

GRADE 4 CURRICULAR CONNECTIONS

SCIENCE

Energy: Understandings of the physical world are deepened by investigating matter and energy.

Learning Outcome: Students investigate how forces can act on objects without contact.

KNOWLEDGE	UNDERSTANDING	SKILLS AND PROCEDURES	ESCAPE CITY
<p>Non-contact forces occur between objects that are not in direct contact. Magnetic force is a non-contact force that attracts or repels magnetic materials.</p>	<p>Non-contact forces are invisible forces that can affect objects, materials, and substances.</p>	<p>Describe how non-contact forces affect objects.</p> <p>Conduct an investigation to demonstrate magnetic forces on objects.</p>	<p>Students have the opportunity to interact with magnets being applied in a controlled setting. Through a facilitated discussion the students will be able to identify how magnets are applied in a real world setting.</p>

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Computer Science: Problem solving and scientific inquiry are developed through the knowledgeable application of creativity, design, and computational thinking.

Learning Outcome: Students examine and apply design processes to meet needs.

KNOWLEDGE	UNDERSTANDING	SKILLS AND PROCEDURES	ESCAPE CITY
Design processes include: <ul style="list-style-type: none"> • understanding the problem • forming ideas (ideating) • planning • creating • analyzing • testing • troubleshooting 	Design involves processes that can transform ideas into artifacts that meet needs.	Plan and create an artifact to meet a need.	Students have the opportunity to observe and interact with designs that have been constructed and implemented. Through facilitated discussion they can investigate the process of design for the creation of the escape rooms.

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COMPETENCIES

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<p>Critical Thinking:</p> <ul style="list-style-type: none"> • I pose questions to analyze information or evidence. • I begin to analyze complex issues and ideas based on criteria I help to develop. • I evaluate the effectiveness of my own thinking or that of others. • I make inferences, predictions, or decisions based on information. • I consider perspectives that do not fit with my understanding. 	<p>Through the exploration of problem solving in escape rooms and puzzle based stations the students have the opportunity to awaken their wonder by using their prior knowledge, make predictions and test out their conclusions. Wrapping up the activities with a debrief allows the students to reflect upon their experiences.</p>
<p>Problem Solving:</p> <ul style="list-style-type: none"> • I acquire and select information to identify problems. • I generate solutions to complex problems based on criteria I help to develop. • I predict the possible outcomes of multiple courses of action. • I identify impacts of possible solutions. • I reflect on and revise approaches to solve challenges creatively. 	<p>The nature of the escape rooms provide an opportunity for students to solve problems in a group setting, while allowing for moments of individual contributions to shine through. Teamwork and resilience in trying out solutions are essential for success, while having a built in support system to ask questions to help guide the experience.</p>
<p>Research and Managing Information:</p> <ul style="list-style-type: none"> • I reflect on information gathering processes and revise if necessary. • I gather and organize information from multiple sources to enhance or clarify understandings. • I verify the accuracy of information collected from a variety of sources. • I apply socially accepted protocols when using, sharing, and storing information. 	<p>Students are encouraged to interact with the puzzles by collecting puzzle pieces and using the gathered information to inform choices, communicate with their teammates, and make connections to find solutions.</p>

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<p>Creativity and Innovation:</p> <ul style="list-style-type: none"> • I create in a variety of contexts and with a variety of audiences to enhance learning, develop abilities, or communicate an intent. • I experiment with ideas, materials, or processes to express myself. • I evaluate and adapt creative ideas, products, or services in response to emerging conditions. • I understand that new challenges can help me develop resilience. 	<p>The experience allows for the students to create their own puzzle in the spirit of fun and challenge their peers while working within the limitations of guided puzzle creation, materials, environment, and time constraints while encouraging creativity.</p>
<p>Communication:</p> <ul style="list-style-type: none"> • I communicate with audiences in a variety of contexts to enhance learning, develop relationships, or complete tasks. • I apply appropriate language conventions and protocols when receiving or expressing messages with varied audiences. • I respect social or cultural practices in formal and informal situations when communicating with others. • I consider the influence of emotions on behaviour, learning, and relationships when building shared understandings. • I share interpretations of ideas or information logically and clearly, using effects to enhance communications. 	<p>Communication is essential for participation in the experience and is encouraged through the group work structure needed to overcome the challenges presented, as well as the students receive immediate feedback on their teamwork through the nature of success and failure of the challenge.</p>

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<p>Collaboration:</p> <ul style="list-style-type: none"> • I exchange ideas and information respectfully when collaborating in digital or non-digital environments. • I encourage others to successfully fulfill obligations associated with roles and responsibilities to contribute to group success. • I nurture positive relationships through compromise and being flexible. • I demonstrate sensitivity and respect diversity when working with others to achieve a common goal. 	<p>The collaborative nature of the escape room experience encourages students to have fun while working in a group setting and providing opportunities to exercise the students role and responsibilities within the group.</p>
<p>Citizenship:</p> <ul style="list-style-type: none"> • I identify and apply approaches to reach shared understandings between differing perspectives. • I use constructive decision-making processes to address individual or common interests. • I initiate or organize activities or events that address a common need. • I explain multiple perspectives that are relevant to an idea, decision, or action. 	<p>Students are given the opportunity to exercise citizenship in a group setting in which collaboration is key to success.</p>
<p>Personal Growth and Wellbeing:</p> <ul style="list-style-type: none"> • I develop and apply strategies to accomplish personal / common goals. • I use personal skills and abilities, programs, or relationships to support growth and well-being. • I examine risks to privacy or emotional safety when making healthy decisions. • I develop or maintain social networks to support well-being. 	<p>Through participation in the activities the students have the opportunity to exercise agency in new settings while having support to achieve success and enjoyment and demonstrate their resilience.</p>