawing



Many people find drawing difficult so I've developed this simple technique to show you how you might improve your drawings. What I want you to do is to hold your fingers out like this in front of you, and I'd like you to try and start moving them in synchronisation. [Read More](#)

This is a sample of a resource created by UK Charity AccessArt. We have over 1500 resources to help develop and inspire your creative thinking, practice and teaching.

AccessArt welcomes artists, educators, teachers and parents both in the UK and overseas.

We believe everyone has the right to be creative and by working together and

sharing ideas we can enable everyone to reach their creative potential.

Adaptation Drawing

Trial and Error Drawing

Methodical Drawing

Drawing Source Material: Ice

A collection of imagery and sources which you can use to prompt drawing in schools and community groups.

Please note that this page contains links to

external websites and has videos from external websites embedded. At the time of creating, AccessArt checked all links to ensure content is appropriate for teachers to access. However external websites and videos are updated and that is beyond our control.

Please [let us know](#) if you find a 404 link, or if you feel content is no longer appropriate.

We strongly recommend as part of good teaching practice that teachers watch all videos and visit all websites before sharing with a class. On occasion there may be elements of a video you would prefer not to show to your class and it is the teacher's responsibility to ensure content is appropriate. Many thanks.

Ice

Use the film below to enable children to explore drawing icy landscapes. Try to create a sense of momentum – for example you might pause the video 4 times and ask the pupils to make a 1 minute, 2 minute, 3 minute and 4 minute drawing at each pause.

Encourage close and slow looking by talking as they draw – use your voice to attract their attention to features of the landscapes.

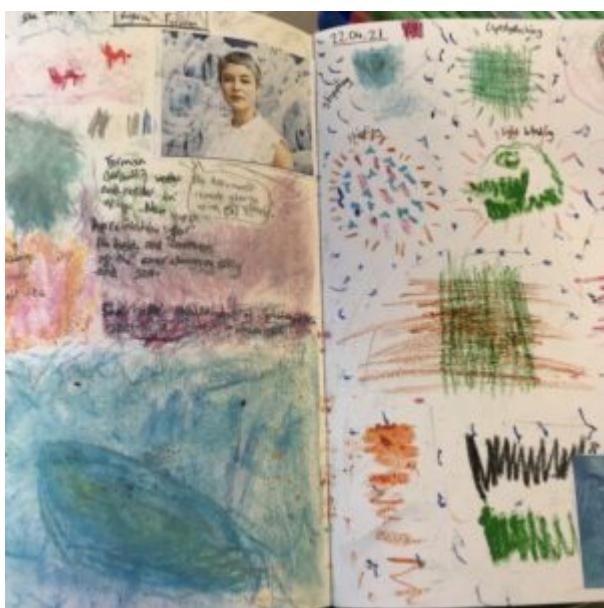
You May Also Like...

Pathway: Life on ice



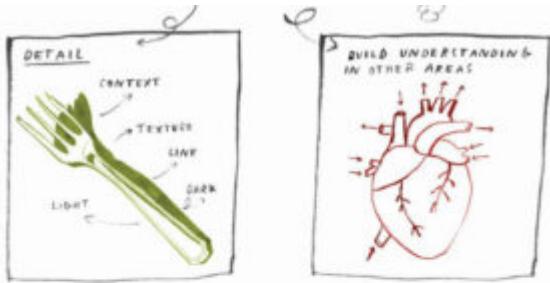
This is featured in the 'Life on Ice' pathway

using sketchbooks to make visual notes



[Find out how pupils can respond to artists work in sketchbooks](#)

Show me what you see



SHOW ME WHAT YOU SEE METHOD:

- 1) GUIDE FEELING
SHOW ME...
- 2) RULES
SHARP
BIG
EMAIL
- 3) CHALLENGE EXPECTATIONS
- 4) COUNT DOWN

Enable close looking and drawing with this exercise

Handmade plasterboard



Making Painted and Sewn Landscapes



Ice Worlds



Drawing Source Materials: Athletes in Action

A collection of imagery and sources which you can use to prompt drawing in schools and community groups.

