

**SISFFIT013 Instruct exercise
to young people aged 13 to
17 years**



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ASSESSMENT FOR SISFFIT003

Student name	Sofia Nolan
Date of assessment submission	Click here to enter a date. 31/10/2018
Trainer/Assessor's name	Owen Flynn
Date of assessment marking	Click here to enter a date. 1/11/2018
Outcome for units	☒ Competent ☐ Not Yet Competent

TASK INSTRUCTIONS

- The assessment for these units of competency consists of the following:
 - Quiz:** You are required to complete a series of multiple choice questions to demonstrate your knowledge and skills.
 - Short answer activities:** You are required to provide short written responses to a series of activities to demonstrate your knowledge and skills.
 - Practical task:** You will be required to put your knowledge and skills into practice, through observed tasks and work experience.
- At times, you will be provided with a specific context to which you must respond, otherwise it is anticipated that you will use a scenario of your choosing to provide context to the task.

QUIZ

QUESTIONS	CORRECT
1. In young adults, how much of the skeleton is actual bone (versus cartilage)? ☒ Nine-tenths ☐ One half ☐ Two-thirds ☐ One-tenths	☐
2. Currently, what is the #1 health concern regarding teens? ☐ Bullying ☒ Weight management, obesity ☐ Concussions ☐ Injury	☐
3. This 'osteochondroses' is an overuse injury which creates an inflammation of the bone at the bottom of the patella, where the tendon from the tibia attaches. ☒ Larsen-Johansson disease ☐ Frielberg's disease ☐ Sever's disease ☐ Panner's disease	☐
4. This 'osteochondroses' is a painful condition mostly affecting the 2nd metatarsal head. ☐ Larsen-Johansson disease ☒ Frielberg's disease ☐ Sever's disease ☐ Panner's disease	☐
5. Which activity does not provide a significant increase in bone density at the spine and hip in prepubescent children? ☒ Swimming ☐ Running ☐ Jogging ☐ Jumping	☐

6. When designing resistance training programs for teens, which of the following is not true? ☐ Focus on correct technique ☒ Use higher volume, lower intensity ☐ Make sure the child has proper posture when performing the exercise ☒ Use lower volume, higher intensity	☐
7. This type of 'osteochondroses' is a painful knee condition that tends to affect adolescents. ☐ Sever's disease ☐ Frielberg's disease ☒ Osgood-Schlatter disease ☐ Panner's disease	☐
8. This type of 'osteochondroses' is a common heel injury in kids, due to inflammation of the growth plate in the heel. ☒ Sever's disease ☐ Frielberg's disease ☐ Osgood-Schlatter disease ☐ Panner's disease	☐
9. By what age is the child's brain nearly 100% of its adult weight? ☒ 6 years ☐ 8 years ☐ 10 years ☐ 12 years	☐
10. Which of the following activities would an 'introverted' teen most likely least enjoy? ☐ Skateboarding ☒ Being on a footy team ☐ Personal training ☐ Running	☐
11. This 'osteochondroses' is a rare but painful bone condition linked to overuse of the elbow. ☐ Larsen-Johansson disease ☐ Frielberg's disease ☐ Sever's disease ☒ Panner's disease	☐

12. This injury is a compression injury in the shaft of the bone.

☐

Sprain

☐

Strain

☒

Growth plate injury

☐

Tendonitis



13. What are the signs and symptoms of exercise intolerance?
Select all that apply.

- ☒ Subtle breathing problems
☒ Shortness of breath out of proportion to what is expected for a given task
☒ Muscle weakness and tingling
☒ Look like they are uncomfortable doing the exercise

14. Compared to adults, choose the correct answer with regards to the physiological differences / changes in adolescents/teens.

Children and adolescents **Higher** **Lower**

- | | | |
|--|-------------------------------------|-------------------------------------|
| Exercise tolerance time | ☒ | ☒ |
| Blood flow to working muscles | ☐ | ☒ |
| Lactic acid production | ☐ | ☐ |
| Maximal heart rates | ☐ | ☐ |
| LDH Activity | ☐ | ☐ |
| Sweating rate | ☐ | ☐ |
| Sweating threshold | ☐ | ☐ |
| Aerobic capacity | ☐ | ☐ |
| Skin temperature | ☐ | ☐ |
| Cardiac output / stroke volume | ☐ | ☐ |
| Peak power | ☐ | ☐ |
| Metabolic heat of locomotion | ☐ | ☐ |
| Anaerobic capacity | ☐ | ☐ |
| Oxygen carrying protein in their blood | ☐ | ☐ |

