**Teacher Information**

**It is suggested that before teaching this unit, teachers utilise the following link to familiarise themselves with the SCRATCH program;** [**https://scratch.mit.edu/help/**](https://scratch.mit.edu/help/)

**This resource includes;**

* Page 1 – Teacher information
* Page 2 – Class management
* Page 3 – Resource lists
* Page 4- 8 – Detailed lessons
* Page 9- 12 – Student task sheets

**Objective:**

Students will use their prior knowledge and skills of computer navigation to explore literacy texts using a peripheral device (computer and iPad). Students will be required to search and save images to a file in order to transmit data into a digital program (SCRATCH) where they will recreate their story via the program involving branching and user input.

This resource encompasses the following Australian Curriculum criteria;

**Australian Curriculum (new knowledge)
​Design and Technologies – Years 3-4**

**ACTDIP011:** Implement simple digital solutions as visual programs with algorithms involving branching (decisions) and user input.

**ACTDIK007: Explore and use a range of digital systems with peripheral devices for different purposes and transmit different types of data.**

​**Cross curriculum priorities: NIL**

**General Capabilities: Numeracy, Information and communication technology capability and critical and creative thinking.**

**This resource incorporates the above general capabilities as students are required to use numeracy skills in the data input stages of creating their SCRATCH task. Information and communication technology capability through the use of technology, transmitting data and presenting this verbally to the class and critical and creative thinking in the creation of their dance party.**

**CLASS MANAGEMENT**

**Differentiation:**

* Multimodal resources (drawing, iPads, YouTube clips, smartboard)
* Individual and group work (differentiated cooperative groups)
* Teacher monitoring of groups
* Technology groups with teacher or teacher aide (depending on availability) – further explained in ‘Class Organisation’.
* SCRATCH cards for visual aid

**Assessment:**

The resource includes formative assessment via task sheets that enable students to record the learning process as they progress through each stage. A rubric is included to ensure students understand what criteria they will be assessed upon. The story recreation using the SCRATCH program forms the summative assessment piece and when saved in student’s individual files enables individual marking from the teacher.

**Early finisher activities:**

If students finish early, they are encouraged to edit and double check their task. If the teacher is satisfied they have made a reasonable attempt, students can create another SCRATCH of their choice.

**Time frame:**

The resource intends to cover 4 lessons of 60 minute durations.

**Class organisation:**

The activity is designed to be an individual activity, where students sit in ‘clusters’ (essentially 4 groups) so they can share a set of SCRATCH cards between them. Other than this the work is individual.

**Safety:**

General safety discussion relating to;

* Use of iPads and computers (handling)
* Internet safety
* Working in groups
* Moving about the classroom

**Resources list:**

* iPads (half the class to use iPads)
* Computers (other half to use computers)
* Teacher aide (if available for when technology is being used)
* Student task sheets (provided in resource)
* Pencils and erasers

**Links to online resources:**

* Introduction to SCRATCH (1:37min) – <http://splash.abc.net.au/home#!?media?1214681>
* SCRATCH – <https://scratch.mit.edu/>
* The following link provides access to SCRATCH cards which students can cut out and glue (it is suggested for this resource to have 4 packs printed, cut and laminated so there are 2 packs per technology group. Students can then refer to these for visual aid. <https://cdn.scratch.mit.edu/scratchr2/static/__652e039e84bcf61525e7650f355e532b__/pdfs/help/Scratch2Cards.pdf>

*Note: The required student task sheets are provided further along in this document.*

**Lesson Overviews:**

**Lesson 1:** Introduction to Scratch and the task

**Lesson 2:** Beginning of task

**Lesson 3:** Finishing off tasks and beginning presentations.

**Lesson 4:** Conclusion of task and presentations. Students to complete evaluation.

DETAILED LESSONS

(RUNNING SHEETS FOR TEACHER REFERENCE IN CLASS)

**Lesson 1 – Teacher Information & Resources**

**Introductory lesson and acquisition of prior knowledge.**

**Year level**: 3-4

**Key Learning Areas:** Digital Technologies

**Duration:** 60 minutes

**Related** **Content Descriptions:**

**ACTDIP011:** Implement simple digital solutions as visual programs with algorithms involving branching (decisions) and user input.

