

Primary School Activity Cards



Welcome to the Morgan Sindall Infrastructure activity pack.

Here you'll find a range of activities that demonstrate the wide range of careers available in our industry, and meet some of the people that do those jobs on a daily basis.

For more information about a career at Morgan Sindall Infrastructure, please visit our website:

<https://construction.morgansindall.com/careers-0>

Name: Bradley Powell, Proposals Manager

What do you do?

I write up the tender submissions to help us win work. I have to make sure I let the customer know all the reasons why we would be the best company to win the project. I have to include how long it will take, how much it will cost, the quality of our build, how we build it safely and not affect the environment, how we will engage with the stakeholders and I include pictures to make it interesting to read. I work to deadlines.

Interesting fact about me:

I have ran the Norwich 10K run every year since it started in 2015



The challenge:

Below are words that are used on the other activity cards and their meanings. Can you find what activity card they are on? Then can you write a short story including at least 10 of these words?

Word	Meaning	Activity card
Consultant	Someone who is paid to give expert advice	
Legislation	Something that is required to done by law	
Code of practice	Set of rules that everyone works by	
Timescales	How long a take will take	
Pre-construction	Planning a project before the actual construction begins	
Tender	A written or formal offer to supply goods or do a job for an agreed price	
Submission	Giving a document for a decision to be made by others	
Proposal	A formal suggestion, plan , or idea often written	
Deadline	When you must have completed a task by	
Subcontractor	An outside person or organisation	
Undergraduate	A student at university or college who is studying for a degree	
Stakeholder	Someone who has an interest that can either affect or be affected by the business	





Name: Scott Blair, Senior Design Manager

What do you do?

I manage all the processes in producing a set of design documents that a building can be built from. I encourage and inspire design consultants whilst making sure current legislation, standards and codes of practice are followed. I ensure design information is of the right quality and keeps pace with project timescales whilst eliminating health and safety risks in the design and financial risks during construction.

Interesting fact about me:

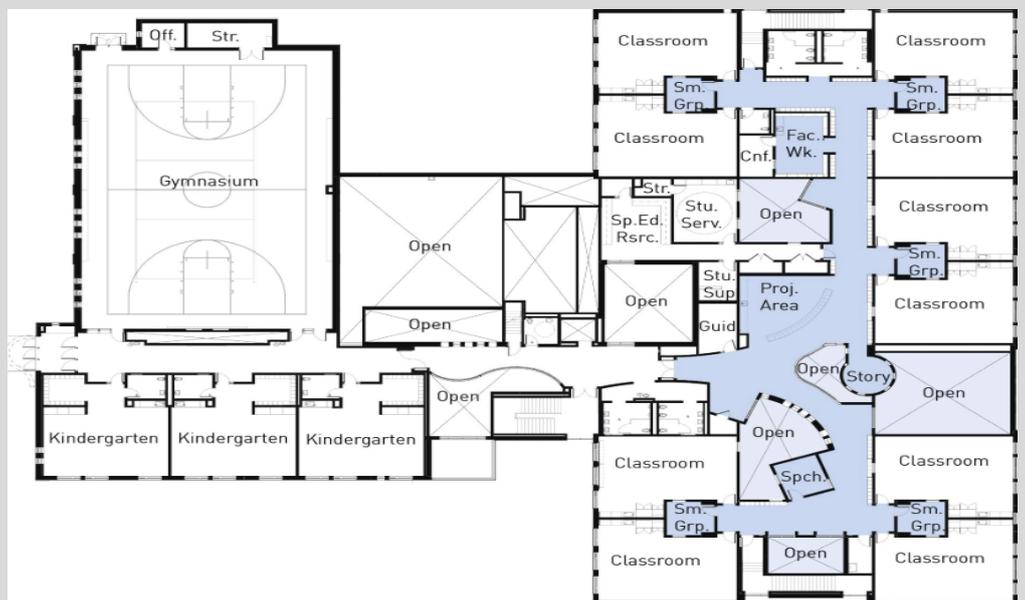
I started my career as a qualified architectural technologist, this skill has been great to help my role.

