Junior Scientists - Junior (Ages 8 - 11)

Come explore the exciting world of science through fun and interactive, hands on experiments. Learn about various themes in both chemistry and physics with an emphasis on exploration and scientific discovery. All experiments and activities will take place in a University science lab!

	Sections	Expectations	Learning Outcomes
Knowledge (What you are helping others learn)	Program Content	Teach children: - Lessons with a focus on chemistry and physics - The proper process (scientific method) when conducting an experiment - To explore and discover solutions through the process of scientific experiments - The importance of safety in a science laboratory	Children will: C.1 Learn applications of the scientific method when conducting a chemistry experiment C.2 Learn applications of the scientific method when conducting a physics experiment C.3 Gain the ability to identify solutions derived from experimentation C.4 Demonstrate an understanding of the importance of safety in a science laboratory C.5 Understand the different aspects that define the world of chemistry and physics
	Leadership	See document "Developing Educated Leaders in Physical Activity"	See sample lesson plan.
	Physical Activity	- Lessons should include links between chemistry/ physics and physical activity. - Facilitate discussions of how chemical reactions in the body allow us to participate in physical activity. - Discuss applications of physics in sports and where it is present. - Allow children to develop an understanding about possible careers in sports science.	Children will: P.A.1 Understand that chemistry and physics are present in all types of physical activity P.A.2 Gain a further understanding of how chemical reactions affect us during physical activity. (lactic acid, ATP-ADP energy) P.A.3 Demonstrate an understanding of physics applications in physical activity and possible careers within the area
Skills (What you can show others how to do)		- Understand the process that goes into conducting a scientific experiment - Participants should have a better understanding of the world of chemistry - Participants should have a better understanding of the world of physics - Know how to conduct an experiment in safe manner	Children will: S.1 Complete a scientific experiment while utilizing the scientific method S.2 Complete a chemistry experiment with a better understanding of the subject S.3 Complete a physics experiment with a better understanding of the subject S.4 Be able to conduct an experiment while following safety protocols

Developing Educated Leaders

in Physical Activity

Mission:

1. Develops children and youth as educated leaders in physical activity for young people.
2. Provides a context for experiential education of students in degree programs to develop, disseminate and discover the benefits of working with children and youth in the promotion of physical activity.
3. Provides excellent and inclusive recreation/sport and educational experiences to young people.
4. Promotes the Faculty of Kinesiology and Recreation Management and the University of Manitoba as destinations for post-secondary education
5. Contributes to the creation and dissemination of physical activity knowledge.

DEVELOPING EDUCATED LEADERS

Guiding Principles of Leadership Development:

- Provide opportunities and guidance for children and youth in Mini U Programs to become leaders in their communities confronting social and physical barriers that limit or exclude others from being active;
- Support children and youth through positive role modeling in ways that strengthen the individual's own self-awareness;
- Guide children and youth into creating a sense of community that bolsters positive emotions and attitudes towards physical activity;
- Help children and youth be competent and successful in various physical activity settings.

Leadership Development Objectives:

- Infuse the guiding principles of the leadership initiative into all program activities and lesson plans (ie. sport, special interest, aquatic and special needs programming);
- Establish environments that enable children and youth to focus on the rights and feelings of others;
- Create learner-centered opportunities within activities to help foster inclusive behaviours and attitudes;
- Promote physical activities that foster a broad range of skills and repertoire of movements to encourage involvement in active living through sport, physical activity and recreation.

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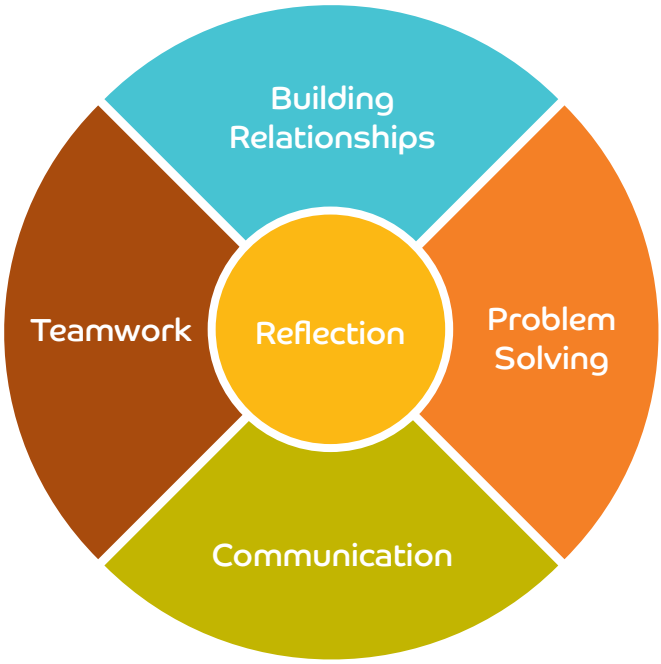
Leadership Schematic:

The key to being a successful leader in physical activity is a combination of knowing how to build supportive and respectful relationships, engaging in teamwork to achieve common goals, learning positive problem solving skills and becoming successful with both intra and inter personal communication.



Reflection

- The center of our leadership model involves becoming aware of our actions, emotions, feelings, and to support our background of providing quality opportuntiy for all to become involved in physical activity;
- Emotional reactions to leadership are vital to both leading and responding to children and youth;
- Become aware of your own attitudes and emotions, in relation to teaching and learning;

Building Relationships

- Facilitate children and youth to have positive interactions with each other, adults, leaders and members of the community;
- Foster a community of respect: respecting diversity and appreciating differences amongst individuals;
- Encourage children and youth to develop connections with their peers;
- Engage children and youth in both promoting physical activities while also becoming aware of the barriers that limit other's involvement.

Problem Solving

- Facilitate decision making processes: define problems, generate decisions, determine the "best" solution and take action;
- Develop strategies and skills to problem solve;
- Educate children and youth about the complexity of problem solving;
- Provide opportunities to practice independent problem solving.

Communication

- Learning how to communicate requires thinking about how you communicate with others (inter-personal) and yourself (intra-personal), thus being a good leader requires both;
- Assist children and youth to become confident and competent communicators;
- Use a variety of communication strategies in your daily interactions with children and youth (verbal and nonverbal) to model and create caring and supportive communication;
- Learning to observe body movements and interactions these can be key for physical activity promotion;
- Encourage the importance of communicating constructively and respectfully.

Teamwork

- Working with children and youth to enable them to develop personal and social responsibilities, as these contribute to their communities in Mini U Programs but also extend to other settings;
- Teach others how to respect one another;
- Create supportive environments to positively involve all children and youth (sometimes this means thinking about equity);
- Guide children and youth to identify realistic goals for groups and roles for individuals;
- Provide opportunities for children and youth to identify and share their unique qualities, strengths and skills they bring to a group;
- Provide opportunities for children and youth to identify their strengths focusing on competence and development.