Children and adolescents **Faster** **Slower**

- | | | |
|--------------------------|--------------------------|--------------------------|
| Acclimatisation to heat | ☐ | ☐ |
| Metabolism | ☐ | ☐ |
| Recovery rate | ☐ | ☐ |
| Respiration rate | ☐ | ☐ |
| Rise in core temperature | ☐ | ☐ |

Children and adolescents **More efficient** **Less efficient**

- | | | |
|--------------------|--------------------------|--------------------------|
| Respiratory system | ☐ | ☐ |
|--------------------|--------------------------|--------------------------|

Outcome for Quiz

- ☒ Satisfactory
☐ Not satisfactory

Trainer/Assessor comments	
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SHORT ANSWER ACTIVITIES

Safety is of utmost importance when working with clients. Respond to the following:

- a) List three (3) safety factors to be considered when delivery exercise programs to adolescents/teens.
- b) Identify three (3) reasons that can contribute to injury when working with adolescents/teens.
- c) Identify at least one (1) safety consideration/risk associated with each piece of equipment listed when working with adolescents/teens.

Safety factors

Make sure to test them on their fitness level
 Avoid lifting heavy weights as they are still growing
 Have a safe and controlled environment

Injury factors

Inadequate skills and physical preparation
 fatigue and recovery
 Overtraining

Equipment	Safety considerations / Risks
Cycle ergometers	Poor maintenance, incorrect seat height
Outdoors	Be aware of the elements Access to first aid
Rowing machine	Incorrect technique
Strength training / resistance equipment	Weight being too heavy
Treadmill	Incomplete maintenance

Outcome for Activity 1

- ☒ Satisfactory
☐ Not satisfactory

Trainer/Assessor comments	
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It is important to abide by legal requirements when working with clients. There are additional considerations that also apply for clients under the age of 18 years.

- a) Identify the 11 principles of the *Privacy Act 1988*. Discuss how this Act impacts on your ability to work with those under 18 years of age.
- b) Identify the relevant child protection legislation for your State or Territory. Summarise the requirements of the law and describe how this will affect you working with those under the age of 18 years.
- c) Identify at least one (1) way that you could gain parental or carer consent for participation in an exercise program.

Principle 1	Manner and purpose of collection of personal information
Principle 2	Solicitation of personal information from individual concerned
Principle 3	Solicitation of personal information generally
Principle 4	Storage and security of personal information
Principle 5	Information relating to records kept by record keeper
Principle 6	Access to records containing personal information
Principle 7	Alteration of records containing personal information
Principle 8	Record keeper to check accuracy etc of personal information before use
Principle 9	Personal information to be used only for relevant purposes
Principle 10	Limits on use of personal information
Principle 11	Limits on disclosure of personal information
Impacts	
Being more careful with personal or any information that you receive from your client, also not trying to get any extra information other than what is necessary and what is already known to the public. Personal information shall not be collected by a collector by unlawful or unfair means.	

Child protection legislation

QLD: Child Protection Act 1999

I will have to make sure to get the permission of the guardian to make sure the child is always safe and always have the Child's best interests.

Consent

Let them know how important exercise is for children that are developing, or anyone for that matter. Inform them all the benefits.

Outcome for Activity 2	☒ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

Planning is essential when developing exercise programs. Consider the following:

- List three (3) possible needs or goals that a 13-17 year old client may want to achieve.
- Given an example of one (1) open-ended question and one (1) closed question you would ask a 13-17 year old when conducting a pre-exercise health screening.
- Identify at least six (6) exercise implications of age and stages of growth and developments that a personal trainer must be mindful of when developing and instructing exercise to young people.
- What are the common baseline functional capacity or fitness assessments that should be used on clients who are 13-17 years of age? Give an example of each one.
- You have conducted a pre-exercise health screening on a 15 year old and discovered a few issues (including high blood pressure, some postural deviations, gait issues, and unhealthy eating habits). Identify the medical or allied health professional/s you would consider referring your client to.

Needs or goals

Getting their 'perfect' body

Having to increase their health, that being because they have low health or they need to train for their activities. Eg playing soccer, sprinting

It helps them with some health problems

Open question

What physical activities have you done before?

Closed question

Have you ever followed an exercise plan?

Age and stages of growth and developments

Growth spurt- females 15 years old and males 17 years of age.

Up to 11 years, ratio of standing to sitting height similar

1 year- puberty- leg rate grows faster (which means that they could have growing pains)

Skeletal maturity- comparison between chronological age and skeletal age

Lower body muscle strength not significant between male and female aged 7-17

Muscle fiber specialisation does not occur until adolescence

Make sure that they are not lifting heavy weights as they are still growing and make sure that they feel comfortable with the exercise and that they are not making them feel any discomfort or pains.

Functional capacity or fitness assessments

13-14= teach basic exercises, basic cardiovascular training, dynamic stretching.