The challenge:

You are a design manager on a construction project, the customer would like you to design a layout to include classrooms for reception to Year 6. Facilities also include a nursery on site. You can choose to use pencils and paper, or use an app like SketchUp (<https://www.sketchup.com/plans-and-pricing/sketchup-free>) or Minecraft.

Consider positions for each classroom, a canteen, sports hall and toilets, as well as corridors between them. You may want to include the below as well:

- Play areas
- Grass playing field
- Carpark for 20 cars
- Loading area for kitchen deliveries.





Name: Rachel Morris, Senior Estimator

What do you do?

I work in the pre-construction team to prepare tender submissions. I focus on the cost side of the submission and make sure that we produce a competitive tender.

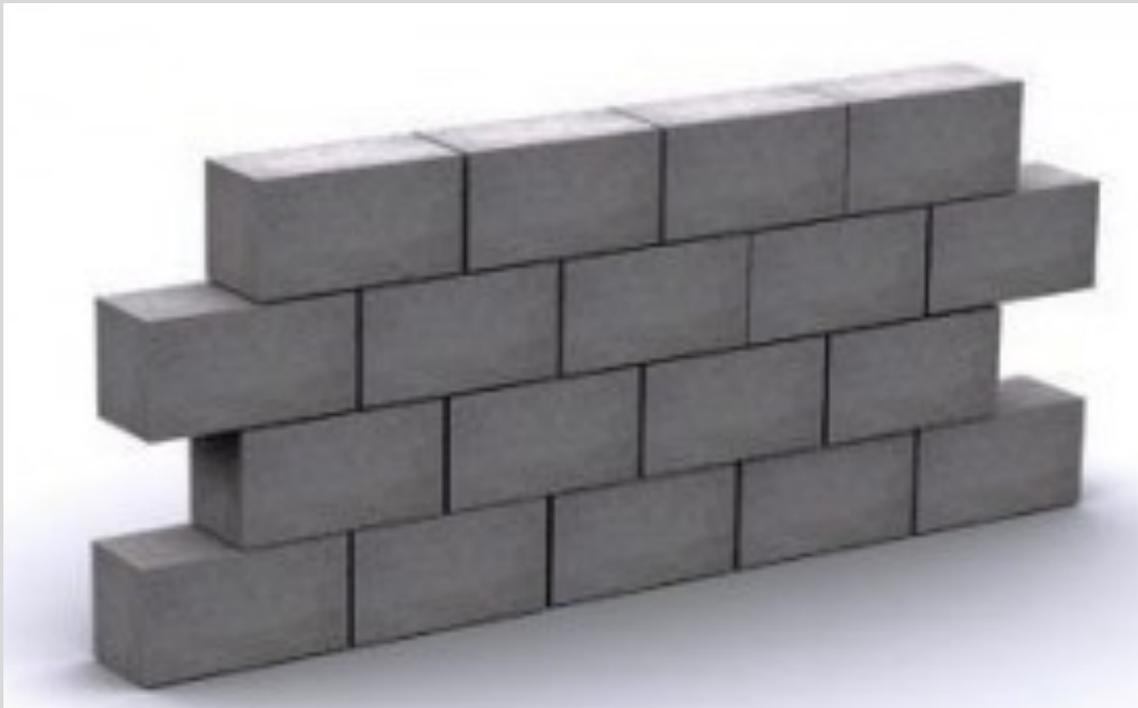
Interesting fact about me:

I enjoy keeping fit and have run the London Marathon twice raising lots of money for charity!

The challenge:

Can you help Rachel work out how much it would cost to build the wall pictured below?

- Each block costs £1.00
- You have to pay your bricklayer £0.50 to lay each block



Your answer

Blocks		x £1.00	=
Bricklayer		x £0.50	=
Total			=

Name: Francesca Baggett, Proposals Manager

What do you do?

I'm a Proposals Manager so I answer questions and design proposal documents to help us win construction jobs. Graphic design is a big part of my role and I create lots of diagrams, charts and images to make our proposals look good.

Interesting fact about me:

My dog Marley is an Instagram star and has over 5,000 followers @misfit_marley



The challenge:

Pretend you work for a construction company.

