

A stylized landscape illustration featuring rolling green hills in the foreground and background. On the left, there is a green tree, a purple flower, and an orange flower. A small red bird is flying in the sky. The sky is composed of horizontal bands of blue and white. The text 'CHANGE Adventure Camp' is written in a brown, cursive font, and 'Fueling Your Adventure' is written in a similar font below it. The names of the speakers are listed in a smaller, brown, cursive font on the right side.

# CHANGE Adventure Camp

## Fueling Your Adventure

Doug Klein, MD, CCFP, FCFP, M.Sc.  
Clark Svrcek, MD, CCFP, M.Eng., P.Eng.

# Disclosures

- *Presenter: Doug Klein*
- *Relationships with commercial interests:*
  - *Grants/Research Support – CIHR, Alberta Innovates Health Solutions, Alberta Health Services (Diet and Exercise projects)*
  - *Consulting/speakers bureaus – None*
  - *Other: Member of Metabolic Syndrome Canada Board*
- *Funded by: University of Alberta*

# Disclosures

- *Presenter: Clark Svrcek*
- *Relationships with commercial interests:*
  - *Grants/Research Support: nil*
  - *Speakers Bureau/Honoraria: nil*
  - *Consulting Fees: nil*
  - *Other: nil*
- *Related Volunteer Board Work: Director, Bateman Foundation*
- *Funded by: Alberta Health*

## Key Messages

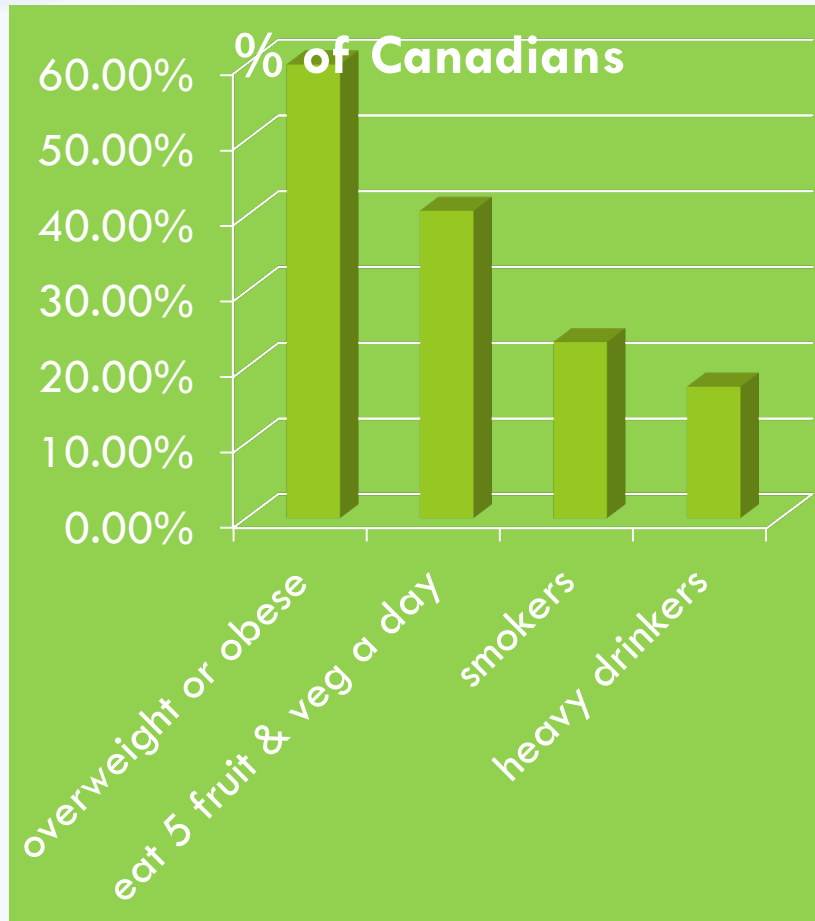
- We need to ensure our children grow up with Important Life Skills
- Adventure can be in the kitchen, in the classroom or just outside
- Never Stop Creating Adventure

# Statistics

- 33% of children eat 5 servings of fruit and vegetables daily
- Sugar sweetened beverages are common
- Children are not getting the recommended 60 min of exercise daily
- 10-20% of children experience mental illness
- 1/3 students do not get enough sleep



# How Healthy Are We?



- *2/3 of Canadians are overweight or obese*
- *85% of Canadians fall short of the current physical activity recommendations.<sup>2</sup>*
- *60% of Canadians report eating less than 5 daily servings of fruits and vegetables.<sup>3</sup>*
- *On any given day, 25% of Canadians will eat from a fast food outlet.<sup>4</sup>*

# Health Care Climate













A stylized landscape illustration featuring rolling green hills in the foreground, a small tree with purple and pink foliage on the left, and blue and white wavy hills in the background.