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These resources are free to access and are not a part of AccessArt Membership.

FREE TO ACCESS

Athletes

Use this collection of films as source material

for pupils exploring the human form during sports. In the first instance you might want to pause the videos at suitable points to enable the children to carefully look at the main forms and details. Try to create a sense of momentum – for example you might pause the video 4 times and ask the pupils to make a 1 minute, 2 minute, 3 minute and 4 minute drawing at each pause.

Encourage close and slow looking by talking as they draw – use your voice to attract their attention to features of the athletes.

When pupils are more experienced, you can also try getting them to make their drawings as the videos play – making quick gestural sketches.

You May Also Like...

AccessArt Olympics Resources



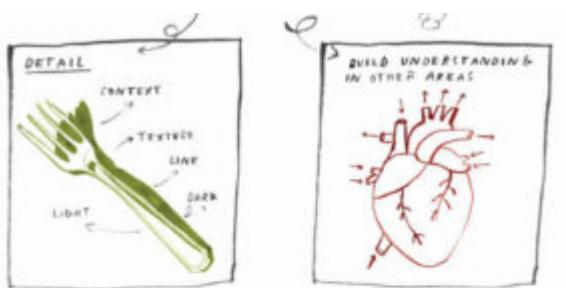
Explore projects to celebrate the 2024 Olympics

Visual Notes



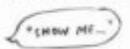
Find out how pupils can respond to artists work in sketchbooks

Show me what you see



SHOW ME WHAT YOU SEE METHOD:

1) GUIDE SEEING



2) RULES



3) CHALLENGE EXPECTATIONS



Enable close looking and drawing with this exercise

Water and Rock: Teenagers explore building drawings with graphite and modroc

Teenagers look at pieces of chalk and flint and explore the physicality of rocks and geological processes with graphite and plaster.

Drawing Source Material: Inspirational Stadiums

A collection of imagery and sources which you can use to prompt drawing in schools and community groups.

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Inspirational Stadium Designs

Use the film below to enable students to explore inspirational stadiums around the world. Try to create a sense of momentum – for example you might pause the video 4 times and ask the pupils to make a 1 minute, 2 minute, 3 minute and 4 minute drawing at each pause.

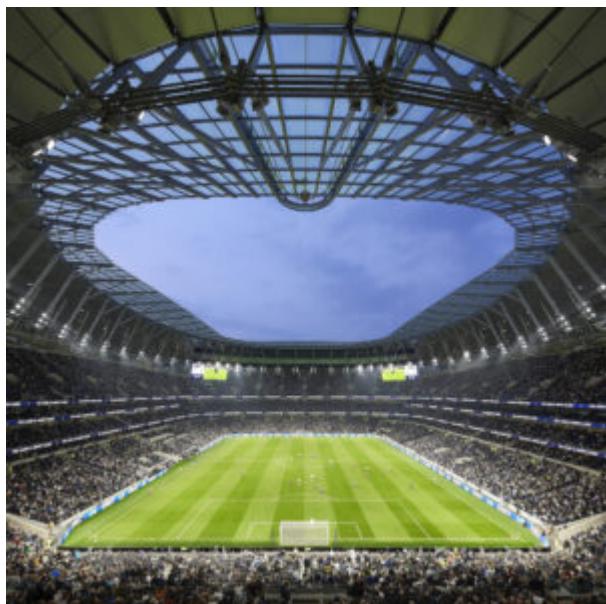
Encourage close and slow looking by talking as they draw – use your voice to attract their attention to different qualities.

Try the same exercise using different materials, ie handwriting pen, ink and nib, using a ruler to make all the lines etc.

When pupils are more experienced, you can also try getting them to make their drawings as the videos play – making quick gestural sketches.