Design a poster showing how good your company is.

Information should include:

A logo for your company

Explain what type of buildings your company builds (schools, offices, shops etc) and draw some examples.

An organisational chart (a bit like a family tree) showing the key project team workers from this list (take a look at the activity cards for these jobs so you know what they do):

- Project Manager
- Quantity Surveyor
- Design Manager
- Social Value Manager





Name: Jack Wolstenholme, Site Manager

What do you do?

I work on a construction site as a site manager making sure that the buildings are built safely and correctly, following plans and drawings.

Interesting fact about me:

I celebrated New Year's last year in Times Square, New York.

The challenge:

Using materials you can find at home can you help Jack by building the below project for him?

Remember to work safely.

How many different job roles can you name that would help build a house?



Name: Alex Hall, Planner

What do you do?

I plan the order in which the different elements of a build happen, and then go to site to make sure it's all going to plan. I work on lots of different projects, from the office and on site.

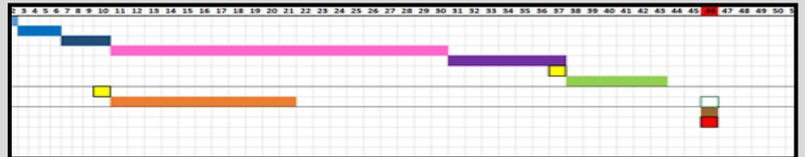
Interesting fact about me:

I have four middle names and my real name is Alessandro. I got my degree in Economics before I started work.



The challenge:

Please can you help Alex plan a build, the customer has told us they would like it completed in 12 weeks.



You need to work out which order it has to be built in. Below are the different tasks and how long they will take.

Please cut them out and create a plan that shows the order of your build, like the one above. Things to think about are how long the overall project is and whether you can overlap some works to meet the deadline.

3 weeks - windows and doors (these fix to the brickwork and keep the weather out)

3 weeks - plasterboard (this goes on the brickwork inside ready for paint - it can't get wet!)

2 weeks - roofing (this goes on after the roof timber is installed and keeps the weather out)

5 weeks - mechanical and electrical (M&E) (these are the pipes and wires for the building to function) - **WEATHER SENSITIVE**

8 weeks - brickwork (bricklayers come in and lay block and bricks) - this makes the structure of the building and sits on the foundations.

1 week - painting and decorating

WEATHER TIGHT DAY - weather can't get into the building now! (the building will be dry from this time)

3 weeks - foundations (holes are dug into the ground then filled with concrete. The building sits on this to stop it sinking)

2 weeks - roof timbers (carpenters build these) - these go on the brickwork ready for the roofing to be attached.

Name: Stephanie Bennett, Trainee Quantity Surveyor

What do you do?

I work out how many materials are required for a project and what they cost. I make sure our subcontractors only charge us for the work they have done. I make sure our projects don't exceed our clients budget and make us a small profit.

Interesting fact about me:

Outside of work I am a weight lifter and the heaviest weight I have lifted is 120kg.



The challenge:

Can you help Steph, work out how much it will cost to build the house for Jack's Site Manager activity card.

Ref	Item	Quantity	Unit	Cost	Total £'s
1	Bricks and blocks External walls of the building and sometimes internal walls.	180	m2	£75.00	
2	Timber Roof structure, skirtings, door frames.	15	m2	£600.00	
3	Windows and doors To let natural light in.	14	each	£964.00	
4	Mechanical and Electrical These are the pipes and wires for the building to function.	10	m2	£1,800.00	
5	Plasterboard This goes on the brickwork inside ready for paint.	100	each	£45.00	
6	Foundations Holes are dug into the ground then filled with concrete. The building sits on this to stop it sinking!	12	m2	£1,500.00	
7	Roof This goes on after the roof timber is installed and keeps the weather out!	15	m2	£900.00	
	Total Cost				

Your client has a budget of £95,000.

How much profit will you make?

Profit is the difference to how much it costs to build against the budget.

Profit made...

£



Name: Rebecca Paramor, Civil Engineer

What do you do?

