Limudei Code-Esh: Chanukkah

An Intermediate Scratch Jr Coding Curriculum Integrated with Jewish Education

Using the Coding as Literacy (CAL) approach developed by

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Our goal in creating Limudei Code-esh is to provide an easily accessible coding curriculum that would integrate key themes of Jewish holidays and be appropriate for use in all Jewish day or supplementary school settings. It is our hope that the units of study will complement instruction and inspire a love of Jewish holiday celebration as well as computer science in elementary school age children.

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Introduction

CODING AS LITERACY (CAL) APPROACH

This curriculum introduces powerful ideas from computer science, specifically programming with ScratchJr, to children in Kindergarten through 3rd grade in a structured, developmentally appropriate way in the context of Jewish education. The Coding as Literacy (CAL) approach, developed by Prof. Marina Umaschi Bers and members of her DevTech Research Group at Tufts University, understands the learning of computer science as a literacy for the 21st century computer science ideas into direct conversation with powerful ideas from literacy. Both can support learners in developing new ways of thinking about themselves and the world.

Thinking involves the ability to make sense of, interpret, represent, model, predict, and invent our experiences in the world. Thus, as educators, we must give children one of the most powerful tools for thinking: language. The term language refers here to a system of communication, natural or artificial, composed of a formal limited system of signs, governed by syntactic and grammatical combinatory rules, that serves to communicate meaning by encoding and decoding information. Today, we have the opportunity to not only teach children how to think by using natural languages, such as English or Hebrew, but also by learning artificial languages—programming languages such as ScratchJr.

The achievement of literacy in a natural language involves a progression of skills beginning with the ability to understand spoken words, followed by the capacity to code and decode written words, and culminating in the deep understanding, interpretation, and production of text. The ultimate goal of literacy is not only for children to master the syntax and grammar, the orthography and morphology, but also the semantics and pragmatics, the meanings and uses of words, sentences and genres. A literate person knows that reading and writing are tools for meaning making and, ultimately, tools of power because they support new ways of thinking.

The CAL approach proposes that programming, as a literacy of the 21st century, engages new ways of thinking and new ways of communicating and expressing ideas, as well as new ways of problem solving and working with others. CAL understands the process of coding as a semiotic act, a meaning making activity that engages children in both developing computational thinking, as well as promoting personal expression, communication, and interpretation. This understanding shapes this curriculum and our strategies for teaching coding.

The curriculum is organized around powerful ideas from both computer science and Jewish studies, as well as fundamental ideas from literacy. The term **powerful idea** refers to a central concept or skills within a discipline that is simultaneously personally useful, inherently interconnected with other disciplines, and has roots in intuitive knowledge that a child has internalized over a long period of time. Powerful Ideas from the core domains of Computer Science, Chanukkah, and Literacy are represented throughout this curriculum, and are described below.

Computer Science Powerful Ideas

This is designed as an intermediate curriculum for children who have previous experience with ScratchJr. The **powerful ideas from computer science** addressed in this curriculum include: algorithms, design process, representation, debugging, control structures, modularity, and hardware/software (see Table 1).

Table 1: Computer Science Powerful Ideas

Powerful Ideas	Definition	Relevant Lessons
Algorithms	A series of ordered steps taken in a sequence to solve a problem or achieve an end goal; a program	Lessons 2-4, 6-16, 18-20
Modularity	Breaking down tasks or procedures into simpler, manageable units that can be combined to create a more complex process	Lessons 7-9, 13, 16
Control Structures	These structures determine the order or sequence in which instructions are followed within an algorithm or program	Lessons 5, 7-12, 14, 15, 18, 19
Representation	The idea that symbol systems can represent specific ideas or concepts	Lessons 2, 3-6, 11-13, 16, 20
Hardware/Software	Hardware is physical machinery, like a computer. Software is intangible instructions that control the hardware. Hardware and software work together as a system to accomplish tasks of sending, processing, and receiving information	Lessons 1, 16, 17
Design Process	An iterative process used to develop programs and tangible artifacts that involve the following steps: Ask, Imagine, Plan, Create, Test & Improve, Create, Share	Lessons 1, 3, 4, 6, 8-11, 13, 17-20
Debugging	A strategy for iterating and repairing issues in a program of designed artifact	Lessons 9, 15, 16, 18

Chanukkah Powerful Ideas

The **powerful ideas from Chanukkah** include: preserve Jewish identity, battle against the Greeks, Maccabees, miracles, traditions, festival of lights, and hanukkiyah. (see Table 2).