14-15= increase volume, teach technique on more complex lifts, increase intensity, introduction of sport specific stretching.

16-17= progress to adult program according to maturity and training age

Referrals
Nutritionist

Outcome for Activity 3	☒ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

Positivity is a key factor for client success. Respond to the following:

- a) Identify at least six (6) ways you can give a teen a more positive experience when engaging in sport and physical activity.
- b) Name three (3) potential barriers to participation in physical activity that would be common for 13-17 year olds – both boys and girls.
- c) Verbal and non-verbal communication techniques can be used to encourage and support participants. Name two (2) other communication methods or strategies that can be used.

Positive experiences

1. Allow experimentation, mistakes and successes
2. eliminate fear and pressure
3. Do not structure activity the same as for adults
4. avoid negative parental pressure
5. Create a team atmosphere, encourage social interaction
6. Do not over-emphasise winning

Potential barriers

They are unmotivated
They feel uncomfortable with the exercises
They could not be listening

Communication methods

Encourage them and praise them when they do something well.
Emphasise how fun the exercise is going to be.
Ask them what activities they enjoy and try to incorporate them into the exercises

Outcome for Activity 4

- ☒ Satisfactory
☐ Not satisfactory

Trainer/Assessor comments

Training should be tailored to the individual and the desired outcome. Respond to the following:

- a) Describe the minimum and optimal exercise program for a 30kg, 13 year old boy.
- b) A parent has read that for major strength gains, weightlifters should use a resistance that can be lifted for only 3 to 6 repetitions. He knows that strength is important for some of the sports lifts his 13 year old son wants to play, so he asks for your advice. What should you tell him?
- c) Name one (1) element in each of the following areas that is suitable for the age groups listed:
 - Resistance training
 - Cardiovascular training
 - Flexibility
- d) Name at least three (3) exercises for the following skills:
 - Agility
 - Balance
 - Speed
- e) State the purpose and use of the listed pieces of equipment.

	Minimum exercise program	Optimal exercise program
Number of activity/sessions per day	60 minutes of activity per day Also include 20 minutes of vigorous activity at least 3-4 times a week	Have them play some type of sport that they enjoy. eg, soccer
Intensity of the activity sessions (Describe using words)	They should do moderate intensity exercises throughout the day, Also include 20 minutes of vigorous activity at least 3-4 times a week	Moderate- walking to a destination, skateboarding, dancing. Vigorous- netball, soccer, football, training for sport
Approximate duration of the activity sessions	Have them exercise moderately as much throughout the day and have a 20 minute vigorous program 3-4 times a week	Moderate- Walking around with friends. Vigorous- a planed program or fun activities, such as soccer
Examples of the activity sessions		

Strength advice

I would tell him to avoid from lifting extremely heavy weight for only small amount of repetitions, and should rather lift lighter weights for a higher amount of repetitions.

Age	Resistance training	Cardiovascular training	Flexibility
11-14 years old	Teach basic exercises	Basic cardiovascular training	Dynamic stretching
14-15 years old	Increase volume	Increase intensity	Dynamic and static
16+ years old	Progress to adult programs according to maturity and training age	Progress to adult programs according to maturity	Progress to adult flexibility programs according to maturity and training age

Skill	Name of exercise/s
Agility	1. Side-Step Toe Touches. 2. Skaters With Toe-Tap In Box. 3. Plank Jacks.
Balance	1. A. Stand with your feet together, knees slightly bent. 2. This involves walking sideways by crossing one foot over the other. 3. A. Standing upright, place your right heel on the floor directly in front of your left toe.
Speed	1. Squat 2. Pull up 3. Over head squat

Equipment	Purpose / use
Free weights	Other types of resistance, such as using resistance bands or body weight, also can help increase your strength.
Pin-loaded resistance equipment	Gives you some type of resistance to help focus on a specific part of your body
Skipping ropes	10 minutes of skipping can have the same health benefits as a 45-minute run. Skipping is a full body workout which uses your abdominals to stabilise the body, legs for jumping, shoulders and arms for turning the rope.
Balls	A primary benefit of exercising with an exercise ball as opposed to exercising directly on a hard flat surface is that the body responds to the instability of the ball to remain balanced, engaging many more muscles. Those muscles become stronger over time to keep balance.
Resistance bands	Like free weights or weight machines, resistance bands provide a force against which your muscles must work. This action causes muscles to contract, which stimulates bone as well as muscle growth.

Mats	Mats serve the purpose of cushioning the spine and joints while performing the exercises. Exercisers need the ability to feel the floor for proper execution of movements and balance, so thicker mats may pose a problem.
Treadmill	Treadmills usually feature adjustable speeds and inclines to vary your workout, allowing you to simulate a hill with the push of a button.

