# **Exploring financial identity through digital technologies**

This resource explores personal money/moni habits and individual financial identities. Students use digital technologies to design a character that can be used to educate others.

This is an integrated, cross-curricular resource, supporting the theme **identity** and can be used in multiple ways. Related resources are available for social sciences, maths, and technology (digital technologies).

References:

* [Financial identity resource introduction](http://sortedinschools.org.nz/sorted-resources/financial-identity/)
* [Pedagogy and methodology overview](http://sortedinschools.org.nz/teachers/curriculum-info/pedagogical-design/) for the frameworks underpinning the development of this resource.

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| **Technology achievement objectives and progress outcomes****Progress outcome 4 – Computational thinking for digital technologies**In authentic contexts and taking account of end-users, students decompose problems to create simple algorithms using the three building blocks of programming: sequence, selection, and iteration. They implement these algorithms by creating programs that use inputs, outputs, sequence, basic selection using comparative operators, and iteration. They debug simple algorithms and programs by identifying when things go wrong with their instructions and correcting them, and they are able to explain why things went wrong and how they fixed them.Students understand that digital devices represent data with binary digits and have ways of detecting errors in data storage and transmission. They evaluate the efficiency of algorithms, recognising that computers need to search and sort large amounts of data. They also evaluate user interfaces in relation to their efficiency and usability.**Progress outcome 3 – Designing and developing digital outcomes**In authentic contexts, students follow a defined process to design, develop, store, test, and evaluate digital content to address given contexts or issues, taking into account immediate social, ethical and end-user considerations. They identify the key features of selected software and choose the most appropriate software and file types to develop and combine digital content. Students understand the role of operating systems in managing digital devices, security, and application software and are able to apply file management conventions using a range of storage devices. They understand that with storing data comes responsibility for ensuring security and privacy.**Technology Achievement Objectives, Level 4**Planning for practiceUndertake planning that includes reviewing the effectiveness of past actions and resourcing, exploring implications for future actions and accessing of resources, and consideration of stakeholder feedback, to enable the development of an outcome.Brief developmentJustify the nature of an intended outcome in relation to the need or opportunity. Describe the key attributes identified in stakeholder feedback, which will inform the development of an outcome and its evaluation.Outcome development and evaluationInvestigate a context to develop ideas for feasible outcomes. Undertake functional modelling that takes account of stakeholder feedback in order to select and develop the outcome that best addresses the key attributes. Incorporating stakeholder feedback, evaluate the outcome’s fitness for purpose in terms of how well it addresses the need or opportunity.**Technology Achievement Objectives, Level 5**Brief development:Students will justify the nature of an intended outcome in relation to the need or opportunity and describe specifications that reflect key stakeholder feedback and that will inform the development of an outcome and its evaluation.Planning for practiceStudents will analyse their own and others’ planning practices to inform the selection and use of planning tools and use these to support and justify planning decisions (including those relating to the management of resources) that will see the development of an outcome through to completion.Outcome Development and EvaluationStudents will analyse their own and others’ outcomes to inform the development of ideas for feasible outcomes. They will undertake ongoing functional modelling and evaluation that takes account of key stakeholder feedback and trialling in the physical and social environments. They will use the information gained to select and develop the outcome that best addresses the specifications and evaluate the final outcome fitness for purpose against the brief. |
| Learning experiences and formative assessment tasks have been aligned to [SOLO Taxonomy](http://www.johnbiggs.com.au/academic/solo-taxonomy/) to ensure cohesiveness, constructive alignment, and cognitive stretch for all students. This gives both teachers and students choices throughout the learning and teaching process. |
| NEED IT/KNOW IT | LINK IT/THINK IT | EXTEND IT/DEFEND IT |
| Make connections to what you already know. This is the starting point for new learning about your **financial identity**.  | Link your ideas and make connections to build new knowledge and understandings about your **financial identity.** Learn about the perspectives and insights of others.  | Extend your learning by applying it to new contexts. Find evidence, validate sources, and summarise your thinking. Present your findings to clarify your **financial identity.**  |
| **Understanding financial identity**Financial identity is the values, knowledge, skills, and behaviours that shape how people build financially healthy lives. |
| **Define** the word wealthy in as many ways as you can. Why can the concept of wealth be interpreted in different ways? How do you define wealth in your own life?**Identify** the values, attitudes, behaviours and skills that shape your money/moni choices.**Describe** your first memory of money/moni. Watch [*Culture Is a Beautiful Thing.*](https://www.facebook.com/cffc.org.nz/videos/pacific-voices%3A-culture-is-a/994324510717771/) **Discuss** ways that culture shapes Tala’s money/moni choices.**Describe** your money/moni/moni habits. Do you tend to save money/moni or spend it? Do you share your money/moni with anyone? What do you tend to spend money/moni on? Are you an impulse buyer or do you think carefully before spending money/moni?Take the [Sorted money personality test.](https://sorted.org.nz/tools/money-personality-quiz) **List** five examples of ways your money/moni choices relate to your personality.**Define** needs and wants.**Complete** this [supermarket shop activity.](http://sortedinschools.org.nz/api/v1.0/download?filename=needs-vs-wants-the-supermarket-shop&files=44)**List** the last ten things that you bought or that were bought for you. **Categorise** them as needs or wants and explain why you assigned them to each category.**Identify** people, businesses, iwi groups, and organisations in your community that are involved with how people spend, save, and borrow money/moni. | **Compare** your definitions of wealth with those of your classmates.Take the [Sorted money personality test.](https://sorted.org.nz/tools/money-personality-quiz) **Analyse** the strengths and weaknesses of your money/moni/moni personality. **Explain** how you might work to improve any areas of weakness.Have five friends or whānau members take the [Sorted money/moni personality test](https://sorted.org.nz/tools/money-personality-quiz) and ask them to record five ways they have demonstrated their money/moni/moni personality in the last month.**Compare** the needs and wants of a teenager with those of an eighty-year-old person. The case studies in the [Sorted booklet about retirement](https://sorted.org.nz/assets/Order-Collateral-seminar-preview/Sorted-Retirement-Preview.pdf) can give you information about the needs of older people. **Compare and contrast** needs and wants in this [supermarket shop activity.](http://sortedinschools.org.nz/api/v1.0/download?filename=needs-vs-wants-the-supermarket-shop&files=44)**Explain** the purpose of the workpeople, businesses, iwi groups, and organisations in your community in terms of how people spend, save, and borrow money/moni.  | **Create** a class definition of wealth that includes ideas about spending, saving/te whakaputu, and well-being.Keep a [spending diary](http://sortedinschools.org.nz/api/v1.0/download?filename=spending-diary&files=46) (or use the [Smith family planner](http://sortedinschools.org.nz/api/v1.0/download?filename=smith-family-plan&files=48)) for one month. Analyse your weekly spending or the spending of someone in your household. Enter your class data into [Survey Monkey](https://www.surveymonkey.com) to see whether there are any patterns. Identify opportunities for goal setting/whāinga paetae or saving/te whakaputu and make a commitment to one of these. **Justify** your choice and gather **evidence** to show the progress you have made after a set amount of time.Share your [spending diary](http://sortedinschools.org.nz/api/v1.0/download?filename=spending-diary&files=46) findings with one other person and see whether you can encourage them to make changes to their own money/moni behaviours. Record their progress and **reflect** on other advice you could have given them.Research and debate one of these statements: * Knowing what influences your money/moni choices can help you to make better choices.
* Having a different money/moni personality to your partner can make a relationship challenging.
* Knowing about your money/moni personality is only useful if you are wealthy.