I am engineering undergraduate student. In my year in industry, I have been working on the M27 Smart Motorway Project. My role involves ensuring health and safety standards are met on site and through design and challenging design to create value engineering solutions.

Interesting fact about me:

I play women's rugby at university as scrum half (9). I also did Karate for eight years and was one belt away from black belt!

1. Do you know what civil engineers do?

Scan the QR code and watch this video to find out more about how they important role they play.



2. Can you spot these on your door step?

List as many things you can see related to civil engineering. This might include: drainage, roads, aeroplanes, telephone lines, play park, traffic lights, fences etc.

3. Civil engineers create the environment we live in!

Engineers get us from A to B, water in our bathrooms and electricity to our homes. Without civil engineers the world would be a very different place, some may say they are real life superheroes!

The challenge:

Create your very own civil engineering **superhero** with everything you now known about civil engineers, then **design a poster** about what they do and how they save the day.

Give your character a super name like:

Water Woman or **Aviation Action Man**



Name: James Butt, Stakeholder Manager

What do you do?

I make sure that everyone knows what is happening, when it is happening, and why it is happening, so they can make any changes to their plans to avoid any inconvenience to their plans.

Interesting fact about me:

My job means I get to talk to the Ageas Bowl, Southampton Football Club, the Naval Port in Portsmouth, and Portsmouth FC. I also do a lot of creative writing, as I'm constantly creating newsletters, web updates, and leaflets to help explain what's going on.



The challenge:

You are the Community Manager for the M27 Smart Motorway Upgrade, this means you look after the local area and its residents. This weekend the M27 motorway will shut near the airport for essential works. However, there is Premier League final at St Mary's Stadium and the airport is expecting more passengers than usual. You will need to write an urgent update letter to Southampton Airport and Southampton City Football Club.

You will outline what your team will do to make sure passengers get to the stadium from the airport.

This might be providing our own transport following a diversion route, using a different method of transport altogether or using your imagination.



Name: Ruth Duffin, Customer Care Manager

What do you do?

I'm a Stakeholder Manager, my job is to liaise with communities during our work activity, it also involves working with schools and community organisations to help improve the environment we are working in.

Interesting fact about me:

I once played hockey against Jane Sixsmith who played for our Great Britain international team.



The challenge:

You are part of the community team, who look after the local area by letting them know about new roadworks or anything that might disturb them. Imagine we are building a new footbridge to improve safety when crossing busy road.

During construction, there may be disturbance like noise and roads may be closed.

1. Use your local knowledge and online maps to have a look at your area.

Make a list of the key people in your local area that will need to be informed about the upcoming roadworks. This might include schools, businesses and hospitals.

2. Pick one of the key people on your list and write a letter to warn them about the upcoming roadworks.

The key is to keep them happy, so you could think of donating something to them. For example, if it is a school, could we help to build something in the playground?

Remember to include these specific details in your letter.



Name: Ravinder Bhakar, Digital Engineering Apprentice

What do you do?

Create and test construction projects on the computer to make sure that they are the best they can be when they're built in real life.

Interesting fact about me:

At 17 years old, I am the youngest person in my team.



The challenge:

Design a train track which helps the people get around Adventure Island.

It must:

- Start and end at Victory City
- Visit Crystal Palace, the Sand Pit, Vicious Volcano and the Hut Heap
- Avoid all the obstacles and dangers.



If you enjoyed this activity, you may like a job as a **Digital Engineer**

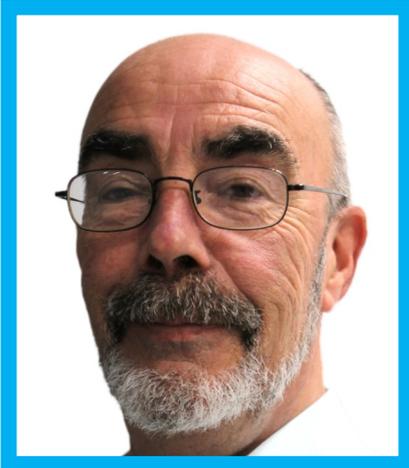
Name: Pat Howard - Community Engagement Ecologist

What do you do?