Outcome for Activity 5	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

Match the following terms with their associated definitions listed below:

- Ectomorph
- Endomorph
- Expiratory reserve
- Functional residual capacity
- Inertia
- Inspiratory capacity
- Inspiratory reserve
- Mesomorph
- Osteochondroses
- Residual volume
- Sandwich technique
- Tanner classification
- Test reliability
- Test validity
- Tidal volume
- Total lung capacity
- Vital capacity

Term	Definitions
• Vital capacity	The volume of air breathed out after the deepest inhalation.
• Inspiratory reserve	The maximal volume that can be inhaled from the end-inspiratory level.
• Osteochondroses	A self-limiting developmental derangement of normal bone growth, primarily involving the centres of ossification in the epiphysis.
• Residual volume	The volume of air remaining in the lungs after a maximal exhalation.
test validity	The test measures what it is supposed to measure.
• Mesomorph	A child with this body type is usually good at speed, strength and agility.
• Tidal volume	The sum of IRV and TV.
• Functional residual capacity	The maximal volume of air that can be exhaled from the end-expiratory position.
• Endomorph	A child with this body type is usually advantaged in 'power' activities.
• Tanner classification	Examines changes in pubic hair growth.
• Total lung capacity	The volume in the lungs at maximal inflation, the sum of VC and RV.
• Test reliability	That test can be repeated over time and produce the same or similar result.
• Sandwich technique	This is the most effective correctional model using commend, recommend, and commend.

• Expiratory reserve	The volume in the lungs at the end-expiratory position.
• Inspiratory capacity	The lung volume representing the normal volume of air displaced between normal inspiration and expiration when extra effort is not applied.
• Inertia	The resistance to a change in the state of motion.
• Ectomorph	A child with this body type is usually advantaged in endurance-based activities

Outcome for Activity 6	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

PRACTICAL TASK

You are required to have a suitable observer verify your ability to complete the following tasks. These tasks may be simulated or real.

TASKS	VERIFIED
A. Using the form provided (to be signed by the instructor of the session), you are to observe and evaluate two (2) youth-based training programs: • A single one-to-one session of a 13-17 year old with a personal trainer • A small group of youth between the ages of 13-17 years, who are participating in group PT or physical activity program In your evaluation, provide the following: • A description of the group and class type • An evaluation of the assessment process and the FITT and progression components in the program – including the use of music (where used) ○ This section of the evaluation should also identify the functional exercises for motor skills used in the session • An evaluation of the session • A discussion on the appropriateness of the trainer's use of equipment and facilities for the session • A discussion of the appropriateness of the fitness trainer's communication and their instructional and motivational techniques • Recommendations for areas of improvement in the training program	

- B. You are to plan, implement and evaluate at least five (5) fitness programs for young people that reflect appropriate developmental stages, age and ability variations.



Use fitness industry endorsed risk stratification procedures and conduct an age and skill appropriate baseline assessment on the client, advising the client of the outcomes:

- Functional motor skills (i.e. hopping, jumping, throwing, kicking, running, walking, skipping)
- Cardiovascular endurance
- Muscle strength and endurance
- Agility
- Flexibility

You are to plan, implement, and evaluate at least five (5) fitness programs for young people that reflect appropriate developmental stages, age and ability variations that incorporate:

- Appropriate selection and monitoring of a range of gym-based cardiovascular and resistance equipment, according to industry guidelines
- Demonstration, explanation, and instruction of exercises relevant to age group, explaining:
 - Injury prevention strategies
 - Signs/symptoms of exercise intolerance
- Suitable order and sequence of activities – including warm up, conditioning and recovery
- Session components that target the individual's needs and goals
- Suitable duration, intensity and volume
- Appropriate music selection, where appropriate
- Developmental stages of children and adolescents and age variations in physical, mental and social abilities
- Monitoring of client intensity, techniques, posture and safety
- Technique correction
- Program modification, as appropriate
 - Review your own performance and identify areas needing improvement
 - Explain what future sessions will entail
- Appropriate communication skills, including: Clear verbal communication, modelling and demonstration, and motivational techniques

Be sure to observe all organisational policies and procedures, including:

- Gaining written parental / carer consent for all students participating
- Keeping parents/guardians informed (e.g. in the event of incidents)
- Working within your own scope of practice
- Dressing appropriately and ensuring participants are appropriately dressed
- Displaying a professional attitude (e.g. non-discriminatory)
- Checking equipment for safety
- Ensuring sufficient space is allocated for the session (e.g. ventilation, hygienic, sufficient emergency procedures)
- Ensuring client information and documentation is appropriately documented, stored and evaluated

Outcome for Practical Task	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	