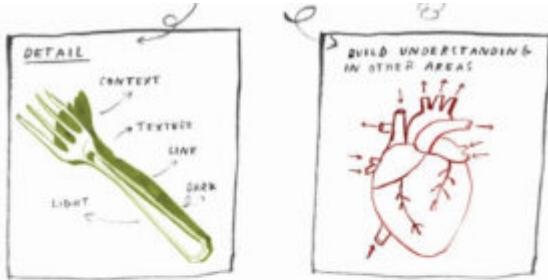
You May Also Like...

Explore Stadium Design



[Explore architecture and stadium design with this pathway](#)

Show me what you see



SHOW ME WHAT YOU SEE METHOD:

1) GUIDE SEEING



2) RULES



3) CHALLENGE EXPECTATIONS

4) COUNT DOWN

Enable close looking and drawing with this exercise

using sketchbooks to make visual notes



Find out how pupils can respond to

[artists work in sketchbooks](#)

Teachers Start the New Year with Sketchbooks

AccessArt introduces teachers from English Martyrs Catholic Primary School in Worthing, whistle stop introduction to drawing and sketchbooks as tools for recording and thinking.

Life Drawing: Using Tone by Hester Berry

Drawing Source Material: Polar Bears

A collection of imagery and sources which you can use to prompt drawing in schools and community groups.

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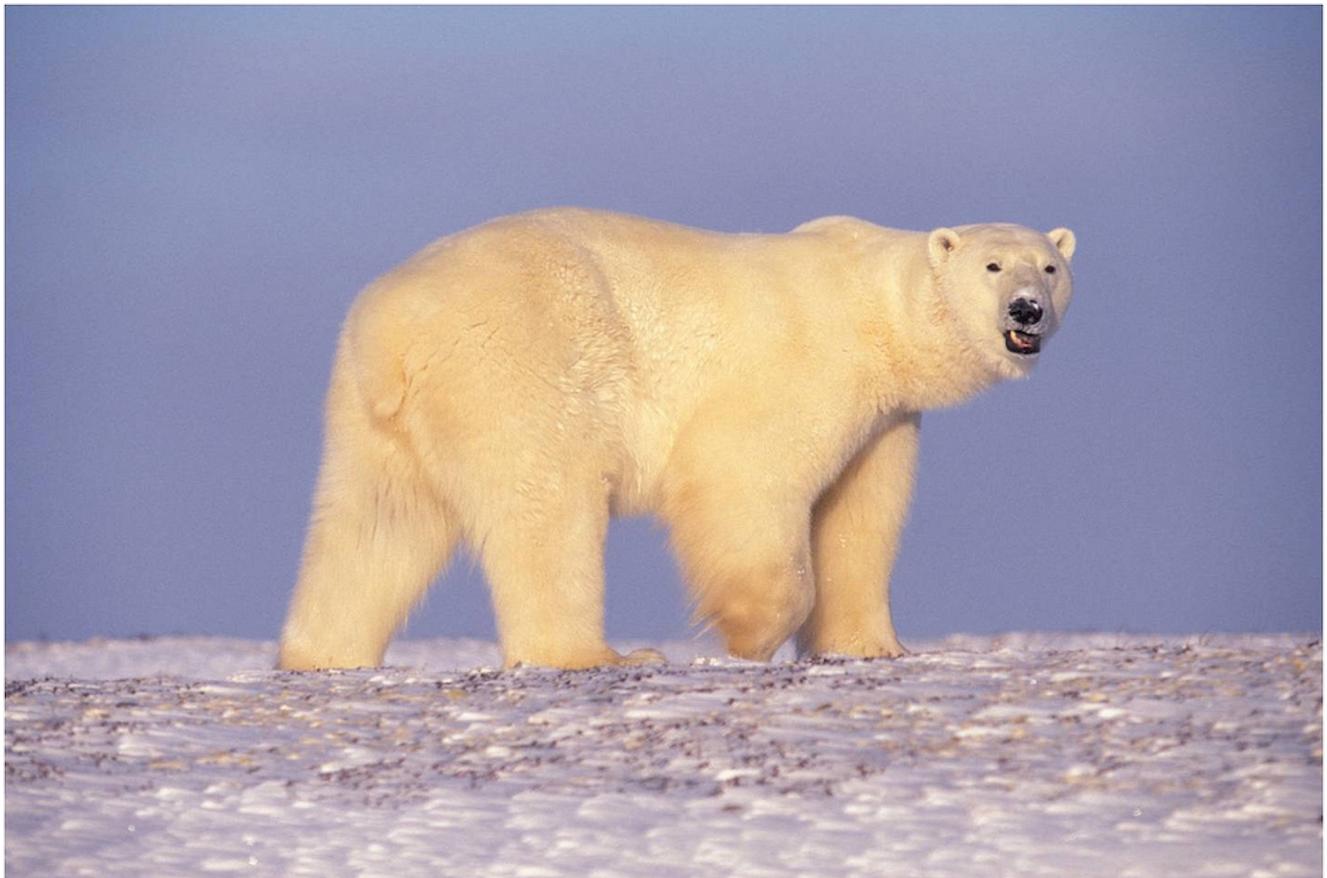
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Polar Bears