*Time for CHANGE*

*Canadian Health  
Advanced by Nutrition  
and Graded Exercise*

# CHANGE Adventure Camp

- Building Life Skills among children and families.
  - Meal preparation
  - Nutrition
  - Physical Literacy
  - Connecting with nature
- Plus
  - Mental health
  - Social Connection

[www.campchange.ca](http://www.campchange.ca)



# ADVENTURE TIME





# Biophilia Hypothesis

- *Biophilia* (Edward O. Wilson 1984)
  - Biophilia = “love of life or living systems”
  - Nature as an evolutionary need
  - Innate need to connect with nature
- 
- Describes “connections that human beings subconsciously seek with the rest of life”
  - Exposure to life and lifelike features has a positive effect on wellbeing



creativespotting.com-when-street-art-meets-urban-nature-20

# Quiz Actions



Squat



Jumping Jill



Push Up



Tree Pose

Question 1:  
For kids with ADHD, a nature walk (instead of a city walk) has similar short term attention benefits to that of a medically prescribed stimulant.



TRUE



FALSE

Question 1:  
For kids with ADHD, a nature walk (instead of a city walk) has similar short term attention benefits to that of a medically prescribed stimulant.



TRUE



# Attention and Stress

- *RCT* (Faber Taylor & Kuo, 2009):
  - Children aged 7 to 12 years did better on a cognitive test after a nature walk
  - Effect size comparable to medical stimulant treatment
- Parents of children with ADHD were surveyed and reported that outdoor activities in green settings reduced symptoms more than activities in other settings (Faber Taylor, Kuo, & Sullivan, 2001; Kuo & Faber Taylor, 2004).
- Access to gardens and use of parks and playgrounds have been found to reduce conduct and hyperactivity problems (Flouri, Midouhas, & Joshi, 2014).

# Mechanism: Stress Reduction Theory (Ulrich 1981, 1991)

- Natural environments have a restorative advantage over artificial environments (evolutionary advantage)
- Nature scenes activate parasympathetic nervous system in ways that reduce stress and autonomic arousal





Question 2:  
Merely looking out a window at a  
greenspace, instead of a brick wall, can  
reduce stress levels and enhance academic  
performance.



TRUE



FALSE

Question 2:  
Merely looking out a window at a  
greenspace, instead of a brick wall, can  
reduce stress levels and enhance academic  
performance.



TRUE

Attention and Cognition:

- Improved test scores, higher graduation rates, more students planning advanced education, lower incidence of criminal behavior

(Lee, Williams, Sargent, Williams, & Johnson, 2015; Li & Sullivan, 2016; Matsuoka, 2010)



# Mechanism: Attention Restoration Theory

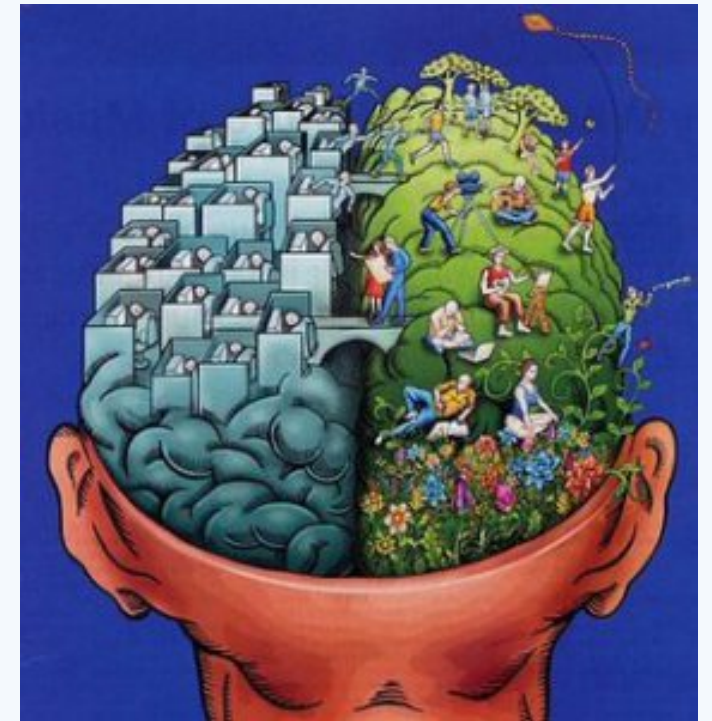
- Stephen Kaplan & Rachel Kaplan (1989, 1995)