**ACTDIK007:** Explore and use a range of digital systems with peripheral devices for different purposes, and transmit different types of data.

|  |  |
| --- | --- |
| **Curriculum Outcomes**  | Students will implement simple algorithms of branching and user input to create a dance party on SCRATCH. They will then transmit the file to the smartboard to present to the class.  |
| **Students need to know** | A basic understanding of algorithms of branching in digital solutions.  |
| **Students need to be able to**  | Navigate a computer reasonably well. |
| **Prior knowledge**  | Have being introduced to the concept of coding in technology. Students will also need to know how to access and use their personal school file.  |
| **Formative assessment**  | Teacher monitoring and student task sheets.  |
| **Summative assessment**  | SCRATCH Dance party task |
| **Resources required** | Computers (one for each student), smartboard, student task sheets, internet access to view related clips, whiteboard and markers, SCRATCH cards.  |
| **Specific language focus** | Computers, technology, save, images, upload, transmit, data, SCRATCH, program, programming, user input, algorithms, device, locate, files, mouse, clicking and dragging.  |

**Lesson 1:**

**Begin by introducing the lesson**

* Explain to students that they will be using SCRATCH to complete their task and once complete they will connect a USB to present it from the smartboard.
* Have an explicit demonstration of connecting the computer to the smartboard using an USB and how to locate the file.
* Students are to write the steps down in their corresponding task sheet ‘USB GUIDE’

Explain what SCRATCH is;

*With Scratch you can program stories, games and animations, you can then share these with your friends. You pick a ‘sprite’ which is a fancy name for your character. You can then make your character do what you want. You could make it move, dance and so on. We will watch a quick introduction to Scratch and have a look at some of its features.*

* Watch the link an introduction to Scratch – Introduction to SCRATCH (1:37min) – <http://splash.abc.net.au/home#!?media?1214681>
* Follow with a class discussion about the features and uses of SCRATCH. Have the program open on the smartboard via the following link;

SCRATCH – <https://scratch.mit.edu/>

While program is open on the smartboard pick students one at a time to demonstrate some uses with the whole class. Essentially creating your own Scratch with the class.

**NEXT**

* Tell students they will be creating a ‘Dance Party’ on Scratch and via the smartboard watch the following link;

<https://www.youtube.com/watch?v=J9Ov3Nzy8U0>

Provide students with a computer/laptop each (depending on school’s resources) and have students sit in 4 clusters (this is not a group activity) the cluster is so the SCRATCH cards available as visual aids for students can be allocated one set per cluster.

* Have students open the SCRATCH program and click ‘create’. Students will then be required to look through the tutorial ‘how to’ videos and have a play around with the program and practice how to save their file for the remainder of the lesson.

*Teacher to assist with this as required and show examples via the smartboard.*

**Examples to show students;**

<https://scratch.mit.edu/projects/2041671/#editor>

* <https://scratch.mit.edu/studios/138382/>

**Lesson 2 – Teacher Information & Resources**

**Year level**: 3-4

**Key Learning Areas:** Digital Technologies

**Duration:** 60 minutes

**Resources required:** Computers, student task sheets, teacher aide (if available)

**Specific language focus:** Computers, technology, save, images, upload, transmit, data, SCRATCH, program, programming, user input, algorithms, device, locate, files, mouse, clicking and dragging.

**Lesson 2:**

* Begin lesson by reviewing what was covered in the previous lesson. Hand out student task sheets and have students collect their computer/laptop. Once students are seated again and have their tasks sheets go over the task description (using student task sheet provided) and ask individual students questions and also provide time for students to ask questions relating to the task. Remind students of safety requirements and rules when working. *(inside voices, asking a friend for technical support before a teacher, where you are saving your image to, handling of devices).*

Have students open up SCRATCH on their computers again using the following link and go through the first 2 steps together as a whole class;

1. <https://scratch.mit.edu/>
2. then press ‘create’
* Remind students of the tutorial ‘how to’ videos they can refer to at any time and also the SCRATCH cards provided.

Teacher to monitor students and encourage students to stay on task. Teacher to monitor student understanding by asking investigative questions. Teacher and teacher aide (if available) to provide assistance where required but students are encouraged to problem solve by using the SCRATCH cards and the tutorial ‘how to’ videos first.

* Provide the remainder of the lesson for students to work on their task.

**NOTE: Remind all students to SAVE their work to their PERSONAL SCHOOL FILE. The student’s names need to be used when saving. E.g JaneSmithScratch.**

**Lesson 3 – Teacher Information & Resources**

**Year level**: 3-4

**Key Learning Areas:** Digital Technologies

**Duration:** 60 minutes

**Resources required:** Computers, student task sheets, teacher aide (if available)

**Specific language focus:** Computers, technology, save, images, upload, transmit, data, SCRATCH, program, programming, user input, algorithms, device, locate, files, mouse, clicking and dragging.