My job involves carrying out site surveys to find wildlife such as badgers, bats and barn owls. It is my job to ensure that construction work can go ahead without compromising the wildlife or breaking the law.

Interesting fact about me:

I joined the army at 16, and served for 19 years in different parts of the world.



The challenge:

About 30 species of bird are regular garden visitors, although more than 140 bird species have been recorded in British gardens.

Use the tracker below to track bird activity in your garden. If you can, take a picture of some of your favourites.

You could attract more birds by providing food, you can make your own bird cakes just using lard and seeds! (scan the QR code for more details).



	Blackbird [] [] [] [] [] [] [] [] [] [] [] []		Collared Dove [] [] [] [] [] [] [] [] [] [] [] []		Greenfinch [] [] [] [] [] [] [] [] [] [] [] []		Robin [] [] [] [] [] [] [] [] [] [] [] []
	Blue tit [] [] [] [] [] [] [] [] [] [] [] []		Dunnock [] [] [] [] [] [] [] [] [] [] [] []		House Sparrow [] [] [] [] [] [] [] [] [] [] [] []		Feral Pigeon [] [] [] [] [] [] [] [] [] [] [] []
	Jackdaw [] [] [] [] [] [] [] [] [] [] [] []		Starling [] [] [] [] [] [] [] [] [] [] [] []		Chaffinch [] [] [] [] [] [] [] [] [] [] [] []		Goldfinch [] [] [] [] [] [] [] [] [] [] [] []
	Long tailed Tit [] [] [] [] [] [] [] [] [] [] [] []		Wood Pigeon [] [] [] [] [] [] [] [] [] [] [] []		Coal Tit [] [] [] [] [] [] [] [] [] [] [] []		Great Tit [] [] [] [] [] [] [] [] [] [] [] []

Name: Molly Guirdham, Graduate Environmental Engineer

What do you do?

I make sure that all of our projects look after the environment around them. This includes researching habitats and wildlife.

Interesting fact about me:

I love running and have been working up to a 10k. I also have two dogs called Roscoe and Ava. They sometimes run with me!



The challenge:



Building a bug hotel can provide shelter for wildlife that may struggle to find a safe place to live.

Bug hotels attract lots of wildlife, from hedgehogs to toads, solitary bees to bumblebees, and ladybirds to woodlice!

Make sure you have an adult to help you before you start your Bug Hotel:

1. Find a flat, firm place in the garden to build your basic structure. You could use old bricks, spare wood or even stack old tins on their side. If you use old wood or bricks, make sure you construct a roof so it remains dry.



2. Fill the gaps! The idea is to provide all sorts of different nooks and crannies, crevices, tunnels and cosy beds.

Top Tip: you could collect items like pine cones and sticks when you are out on a walk. You could even use empty toilet rolls to hold sticks.

3. Wait for your guests to arrive!



If you want some more information on bug hotels and how to make your fantastic, scan the QR code to go to [rspb.org.uk](https://www.rspb.org.uk)



Name: Matthew Gibson, Year Out Student

What do you do?

Create and test construction projects on the computer to make sure that they are the best they can be when they're built in real life.

Interesting fact about me:

I lived in the French Alps in a ski season for five months



The challenge:

Create a track for a marble to go from the top to the bottom.

You can do this just using card, or everyday objects you find around the house. You can create obstacles, and twists and turns, just make sure it doesn't get stuck or fall off. It can be as simple or as complicated as you like.



See if you can improve your design to get a higher score!



Scan the QR code to view a video for inspiration

For a further challenge, time how long it takes the marble to get from start to finish, and then think about the "cost" of the project. Engineers must think about meeting the requirements of the project, whilst making sure they don't waste resources.

Count 1 for every piece of material, such as card, paper or string and divide that total by the number of seconds the marble takes to get from top to bottom.

Materials used ÷ Time taken = This is your score.



Name: Jim Boardman, SHE Manager

What do you do?

I try to keep everyone on site safe to make sure they all go home after a days work to their families without injury or damage to their health. This includes the public, visitors and anyone else that comes into contact with our construction sites.