**Investigate** resources that young people can use to learn about debt and how to make good money/moni choices. With guidance from the English section of this resource, create an advertisement for a local budgeting/tahua service or financial advisor. |
| **Brief development**Create a [character](https://scratch.mit.edu/projects/10063757/) based on a particular money/moni personality and animate that character using [Scratch](https://scratch.mit.edu/) programming. The character will be used to as part of a financial literacy resource for year 9 and 10 students. Choose whether your character is a money/moni villain or hero. You could base your character on one of the [Sorted money test](https://sorted.org.nz/tools/money-personality-quiz) personalities or you could create a character based on people in the the finance sector, for example, budgeting/tahua advisors, loan sharks, mobile truck traders, bankers, or insurers.If you are not familiar with brief development, begin by writing a brief for a product that has already been developed, as students did in [this video](http://technology.tki.org.nz/Videos/Brief-development/Examples-for-exploring-brief-development). Investigate successful graphics and animations and the features that makes them popular. Think about variations such as colour, personality, values, and movie or TV endorsements. |
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| **Plan** your brief for your money/moni character. The brief should include: * a conceptual statement describing the focus and purpose of the proposed technological outcome.
* identification of the target audience:
	+ Who is the user?
	+ What benefit or experience will your product give them?
* a list of the constraints on the project. Think about possible constraints on:
	+ time
	+ resources
	+ people.
* the specifications: list the requirements for the outcome to be “fit for purpose”.
 | **Decide** whether you are going to work on your own or collaborate with a classmate. Develop a pitch to **explain** your ideas to the class. Gather and **respond** to feedback. | **Reflect** on the ethical and legal issues of using open-source characters for animation. |
| **Coding for animation**Using Scratch to animate your character. |
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| Computational concepts**Sequence** – identify a series of steps for a task **Loops** – run the same sequence multiple times **Parallelism** – make things happen at the same time **Events** – one thing causing another thing to happen **Conditionals** –make decisions based on conditions **Operators** – support for mathematical and logical expressions **Data** – store, retrieve, and update values.**View** a basic demo of Scratch, either through a live demo or through the [Scratch overview video](https://www.youtube.com/watch?v=ywG6lv9mFLI).A large range of projects are available online to inspire you. Spend some time viewing sample projects. The [Scratch website](https://scratch.mit.edu/) has many interesting examples. Begin your Scratch experience by working through the following simple steps, making the Scratch animated sprite, a cat, dance:* Start by dragging the “move 10 steps” block from the “Motion” blocks palette to the scripting area. Every time you click on the block the cat moves a distance of 10 steps. You can change the number to make the cat move a greater or shorter distance.
* From the “Sound” palette, drag the “Play drum” block. Click on the block to hear its drum sound. Drag and snap the “play drum” block below the “move“ block. When you click on this stack of two blocks, the cat will move and then play the drum sound.
* Copy this stack of blocks (either using the Duplicate toolbar item or by right clicking the stack and selecting “duplicate”) and snap the copy to the already placed blocks.
* Change the second “move” block to -10 steps, so the cat moves backward. Every time the stack of four blocks is clicked, the cat does a little dance forward and back.
* Go to the “Control” blocks palette and grab the “repeat” block. Wrap the “repeat” block around the other blocks in the scripting area. Now when you click on the stack, the cat dances forward and back 10 times.
* Finally, drag the “when Sprite clicked” block and snap it to the top of the stack. Click on the cat (instead of the blocks stack) to make the cat dance.