- Directed Attention (Voluntary Attention)

- Requires mental effort
  - Accomplish a Task
  - Ward off Competing Stimuli

- Effortless Attention (Involuntary Attention)

- Captured effortlessly
  - Clouds in sky, leaves rustling in breeze



# Attention Restoration Theory

- Directed Attention Fatigue
  - Occurs after prolonged use of Directed/Voluntary Attention
  - Symptoms: distracted, irritable, impatient, problems concentrating
- Attention "Restored" by changing tasks...or changing to Effortless Attention

Question 3:  
People with a Major Depressive Disorder  
showed increases in mood and memory  
after a nature walk when compared to an  
urban walk.



TRUE



FALSE

Question 3:  
People with a Major Depressive Disorder  
showed increases in mood and memory  
after a nature walk when compared to an  
urban walk.



TRUE

Summary:

Nature walk showed greater decrease in  
anxiety, rumination, and negative affect;  
Urban walk decreased positive affect

(Berman et al., 2012; Bratman, Daily, Levy, & Gross, 2015)



Question 4:

Play in the natural environment has been linked to improved communication skills and relationship-building among children, and fosters more creative play.



TRUE



FALSE

## Question 4:

Play in the natural environment has been linked to improved communication skills and relationship-building among children, and fosters more creative play.



Nature fosters social cohesion → Positive relationships in a neighbourhood.

(Bixler, Floyd, & Hammitt, 2002; Coley, Kuo, and Sullivan 1997; Faber Taylor et al. 1998; Moore, 1986)

TRUE

# Question 5:

## How much of a green exercise “dose” is required to improve self-esteem and mood?

(Barton & Pretty, 2010)



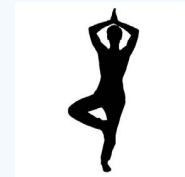
5 min



10 min



20 min



30 min



Question 5:  
How much of a green exercise “dose” is  
required to improve self-esteem and mood?

(Barton & Pretty, 2010)



5 min

# One Community: Central McDougall

- Inner City Edmonton region with large immigrant population: ~40% non-Caucasian, non-Aboriginal background (compared to 27% city-wide)
- Proportion of residents who moved from outside Canada in the last 5 years (15%) is double the city average (7%).
- Average household income of \$44 000 and 92% of properties consisting of rentals.
- Nearly half of the workforce does not commute via car transport, with an above-average use of public transit and walking



# Project Partners

- *CHANGE Adventure Camp (campchange.ca): builds life skills in families through meal preparation, physical activity, and connecting with nature. Provides summer camps for low-income children and families in the summer.*
- *Multicultural Family Resource Society: identifies and recruits families to the program*
- *John A. McDougall School: provides venue every Thursday evening free of rent, also helps to recruit families of children attending the school*
- *Central McDougall Community: ongoing feedback as to the community's needs, and promotion of the program.*



# Family Program

- Average attendance: 13 (adults + children)
- Total number of families: ~10
- Children's feedback: end-of-session surveys
  - 40% of the time had not eaten the food before
  - Of those, 64% said they would make it again at home
- Mothers' feedback: end-of-term survey



Date: / / 2018

## My Adventure Today:

What I ate (food): _____	Have you ever eaten this food before?	Would you make this food again at home? 
Did you like what you ate?  Not at all   Not really   A bit   I liked it   I loved it!!	Yes / No (Circle one)	Yes / No (Circle one)
What I did (activity/game): _____	Have you done this activity before?	Would you do it again? 
Did you like what you did?  Not at all   Not really   A bit   I liked it   I loved it!!	Yes / No (Circle one)	Yes / No (Circle one)
The best part of today's event was: _____	One new thing I learned here today: _____	
In future events I hope that we can... (your ideas or suggestions go here!) _____		