Table 2: Chanukkah Powerful Ideas

Powerful Ideas	Definition	Relevant Lessons
Preserve Jewish Identity	When the Jewish people were living under the rule of the Greeks, they were not allowed to practice their Judaism. However, they came up with ways to continue practicing in secret. Students will learn that it is important to maintain our values, lifestyle, and religious observance even when faced with a popular culture that does not support it.	Lessons 1-3, 5-8, 17-20
Battle against Greeks	The Jewish people needed to go into battle with the Greeks to preserve their Jewish identity.	Lessons 4-6
Maccabees	The Maccabees were the Jewish fighters who defeated the Greeks in the battle against them.	Lessons 4
Miracles	Two miracles are celebrated during Chanukkah, the Maccabees winning the battle even when they were outnumbered by the Greeks and having found the small jug of oil that lasted for 8 days.	Lessons 6-8, 16
Traditions	The Jewish people preserve their religious identity through traditional foods, services, celebrations, and studies of the Torah. Our traditions bring us together as a community.	Lessons 8, 12, 16-20
Festival of Lights	Chanukkah is also called the Festival of Lights because the "lights" represent our mitzvot. We are proud to display the "lights" to the world as a tradition and a symbolic representation of hope and love toward each other.	Lessons 7-11, 14, 15, 20
Hanukkiyah	The hanukkiyah is the set of candles families light during Chanukkah. It is used to publicize the miracles of Chanukkah.	Lessons 12-15

Literacy Powerful Ideas

The **powerful ideas from literacy** that will be placed in conversation with these powerful ideas from computer science and Jewish studies are: the writing process, recalling, summarizing and sequencing, using descriptive language, and using reading strategies such as summarizing and evaluating.

ScratchJr Concepts

The most important skills and concepts from ScratchJr used in each lesson are as listed below. Note that this is not a complete list because each activity is meant to be creative and typically open-ended. This table is meant to indicate which skills it would be difficult to complete a lesson without. Students are always encouraged to use any blocks or skills they learn in class or on their own on any project.

Table 3: ScratchJr Concepts

ScratchJr Concept	Relevant Lessons
Green Start	Lessons 1, 3-16, 18-20
Motion Blocks	Lessons 1, 3-16, 18-20
Looks Blocks	Lessons 2, 8-11, 13-16, 18-20
Say Block	Lessons 1, 8, 9
Start on Tap	Lessons 2, 6, 11
Control Speed	Lesson 2, 7-9, 13-16, 18- 20
Wait Time	Lessons 2, 6, 8-16, 18-20
Record Sound	Lessons 1, 3, 5, 6-12, 14-16, 18-20
Pop Sound	Lessons 8, 9, 11, 16
Go to Page	Lessons 3, 7-9, 19
Return to Start	Lesson 3
Repeat # Times	Lessons 3, 5, 7-10, 12, 14-16, 18-20
End Block	Lessons 1-20

Integrated Curriculum Design

The CAL approach allows students to make connections between coding and literacy, as well as between coding and Jewish studies. This curriculum encourages students to express their thoughts, ideas, and learning through ScratchJr activities related to Chanukkah. The curriculum is designed for a total of 20 hours, but can be adapted to particular learning settings. Each lesson contains a variety of activities, including:

Design challenges to introduce the powerful ideas from computer science
Discussions and activities addressing the powerful ideas from Chanukkah
Reading or vocabulary activities to introduce the powerful ideas from literacy
Work individually or in pairs on designing and creating projects
Technology circles to share and reflect on activities

This curriculum provides integration between Jewish education and programming in the context of Chanukkah. Students will learn about why Chanukkah is important and relevant to the Jewish community and use the new information they learn to write creative, fun programs on ScratchJr.

PACING

This is a 20-hour curriculum unit divided into approximately 1-hour lessons. Some students may benefit from further division of the activities into smaller steps or from more time to explore each new concept before moving onto the next, either in the context of free-exploration or with teacher-designed challenges. Each of the powerful ideas from computer science in this curriculum can easily be expanded into a unit of study which will extend the curriculum and allow students to explore a range of different activities.

Table 4: Pacing Guide

Lesson	Description
Theme 1: Preserving Jewish Identity	
Lesson 1: What does it mean to be Jewish? (60 minutes)	Students will be able to explain what it means to be Jewish and the importance of our Jewish identity. In this lesson, students will program ScratchJr to represent what Judaism means to them.
Lesson 2: Eye-Spy the Judaism (60 minutes)	Students will be able to explain the Greek takeover of Jerusalem and how the Jewish people preserved their Jewish identity when it was forbidden. They will also be able to identify the Maccabees and the Greeks. In this lesson, students will make an eye-spy game to find Jewish objects on a ScratchJr background.
Lesson 3: Building a Temple Part 1 (60 minutes)	Students will be able to explain the importance of a synagogue and how it is used. In this lesson, students will make backgrounds on their ScratchJr activity to be different temples around the world today. They will then have a "treasure hunt" around the synagogue, programing their character to approach the parts that make it a synagogue and not just any other room.
Lesson 4: Building a Temple Part 2 (60 minutes)	Students will be able to explain what happened to the Jewish people's temple during the time of the Greeks and what happened as a result (the Jewish people went into battle with the Greeks). In this lesson, students will use ScratchJr to design their own temple and add characters to resemble the different objects found in a temple.