Based on: [CREATIVE COMPUTING a design-based introduction to computational thinking](http://scratched.gse.harvard.edu/sites/default/files/curriculumguide-v20110923.pdf) | Something surprising * **Explore** the [Scratch](https://scratch.mit.edu/) interface in an open-ended way. Challenge yourself by taking just 10 minutes to make something surprising happen to a sprite.
* **Explain** to a classmate what you are figuring out during the 10 minutes and ask others for help when you need it.
* **Find out** whether anyone in the class or group has figured out:
	+ how to add sound
	+ how to change the background
	+ how to access the help screens for particular blocks.
* **Explain** your code to others and ask questions about unfamiliar code constructs that other groups have used.

Physical programming through the Scratch interfaceWrite some Scratch code on paper, and get a classmate to physically walk it through to show understanding of a certain part of Scratch.Apply these instructions to highlight *parallelism* (things happening at the same time) and *events* (one thing causing another thing to happen): * Have one person do one thing (like walk across the room).
* Have that person “reset”.
* Have that person do two things simultaneously (like walk across the room and talk).
* Add the second person, by having the second person simultaneously (but independently) do a task, like talking.
* Have the second person do a dependent task, like responding to the first person instead of talking over them.

Apply your Pass-it-on StoryWork in pairsThe pass-it-on story is a Scratch project that is started by a pair of people and then passed on to two other pairs to extend and reimagine it. You can start your story however you want to, focusing on characters, scene, or plot. Each pair has 10 minutes to work on their contribution to the collaborative project before the groups rotate. Based on: [CREATIVE COMPUTING a design-based introduction to computational thinking](http://scratched.gse.harvard.edu/sites/default/files/curriculumguide-v20110923.pdf) | **Share** two strategies that can be used when you get stuck while designing.Reflect and evaluate testing and debugging strategies* What was the problem?
* How did you identify the problem?
* How did you fix the problem?
* Did others have alternative approaches to fixing the problem?
* Set up a class “helpdesk” where you can log problems that others might be able to help you with.
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| **Digital media production**Create your character. |
| **Record keeping**Make sure you keep good records of your technological processes. Record keeping can be oral, graphical, written, and/or electronic, depending on your needs.Records should contain enough detail to:* justify decisions
* suggest new directions if practice runs into a dead end
* satisfy queries from an external evaluator
* confirm that appropriate ethical and/or legal protocols have been followed.

[www.technology.tki.org.nz](http://www.technology.tki.org.nz)Keep asking:* What are the most important aspects of the project?
* What can reasonably be accomplished in the remaining time?
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|  | **Explain:*** What is your character like?
* Whose identity do they reflect?
* How do they move, look, express feelings?
* What sort of colour palette have you chosen? Why?
* What characteristics are going to be transparent and which are more hidden?
* How will the theme of financial identity be shown in your character?
* How could you represent cultural norms and expectations?
* Think about the life cycle of the character – what will some of their future decisions be?
 | **Create** concept designs/ sketches of your character. Use projects on the [Scratch website](http://scratch.mit.edu) as a source of ideas. You can find other examples on [ScratchEd](http://scratched.media.mit.edu/resources). Think about whether there are any issues related to:* cultural or ethnic stereotyping
* intellectual property.

**Create** opportunities to get feedback from a variety of sources, including making time for self-assessment.  |