**Lesson 3:**

**Explain to students they have the first 25minutes of the lesson to complete their SCRATCH Dance Party task and that the remaining 35 minutes is for presentation.**

* Remind students throughout lesson of the following;
* Staying on task
* Inside voices
* Using their SCRATCH cards or ‘how to’ videos for help before asking a teacher
* Following the task sheet and checking against the rubric
* Give time warnings “You have 20 minutes to complete your task, 10 minutes remaining, 5 minutes remaining”

**NOTE: Remind all students to SAVE any work to their PERSONAL SCHOOL FILE. This is for marking purposes. The student’s names need to be used when saving. E.g JaneSmithScratch**

* Have students sit back at their own desks and have a quick (2min) class discussion about the task and program. Then ask one student at a time to present their SCRATCH.

In final 5 minutes off lesson have students evaluate their SCRATCH using the task sheet provided and then hand all sheets in to the teacher for marking.

**Lesson 4 – Teacher Information & Resources**

**Year level**: 3-4

**Key Learning Areas:** Digital Technologies

**Duration:** 60 minutes

**Resources required:** Computers, student task sheets, teacher aide (if available)

**Specific language focus:** Computers, technology, save, images, upload, transmit, data, SCRATCH, program, programming, user input, algorithms, device, locate, files, mouse, clicking and dragging.

**Lesson 4:**

This lesson is for the remainder of presentations to take place. Allow 15minutes at the end of the lesson for students to fill out the ‘Evaluation task sheet’ and to hand in task sheets for marking.

**NOTE: Remind all students to SAVE any work to their PERSONAL SCHOOL FILE. This is for marking purposes. The student’s names need to be used when saving. E.g JaneSmithScratch**

SCRATCH

DANCE PARTY



In class you have looked at the computer program SCRATCH and it’s features. We know that we need to input data to make the character or ‘sprite’ move…

Your challenge now is to

Use SCRATCH to create a DANCE PARTY!! Once you have completed the challenge you will be required to use a USB cord to connect your computer to the smartboard to show the rest of the class your awesome DANCE PARTY!!

Criteria

* Your SCRATCH must be a dance party
* You must save your dance party to YOUR personal school file
* You will use an USB cord to connect to the smartboard for presentation

What you will need

* A computer
* The SCRATCH program <https://scratch.mit.edu/>
* Your imagination!

*Make sure you keep checking your rubric to ensure you are on task and remember you have been provided help cards and ‘how to’ videos that you can refer to at any time for help.*

RUBRIC

Unit: Re-creating a digital story using SCRATCH

Year 4: Digital Technologies

Date: Student name: Markers name:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CRITERIA** | **A** | **B** | **C** | **D** |
|  | **Above expected level**  | **At expected level** | **Developing towards expected level**  | **Below expected level** |
| Planning and instructional stage | All task sheets are accurately filled in detail. Answers reflect use of ‘specific language’ |  All task sheets are filled in detail. Answers show some use of ‘specific language’ | All task sheets are filled in detail.  | Sections of or entire task sheet detail missing.  |
| Dance party  | Dance party is complete and moves in a logical manner. Music and images used are highly appropriate and engaging.  | Dance party is complete and moves in a logical manner. Music and images used are appropriate. Dance party is mostly engaging.  | Dance party is complete and mostly in a logical manner. Some lapses in order or movements. Music and images are appropriate.  | Dance party lacks order. Music and images lapse and is incomplete.  |
| Use of USB to transmit data to smartboard  | Student is able to connect USB, find file and begin presentation in a timely manner without disruption. | Student is able to connect USB, find file and begin presentation in mostly reasonable time.  | Student connects USB, lapse in finding file and beginning presentation. Requires little assistance. | Assistance required to connect USB and find file.  |
| Presentation of Dance Party  | Dance Party is presented promptly and well-paced. Students uses specific language and shows maturity in presentation.  | Dance Party is presented promptly and well-paced. Mostly specific language used. Mostly presented in a mature manner.  | Dance Party is presented in an untimely and slightly disrupting manner. Content is mostly on task.  | Student is off task when presenting and lacks a coherent and mature attempt.  |
| Individual evaluation | Evaluation is completed in detail with justification and offers detailed suggestion of improvement.  | Evaluation completed in detail with justification. Offers some suggestion of improvement. | Evaluation is completed. Lacks detail but is on task. Attempt at justification.  | Evaluation is not completed entirely and lacks detail. No justification attempted.  |

Teacher comment Overall Grade

STEPS TO FOLLOW

These steps will help you stay on task

Remember you can also use the SCRATCH cards and the ‘how to’ videos



1. Choose a backdrop
2. Add a dancer
3. Add music
4. Play the music
5. Code the dance
6. Dance to the music
7. Enhance your dance
8. Add your own moves
9. Share and save your dance

EVALUATION OF MY SCRATCH



What did you like about the task?

What didn’t you like?

 What did you like about SCRATCH?

What didn’t you like about SCRATCH?

Did you find SCRATCH easy or hard to use? Explain your reason

If you did this task again what would you do differently?