Theme 2: Miracles

Lesson 5: Battle against the Greeks Part 1 (60 minutes)	Students will be able to explain why the Jewish people went into battle with the Greeks and why it was permitted on Shabbat. They will also be able to identify the Maccabees and their leader, the Greeks, and the term "Pikuah Nefesh Doche Shabbat."
	In this lesson, students will program ScratchJr to create a situation where one character made another one upset, similarly to that of the Greek and Jewish people.
Lesson 6: Battle against the Greeks Part 2 (60 minutes)	Students will be able to explain why the Jewish people went into battle with the Greeks and the power of God's miracles. They will be able to identify the terms Maccabees, Hasmoneans, Greeks, "nes gadol hayah po" and "nes gadol hayah sham."
	In this lesson, students will program ScratchJr to represent having won the battle. They will depict their characters celebrating.
Lesson 7: The Oil Miracle (60 minutes)	Students will be able to explain the two miracles that took place during Chanukkah and the significance of the oil lasting for 8 days. They will also be able to identify the terms "nes gadol hayah po," "nes gadol hayah sham," and the festival of lights.
	In this lesson, students will program ScratchJr to tell the story of the miracle of the oil. They will incorporate three pages on the ScratchJr platform to resemble the Jewish people finding the oil, lighting their candles, and the oil lasting for 8 days.

Theme 3: The Festival of Lights

Lesson 8: The Story of Chanukkah Part 1 (60 minutes)	Students will be able to explain why Chanukkah is called the festival of lights, what the lights represent, and how we preserve Judaism today. They will be able to identify the terms Maccabees, Hasmoneans, Greeks, and Festival of Lights.
	In this lesson, students will use ScratchJr programming to retell the story of Chanukkah.
Lesson 9: The Story of Chanukkah Part 2 (60 minutes)	Students will be able to explain why Chanukkah is called the festival of lights, how Judaism is preserved today, and the symbolism of light. They will be able to identify Maccabees, Hasmoneans, Greeks, and the Festival of Lights.
	In this lesson, students will collaborate with their classmates to debug their previously made stories on ScratchJr.
Lesson 10: The First Night of Chanukkah (60 minutes)	Students will be able to explain the Chanukkah traditions and the significance of sunset during Chanukkah. They will also be able to identify Maccabees, Hasmoneans, Greeks, and Festival of Lights.
	In this lesson, students will program ScratchJr to represent what they do with their family during Chanukkah.

Theme 4: The Hanukkiyah

Lesson 11: Menorah or Hanukkiyah? (60 minutes)	Students will be able to explain the difference between a menorah and a hanukkiyah and their settings. They will also be able to identify a menorah, hanukkiyah, and shamash. In this lesson, students will program ScratchJr to show when to use a menorah and when to use a hanukkiyah.
Lesson 12: The Leader (60 minutes)	Students will be able to explain the importance of the shamash and the significance of having a leader in the story of Chanukkah. They will also be able to identify a hanukkiyah and shamash. In this lesson, students will program ScratchJr to be a leader and have the "Jewish people" (the other characters the child has made) follow him/her.
Lesson 13: Find a Home for the Hanukkiyah (60 minutes)	Students will be able to explain where a hanukkiyah can be placed and why. They will also be able to identify the phrase "publicizing the miracle" in both English and Hebrew. In this lesson, students will program ScratchJr to represent the proper placement of a hanukkiyah in a room.
Lesson 14: Lighting the Hanukkiyah Part 1 (60 minutes)	Students will be able to explain Hillel and Shammai's explanations for how to light the hanukkiyah. They will also be able to identify the time of day for lighting the hanukkiyah, and the terms "beit Hillel" and "beit Shammai." In this lesson, students will program for a sunset background on ScratchJr and have their character light the hanukkiyah
Lesson 15: Lighting the Hanukkiyah Part 2 (60 minutes)	Students will be able to recite the three blessings before lighting the hanukkiyah, and they will be able to explain how we light the candles on the hanukkiyah and the order in which we light candles when Shabbat or Havdalah are on the same night as Chanukkah. In this lesson, students will work together to record the three blessings and incorporate them into their previously made hanukkiyah lighting program.

