CLASSROOM ACTIVITIES

STAGE 3 LESSON ONE

GROWING FRUIT & VEG

In pairs, students identify features of different fruit and vegetables and record findings as a class. Students design their own experiment with growing fruit/vegetables.

Learning Outcomes

- **PD3-6** Distinguishes contextual factors that influence health, safety, wellbeing and participation in physical activity which are controllable and uncontrollable
- **PD3-7** Proposes and implements actions and protective strategies that promote health, safety, wellbeing and physically active spaces
- **MA3-18S** Uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables
- **ST3-10LW** Describes how structural features and other adaptations of living things help them to survive in their environment
- **ST3-11LW** Describes some physical conditions of the environment and how these affect the growth and survival of living things

Resources and Preparation

Resources

Worksheets (WS) and Information sheets (IS)

- Worksheet 9 – The Fabulous Fruit & Veg Quiz
- Worksheet 14 – Table this!
- Worksheet 15 – Experimenting with seeds
- Information sheet 1 – Fruit & Vegetable Information

Materials

- Computers for research
- Pencils
- Fruit and/or vegetable seeds
- Cups to plant seeds
- Tray to put cups on
- Soil (and possibly sand for the final experiment)
- Space in a sunny area for growing seeds

Preparation

Prior to lesson

- Open WS9 on the classroom screen as a PowerPoint Presentation
- Print out WS 14 – 1 per group (or online worksheet)
- Print out WS 15 – 1 per group

Introduction (15 mins)

Introduce students to Fruit & Veg Month using the Fabulous Fruit & Veg Quiz (WS 9). This could be run as a group/team trivia (optional: prize(s)).

Activity (45 mins)

1. Advise students that there are different health benefits to each colour, and it's important that a wide range of colours are eaten every day (use IS 1). As an activity, all students can write as many fruit/vegetables of a certain colour as they can think of in 1 minute. Repeat for each of the colours. A reward can be given for the most unique answer.
2. In small groups, students look up attributes of a fruit or vegetable, which can go into a collective table (e.g. on the board or shared Google Sheet). See WS 14 for an example table. You may include some of the foods the students will be growing in the next step.
3. In the same groups, students are given seeds to plant a fruit or vegetable. Using WS 15, students create a plan to complete an experiment with the seeds.

Conclusion (5 mins)

Students run their experiment over the following weeks and use WS 15 to record their findings (starting today as Day 0).

Assessment

For: Student identifies colours of fruit and vegetables and where/how they grow. Student researches the characteristics and attributes of certain fruit and vegetables. Students learn to design an experiment.

As: Student identifies the attributes of a variety of fruit and vegetables. Student identifies different colours and locations of fruit and vegetables. Student investigates how some fruit and vegetables grow.

Of: Were students able to set up an experiment for their seeds?

Differentiation

Extend: Students write a detailed information report on their favourite fruit or vegetable.

Simplify: Students work in pairs or small groups. Alternatively, students could complete Stage 2 Lesson 1.

School/Home Link

Share in the school newsletter, students could grow plants at home.

Duration | 65 minutes

	Colour family	Grows on?	Type of fruit/ vegetable	Likes temperatures of...	Sun exposure?	Water?	How long to grow?
Tomatoes	Red	Bush/vines	Fruit-type vegetable	12C - 30C	Full sun	2.5-5cm per week. Tomatoes grown in containers need more frequent watering.	10-12 weeks
Bananas							
Spinach							
Strawberries							
Mangoes							

Experimenting with Seeds

In a science experiment, there are things that we can change which may make the results of the experiment different. These are called independent variables. Things that stay the same are called dependent variables.

This is an example of an experiment:

Zoe would like to find out if a toy car goes faster on a different surface. The test this, Zoe builds a ramp for the toy car and sets a Start and Finish line. She will test 3 different surfaces: sandpaper, paper and wood. The different surfaces are the independent variables, because that is the only part in the experiment that will change. She will use the same ramp, same toy car and same distance between start and finish every time: those are the dependent variables. To see which surface is faster, she will simply let the car go down the ramp on each surface and measure the time. To get valid results, she will have to do the experiment multiple times.

In your experiment, you will be using and changing some variables about growing plants in your experiment. Follow the steps below to design and execute your experiment:

1) First, think about a name for your experiment:

Name of the Experiment

2) Second, think about what you are going to test in your experiment? Write what you would like to find out (the aim of your study):

Example: Zoe's study aim is: To test on what surface a toy car is fastest

Study Aim

3) What things will you change and what will stay the same? Write down your variables

Dependent variables	Independent variables

4) Write down how you are going to execute this experiment: 'the study design'.

This needs to be detailed and include information like: what seeds are you using, how long will the experiment take, what materials will you need, what data will you collect, when will you collect it, how many tests are you going to include in the experiment?

Example: Zoe did her test 3 times for each surface.

Study Design

5) An experiment will also have a hypothesis. A hypothesis is a prediction that the researcher makes about what they think the results will be.

Write your hypothesis below.

Example: Zoe's hypothesis was: The toy car will go slowest on sandpaper and fastest on the wood

Hypothesis

6) Execute your experiment. It is important to keep a good record of what you do.

For example, you need to be able to know in 6 weeks what plants were assigned to which variable. Write down any important information here or label your plants.

Important Information

7) Record your data. What measurements are you taking? And when?

Make sure you record detailed and precise information

Measurement day/time	**Type of measurement** (for example: height)	**Measurement** (don't forget to include units)

8) Write down your conclusion. What did your data show? What does that mean? Based on your results, are any further experiments necessary?

Conclusion