Use the film below to enable children to explore drawing polar bears. Try to create a sense of momentum – for example you might pause the video 4 times and ask the pupils to make a 1 minute, 2 minute, 3 minute and 4 minute drawing at each pause.

Encourage close and slow looking by talking as they draw – use your voice to attract their attention to features of the polar bears.

Watch the full documentary [The Polar Bear Family & Me](#)



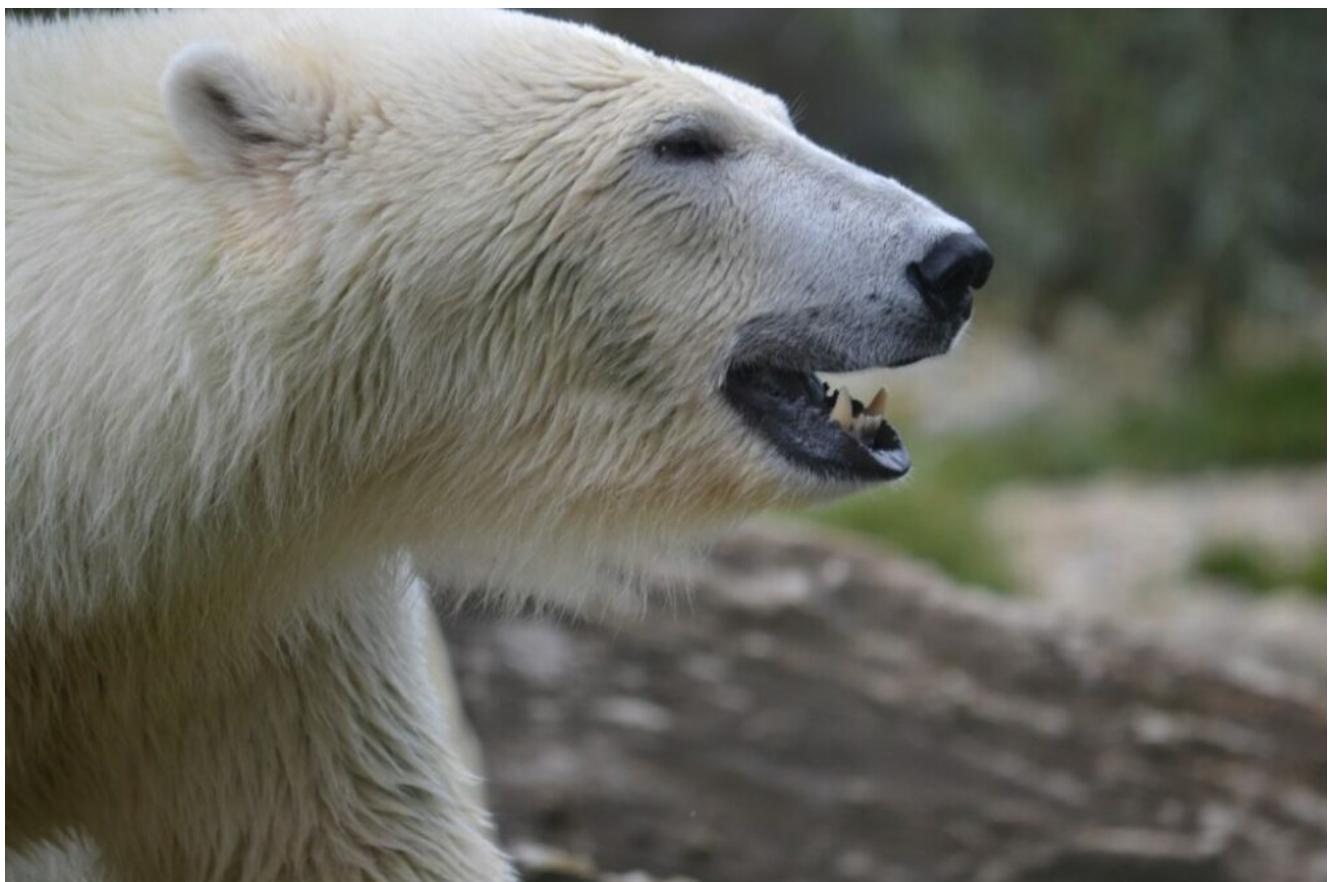
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Pathway: Using Art To Explore Global Issue