# *CHANGE Adventure Camp*

# CHANGE Adventure Camp





# CHANGE Adventure Camp



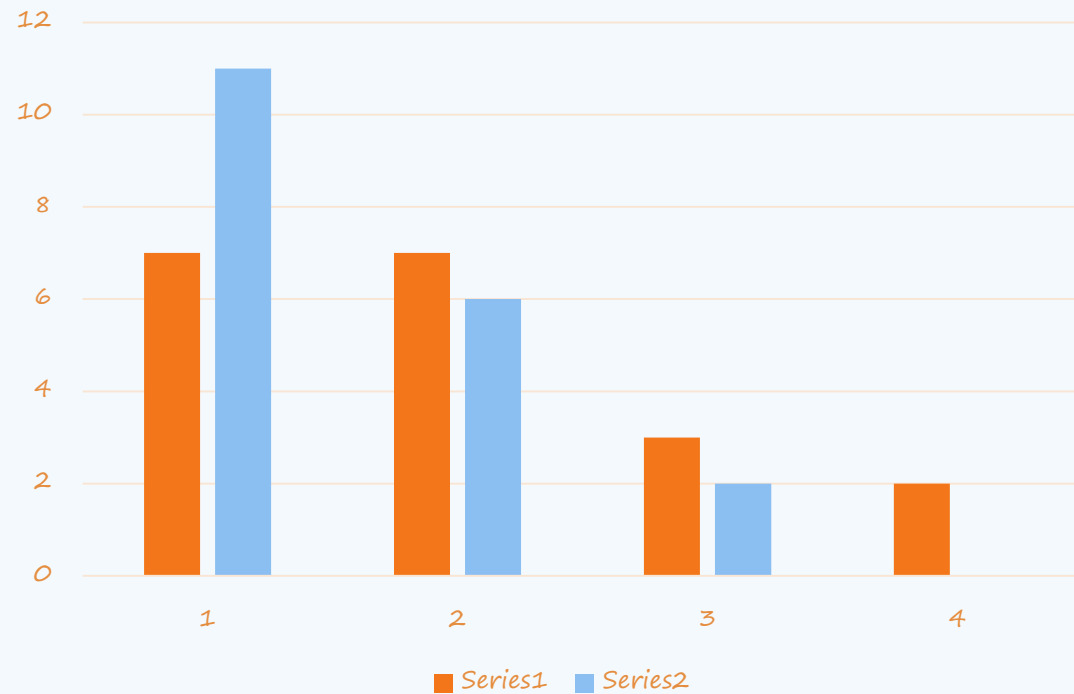


# Results

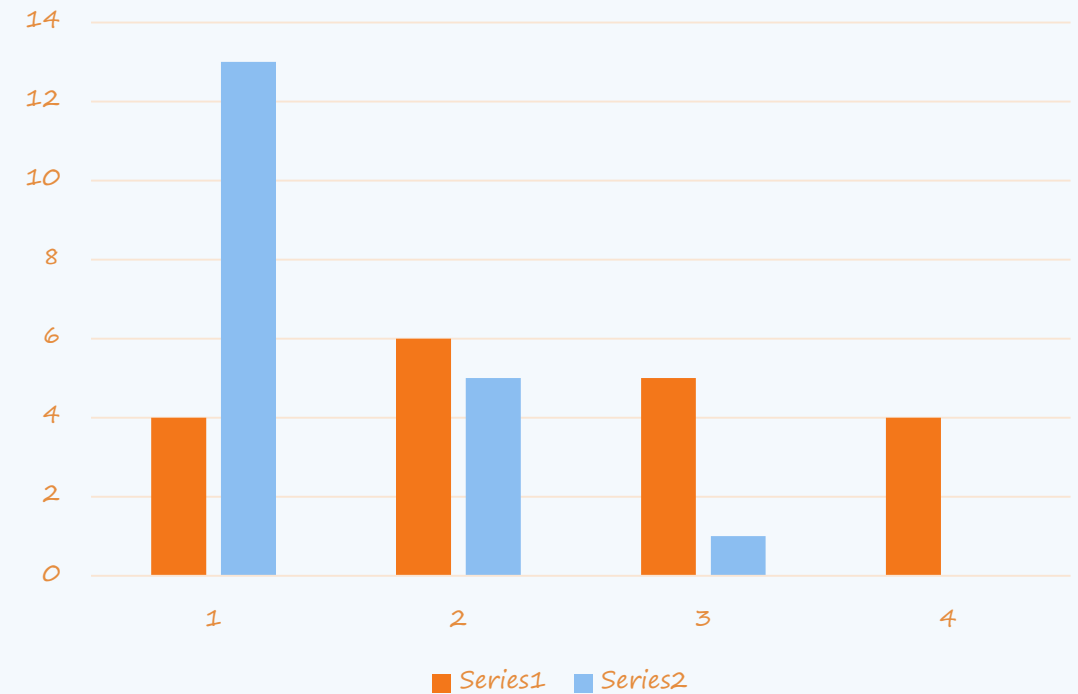
- Over 90% indicating that they would recommend the camp to friends.
- 41% of children's responses favoured the acquisition of nutrition and food preparation-related skills.
- 100% of parents indicated their children were excited about the camp after attending, and all parents responded that they were generally satisfied with the camp.
- nearly 100% indicated that they would recommend the camp to others and consider having their child attend next year
- 60% of respondents now indicated that their family prepared school lunches together at home at least sometimes, compared to the majority of respondents who stated this was never the case prior to camp.

