



20 PIECE CHALLENGE

A CHALLENGE TO ENCOURAGE CREATIVE THINKING

AIM: To create as many different builds as possible out of just 20 pieces of LEGO*.

ITEMS NEEDED:

- Just 20 pieces of LEGO per student
- A paper plate or tray to put the LEGO on for each student.

SET UP:

1. For each student place their 20 pieces on a paper plate or tray (this stops the pieces getting muddled up with students nearby)
2. Start creating:
 - Step 1: Build an exciting creation with as many of the 20 pieces of LEGO in your plate as possible.

- Step 2: Take a photo of your creation.
- Step 3: Take apart your creation and repeat step 1 & 2 as many times as you feel inspired by the pieces you have been provided with.
- Step 3: Make a collage of your creations (you could use an app such as Pic Collage to do this, or print out your photos and make an exciting photo board with them).

Repeat this activity as often as you can. The more you repeat the activity, the more creative your students will be as they become familiar with the activity. Change up the parts each time. Let students pick their parts vs you selecting them.

ALTERNATIVES & EXTENSIONS

Extend this activity to create a team-building opportunity.

Step 1: Give each student 20 pieces of LEGO and a set amount of time to create as many items as possible with those pieces (as per the original activity).

Step 2: Get students to pair up. They now have 40 pieces to create with, within a set time limit. Students now need to work together with their buddy to create as many creations as possible.

Step 3: Now pair up the pairs so you have 4 students with 80 pieces of LEGO. What can they collaboratively create? It could be 1 creation. It could be several small creations to make a story of some kind.

Set up options (use this to change up the learning focus for the activity)

Maths – think about including pairs of pieces so there is symmetry within the bricks.

Art – what colours should you include? Will the parts be completely random? Could you use just shades of 1 colour?

Literacy – how can your students use this activity as inspiration for story writing?

Technology – Get students to record an image of each creation they make and put together a collage. Can your students use video to narrate a story – this story could be planned or spontaneous. Can your students turn their creation into a stop motion video of making the build or, a stop motion story.

Other alternatives for this challenge

Change up the number of parts. Increase it to 30, or make it more challenging by reducing it to 10 pieces.

For younger students use LEGO DUPLO* and for advanced students use LEGO TECHNIC*

What about changing the resource to something completely different? Instead of LEGO could you use wooden blocks or Mobilo. Could you also apply this to art resources?



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RICH EXPERIENCES

- **Oral storytelling** - students tell a story to a small group using their creation as props.
- **Imagination** - students explore creating props that can be abstract, characters, or scenes and practice their storytelling skills.
- **Digital technology** - students can create a stop motion video or take photos and record themselves narrating the story.
- **Collaboration** - students working together as they join together to create with 40 pieces then 80-pieces as their group grows.
- **Writing skills** - students can use their creation as a prompt for story writing. Placing the LEGO creation in front of them while they write will help develop their imaginative writing skills.

LINKS TO CURRICULUM

Te Whāriki

Mana reo- Communication

Children will develop verbal communication skills through expressing their ideas using a range of materials while enjoying telling and hearing stories they and others have created.

➔ This links in when students share their stories, and when they listen to others narrate their stories.

Mana tangata - Contribution

Children are encouraged to learn with and alongside others.

➔ In the twenty piece activity, the children do not have to conform to a particular method or step-by-step instructions. They are discovering by using their imagination what the pieces could represent. This allows multiple children to collaborate and empowers them to be creative in their own way.

New Zealand Curriculum

Digital technology

Students understand that technological outcomes can be interpreted in terms of how they might be used and by whom and that each has a proper function as well as possible alternative functions.

➔ This links to the creation of a stop motion video and/or taking a series of photos showing the progress of the build. These techniques can be adapted for different purposes e.g. showing a younger class how to build the creation, sharing their story with others in the school, developing students' confidence with coding and layering of visuals, narrative, and music together for a presentation.

English

Students will show a developing understanding in speaking, writing, and presenting, including how to shape texts for different purposes and audiences.

➔ This links to the different ways the students narrate their creative build. Options include writing the instructions or the story for others to read and follow, making notes as a prompt for verbally telling the story, or adding in headings to the stop motion video or photo presentation. All of these develop typing, spelling, and language skills.

Maths

Students will demonstrate their knowledge of shape recognition and reflections.

➔ This links to the use of symmetrical pieces being offered (2 of the same piece which can be used to mirror each other)

Visual Arts

Students will explore a variety of materials and tools and discover selected principles.

➔ This links to the variation in pieces, including the principles of colour especially when the same shade is used, and the possibilities of construction e.g. vertical, horizontal.