Interesting fact about me:

I can complete a Rubik's cube.

The challenge:

It's really important to stay fit and healthy.

Use the road sign exercises to create a healthy highway in whatever order you like. Each exercise should last for 30 seconds.

See how many people you can encourage to join in and use your healthy highway!



Star Jumps



Sprint on the Spot



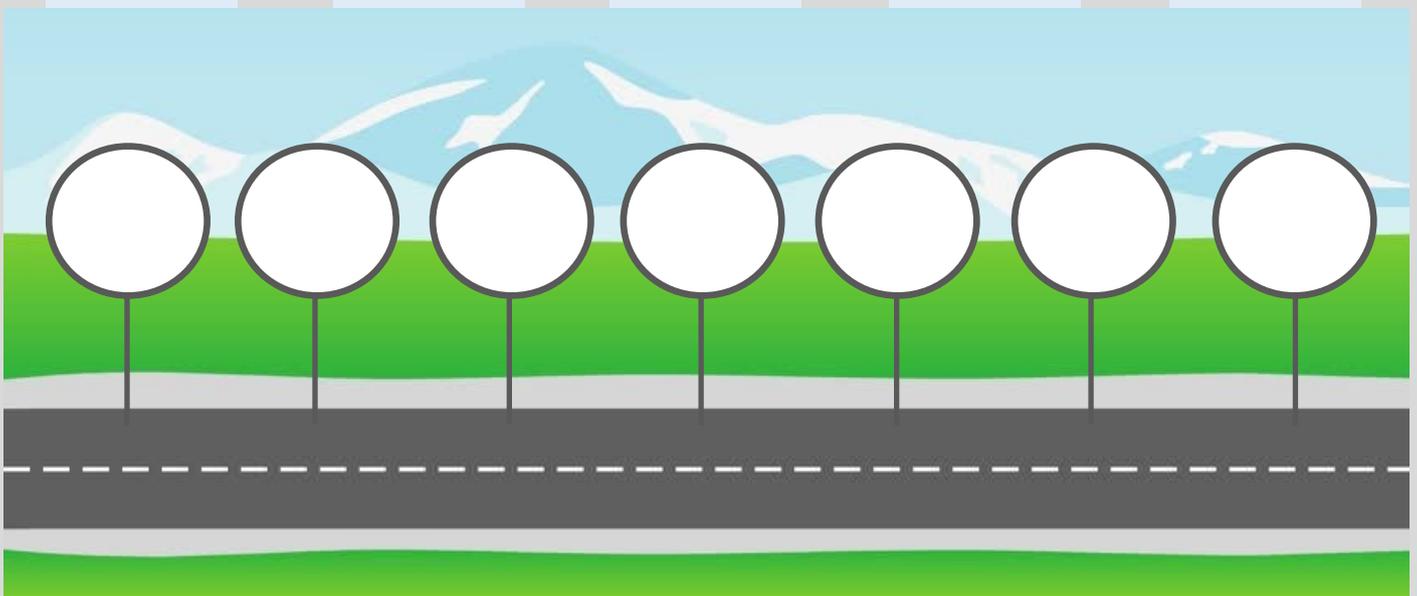
High Knees



Rest



Sit ups



If you enjoyed this activity, you may like a job as a **Health & Safety Advisor**



Name: Maxine Robinson, Document Controller and Mental Health First Aider

What do you do?

I am a Mental Health First Aider and I make sure that everyone I work with looks after their wellbeing and mental health.

Interesting fact about me:

I love listening to music and once sang at a concert in Wembley Stadium as part of a choir.

The challenge:

Sometimes we don't always feel happy and that's okay but it's nice to be cheered up! If you need help to feel better again, this challenge will help you feel better and make you smile.

1. Find an empty jar or bottle
2. Decorate your jar with something that makes you smile
3. Write your happy notes, fold each piece of paper up and pop them into your jar.
4. Next time you are feeling sad, worried or anxious, open your jar, take the pieces of paper out and read them.



Top Tips

Happy notes can be anything that that makes you feel happy, it could be things that you love, things you love about yourself, names of people that you love or even things that you would like to do in the future.