# Nutrition Knowledge

*I understand Food Labels*

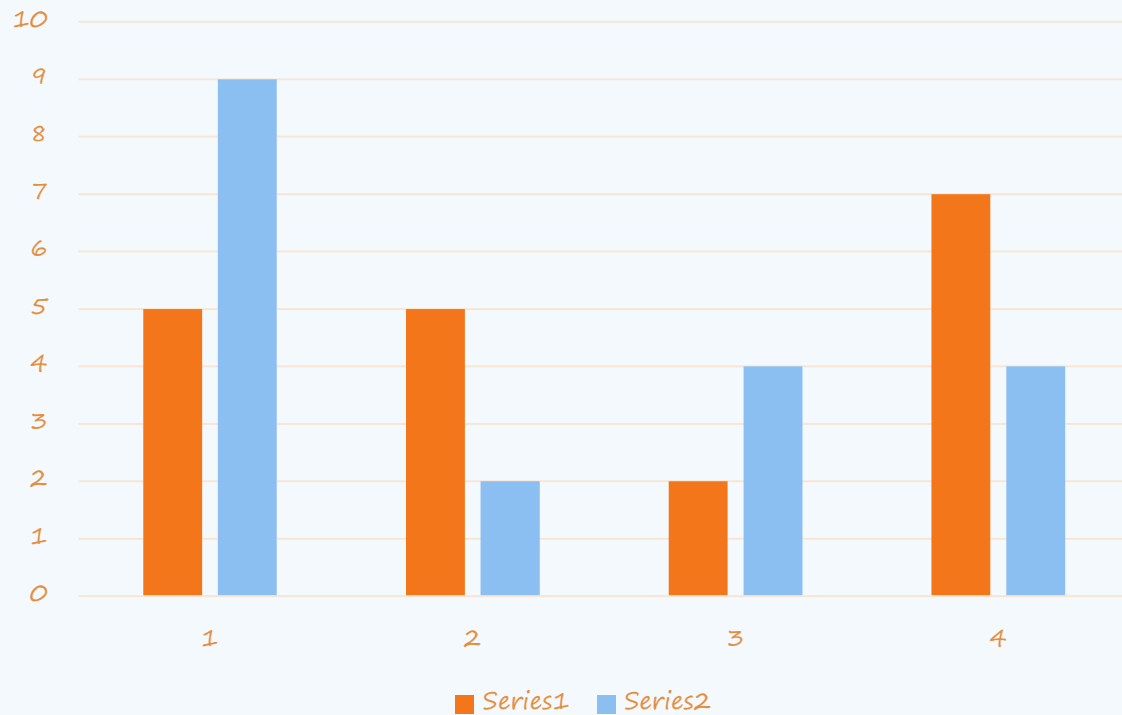


*I know the Sugar content of Foods*

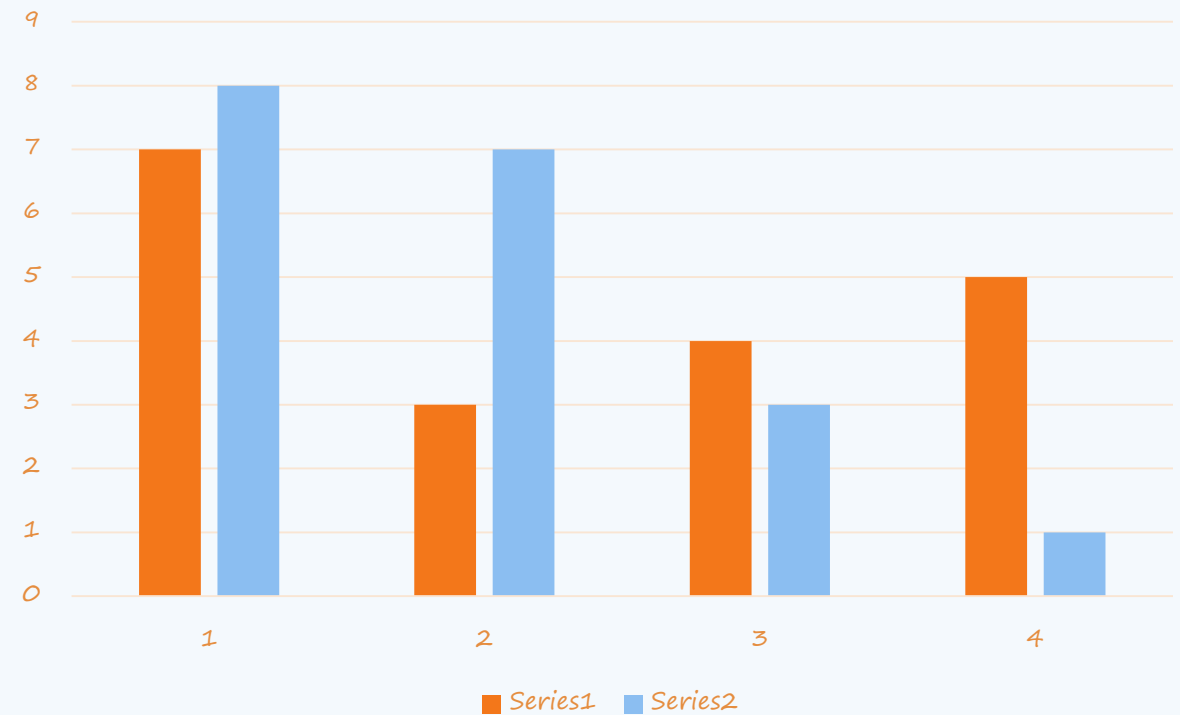


# Meal Prep - Skills

*I can make my own Lunch*



*I can make a meal for my Family*





# Children's comments

- The best part of today's event was...

“seeing my friends”

“playing with my friends”

“cutting and preparing the food”

“when we were cooking”

“running”

“gym games”

“playing outside”

“learning about water”

“we can make our own yogurt”

“jumping up and down”

# Children's comments

- One new thing I learned here today...

“that you're supposed to eat breakfast every morning”

“that water is good”

“somehow you could add spinach with eggs”

“eating fruit”

“playing basketball”

“eat healthy”

“portions”

# Mothers' comments

- What is your favourite thing / one important thing you have learned from the program?

“recipes, English”

“English”

“sports/exercise”

“new Canadian foods”

“teaching my children cooking and food preparation”

“different foods (new to us), nutrition and label reading”

“English names about Canadian foods”

“tasting and eating ‘raw’ foods –  
veggies with dips. Very new taste!”

“we as a family learned to eat, prepare vegetables  
and eat them in different and new ways!”



# Memorial Composite High School

- Nutrition
  - Cooking Classes
  - Grocery Store Tours
  - Dietitian Support
- Physical Activity
  - MOVE Memorial
  - Use the School gym facilities
  - Drop in programs
  - Evening Classes
- *CHANGE* Health Clinic in the school
  - Grants
  - In-kind Support
- Mental health
  - Information sessions
  - Community Partners
  - Access to therapy when appropriate
- Social Connections

# BEFORE





NOW





A stylized, minimalist landscape illustration. The foreground features rolling green hills in various shades of green. On the left, a small tree with a dark brown trunk and a cluster of pink and purple rounded foliage stands on a hill. At its base are several orange and brown rounded shapes. The background consists of layered, wavy bands of light blue and white, suggesting a sky or distant hills. The overall style is flat and graphic.

*Questions?*

## Key Messages

- We need to ensure our children grow up with important Life Skills
- Adventure can be in the kitchen, in the classroom or just outside
- Never Stop Creating Adventure