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NUMBER HOUSES

A CHALLENGE TO REINFORCE
LEARNING AROUND NUMBER
RECOGNITION AND PLACE VALUES

AIM: To practice
breaking down
numbers into
place values

ITEMS NEEDED:

A variety of bricks
1 base plate per student.

SET UP:

1. Place the LEGO on trays on a table.
2. Or place the LEGO on a mat on the floor
3. Set up an example number house for students to copy. They will need 3 Rooms called Ones, Tens, and Hundreds.
4. Write on the board a variety of numbers from 0-999 that you would like your students to focus on.

NOTES:

- If you are only learning numbers from 1-99 you will only need to make 2 'rooms' in the number house.
- If you are working with larger numbers, make more 'rooms' for the house.
- Get students to draw the same house on their personal whiteboards and practice writing the numbers before using the LEGO as extra practice.
- You can choose to allow the students to come up with their own numbers too!
- Add your numecon resources to this. Have the students complete all 3 ways - written on whiteboards, with numecon, and with the LEGO.

ALTERNATIVES & EXTENSIONS

For younger students who are learning to recognise and form numbers;

Get students to 'write' with the LEGO* and form the number using bricks. If they are unsure where to start follow these steps;

- a. Show them the number in written form.
- b. Get them to trace the number with their finger.
- c. Then trace the number with their finger on the LEGO base plate to help them visualize what it will look like and where they will place the bricks (you can also get the students to write the number if needed).

Representation of a number: How can students use LEGO bricks to visually show a number? This could be by the number of bricks used or by the number of studs on the top of a LEGO piece.

NOTE: Challenge students to read out the number they have created. Can they interpret and read their peers' numbers?

SIDE NOTE/ACTIVITY: by focusing on the number of studs this creates an opportunity around adding - for example, to form the number 5 a student could use a LEGO brick with 4 studs on it plus a brick with 1 stud on it. Or a LEGO brick with 2 studs on it plus a brick with 3 studs on it. Turn it into a game - get students to pair up, pick out a number randomly, set a timer, and see who can come up with the most combinations to produce that number.

**"Repetition is great to reinforce learning.
Creative repetition makes learning exciting".**

(Quote by Rachel de Vries, Managing Director, House of Bricks Ltd)



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RICH EXPERIENCES

- **Knowledge and strategy learning** - students learn the knowledge of placement value particularly of numbers larger than one. They also learn different strategies to create numerical representation of numbers in different ways including creating the numerical figure with LEGO, working out the different ways they can represent the whole number by counting the studs or number of bricks.
- **Mathematical terminology** - students learn what these terms mean in a practical and meaningful way:- Place value, ones/ units, tens, hundreds, one thousand
- **Abstract to concrete learning** - students learn the number represented in its 2D written form can also be created into a 3D number. This reinforces number formation for students who learn best using tactile prompts.
- **Repetition** - Students can repeat, extend and create alternative ways to practice the skill of placing numbers in their place value column.

LINKS TO CURRICULUM

Te Whāriki

Mana reo - Communication

Children recognise mathematical symbols and concepts and use them with enjoyment, meaning and purpose.

➡ This links to children learning there are numbers beyond ten and when numbers are placed in a different 'room of the house' this will change the value of the number.

Children will develop non-verbal communication skills for a range of purposes

➡ This links to children learning and recognising that numbers can be represented in a myriad of different forms e.g. numerical 7, written seven, quantity X X X X X X X.

New Zealand Curriculum

Maths

Students will develop knowledge of ones, tens, and hundreds up to 1000

➡ This links to students understanding the difference between each of these place values, experimenting with different combinations of numbers and presenting these numerals in a creative way.

Students will know basic addition and subtraction facts

➡ This links to students using the studs on the LEGO pieces to represent the number in the number house e.g. the number 5 can be represented with a 4 stud piece + a 1 stud piece or a 2 stud piece + a 3 stud piece.

English

Students will select and use sources of information (meaning, structure, visual information) and prior knowledge with growing confidence to make sense of increasingly varied and complex texts

➡ This links to students using their writing skills during this activity to practice forming each number and transfer that number formation onto the base plate using the LEGO pieces to form the number.

"The essence of mathematics is not to make simple things complicated, but to make complicated things simple".

Quote by Stan Gudder



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Cheeky



Monstrous



Hot



Confused



EMOTIONS WITH LEGO*

AN ACTIVITY DESIGNED TO HELP STUDENTS NAME THE EMOTIONS THEY ARE FEELING AND TO USE THEM WHEN EXPRESSING THEMSELVES.