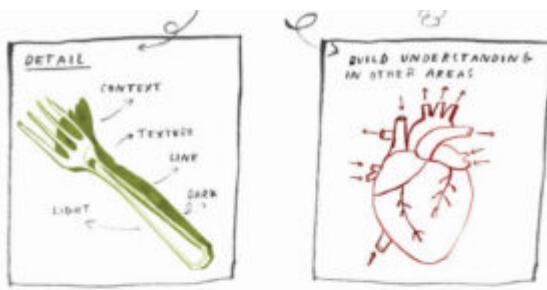


[This is featured in the 'Using Art To Explore Global Issue' pathway](#)

using sketchbooks to make visual notes



Show me what you see



SHOW ME WHAT YOU SEE METHOD:

- 1) **DEFINE FEELING**
"SHOW ME..."
- 2) **RULES**
"SHAR" (sharpen)
"BIG" (big)
"MAIL" (mail)
- 3) **CHALLENGE EXPECTATIONS**
- 4) **COUNT DOWN**

Life Drawing: Understanding Foreshortening by Hester

Berry

Life Drawing: Drawing Hands and Feet with Hester Berry

Life Drawing: Drawing the Head by Hester Berry

Red to Green: Wax Resist and Scraffito

Red to Green: Steps to

Observational Drawing

Foundations for students to be able to approach observational drawing without feeling inhibited or paralyzed and reinstate their confidence in their ability and right to draw.

Red to Green: Monoprinting

Monoprinting is an excellent way to access mark making and drawing but with a bit of 'distance' from the finished work. Results are always unexpected and the process itself very engaging, so any potential anxiety about what a finished drawing 'should' look like is taken away.

Life Drawing: Capturing Gesture by Hester Berry

Red to Green: Taking Rubbings and Making Compositions

process of recording by taken rubbings from natural and man made objects whilst incidentally making uninhibited gestures and marks with graphite

Red to Green: Patterns in Nature, Line and Wire

using drawing as a way into exploring designs and patterns in nature, followed by a making session using wire to extend ideas into 3D