AIM: To recognise facial expressions and understand the their own and others emotions.

ITEMS NEEDED:

- Printed emotion faces
- 'I am feeling...' sheet
- Mirrors

SET UP:

1. Have a range of emotional faces on the table.
2. Children use the mirrors to replicate the faces
3. Choose which face they relate to best and put it on the 'I am feeling...' sheet

NOTES:

- Use the 'I am feeling...' sheet for children to sign in to class each day as part of the Positive Behaviour 4 Learning/ Incredible Years programme. (You could even provide each student with their own chart by their bag, on their desk, or on the wall under their name with a variety of their work around it so they can change their feeling as they day progresses)

ALTERNATIVES & EXTENSIONS

Use the emotion cards to help children identify their own and others facial expressions during behaviour intervention or a restorative practice meeting

- Spread the cards out on the mat between the children having the restorative meeting
- Get them to look at each other's faces and describe what the faces are doing e.g. the eyebrows are turned down, the mouth is drooping, the eyes look sad
- Get them to find a card that matches the facial expressions described
- Talk about the feelings inside their bodies so they can relate to physical changes in their body and the facial expressions e.g. my tummy hurts, I don't want people looking at me, my head hurts, my heart is racing.
- When these feelings and physical changes in the body happen again the children will have a more defined vocabulary and be more likely to name the emotion first.

Introduce te reo Māori emotion translations

- In pairs (individually or as a class/group) match the te reo Māori words to the English words
- Practice saying each emotion to each other.
- Play a game of "I spy" using te reo Māori and English.
- Match facial expressions on LEGO mini-figures to the facial expressions on the sheet.

NOTE: We have provided 1 translation for the emotions, however depending on the dialect used in your area of New Zealand the translation could vary - please update the Māori words to suit you and your students.

Extending students vocabulary

We all know the feelings of happy, sad, tired, and excited. But do your students understand a wider range of emotions? Use the attached list to extend their vocabulary and understanding of these emotions. Do students understand that when a peer is frustrated they may come across as angry? Do students understand they don't always have to be 'happy', sometimes they can just be content? Or when they feel shy, it might be because they are worried about something? Use these worksheets to explore emotions and discover the root of their feelings so they can understand the world around them with confidence.

Use LEGO bricks to recreate emotions

Let's go big! Use LEGO bricks to make large-scale emotions. How can your students make eyes, eyebrows, and different shaped mouths to make the different expressions?

Add to the chart

Add to the facial expressions with other emotions such as proud, glad, fed up, or lonely - do you have LEGO minifigures with different expressions to add to the chart? Use the blank face to draw and make your own emotion faces.



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RICH EXPERIENCES

- **Managing themselves and having a sense of wellbeing** - students will begin to recognising facial expressions on their own face and on others
- **Language and communication skills** - students will be able to names a wide variation of emotions
- **Managing self and having a sense of belonging** - students will be able to use this as part of restorative practices to help them articulate their feelings.
- **Bi-cultural recognition** - students recognise and articulate te reo Māori emotion words
- **Participating and contributing** -students will working alongside others as part of the games and when recognising these emotions in each other.
- **Language and communication skills** - students will learn to listen and decipher new vocabulary

LINKS TO CURRICULUM

Te Whāriki

Mana atua - Wellbeing

Children have their emotional wellbeing nurtured and they can manage themselves and express their feelings and needs.

➡ This links to children being empowered to have their emotions recognised by themselves and by others.

Mana whenua - Belonging

Children know the limits and boundaries of acceptable behaviour.

➡ This links to the use of this resource within restorative practice activities.

Mana tangata - Contribution

Children use a range of strategies and skills to play and learn alongside others.

➡ This links to children using this resource to see how their friends are feeling by looking at their "I am feeling..." charts, and adjusting their interactions to come alongside their peers.

Mana reo - Communication

Children develop verbal communication skills for a range of purposes

➡ This links to children using the language associated with emotions to describe and name the feelings of themselves and others.

New Zealand Curriculum

Health and Physical Education

Students will be able to describe and demonstrate a range of assertive communication skills ad processes that enable them to interact appropriately with other people as they gain essential interpersonal skills.

➡ This links to students recognising emotions and feelings, by naming and describing them internally and externally.

English

Students will use a range of vocabulary to communicate meaning, showing an developing understanding of their effects.

➡ This links to the students demonstrating, through spoken language, that they can communicate effectively for others to understand their emotions.

**He taonga te moko pūna, kia whāngaia, kia tipu, kia rea.
A child is a treasure, to be nurtured, to grow, to flourish.
Whakataukī in Te Whāriki, Ministry of Education, 2017**



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