Theme 5: Traditions

Lesson 16: Chanukkah Recipes (60 minutes)	Students will be able to explain the types of food we eat on Chanukkah and why they are important to preserving the Story of Chanukkah. They will also be able to identify latkes and sufganiyot. In this lesson, students will use ScratchJr to make traditional Chanukkah foods.
Lesson 17: Dreidel Part 1 (60 minutes)	Students will be able to identify a dreidel, and they will be able to explain why we play with dreidels and what their significance was during the time of the Greek rule. In this lesson, students will use ScratchJr to make their own dreidel character.

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Lesson 18: Dreidel Part 2 (60 minutes)	Students will be able to explain why we play with dreidels during Chanukkah, their significance during the time of the Greek rule in Jerusalem, and they will be able to identify them. In this lesson, students will take previously made dreidel and "play a game" of dreidel.
Lesson 19: Gift Exchange (60 minutes)	Students will be able to explain why we receive gifts on Chanukkah and what we preserve by studying the Torah. In this lesson, students will use the collaborative functions of ScratchJr to have a Chanukkah gift exchange.
Lesson 20: Celebration (60 minutes)	Students will be able to explain how we preserve our Jewish identities today. In this lesson, students will work together to celebrate Chanukkah by programming their ScratchJr character to sing and dance to the song "Oh Chanukkah."

MATERIALS

Since this curriculum is based on ScratchJr the main material necessary for the students is iPads, Androids or Chromebooks (check here https://www.scratchjr.org/about/faq for devices compatible with ScratchJr) so children are able to code. In addition, there are ScratchJr block pages that can be printed to help with student comprehension. More information is provided in lessons that use these pages.

Other materials used in the curriculum are inexpensive crafts and recycled materials. The use of crafts and recycled materials, a practice already common in other domains of early childhood education, provides opportunities for children to use materials they are already comfortable with.

PEDAGOGICAL FRAMEWORK: POSITIVE TECHNOLOGICAL DEVELOPMENT and DIALOGIC INSTRUCTION

The theoretical foundation of this curriculum, called **Positive Technological Development (PTD)**, was developed by Prof. Marina Umaschi Bers and can be found in her books: *Blocks to Robotics: Learning with Technology in the Early Childhood Classroom* (Bers, 2008), *Designing Digital Experiences for Positive Youth Development: From Playpen to Playground* (Bers, 2012), and *Coding as a Playground: Programming and Computational Thinking in the Early Childhood Classroom* (Bers, 2018). The PTD framework guides the development, implementation and evaluation of educational programs that use new technologies to promote learning as an aspect of positive youth development. The PTD framework is a natural extension of the computer literacy and the technological fluency movements that have influenced the world of education but adds psychosocial and ethical components to the cognitive ones. From a theoretical perspective, PTD is an interdisciplinary approach that integrates ideas from the fields of computer-mediated communication, computer-supported collaborative learning, and the Constructionist theory of learning developed by Seymour Papert (1993) and views them in light of research in applied development science and positive youth development.
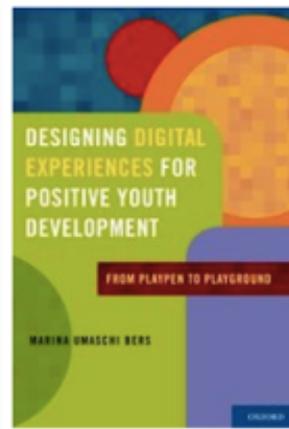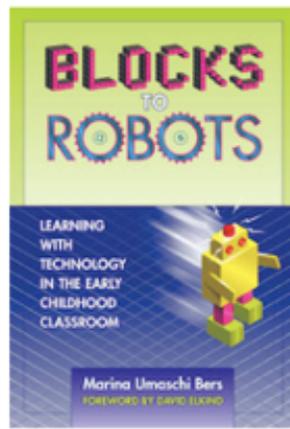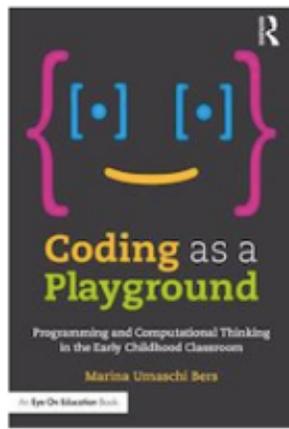
As a theoretical framework, PTD proposes six positive behaviors (six C's) that should be supported by educational programs that use new educational technologies, such as ScratchJr. These are: **content creation, creativity, communication, collaboration, community building, and choices of conduct**. The six C's of PTD are highlighted in the activities throughout the curriculum with their respective icons:

CONTENT CREATION by designing a ScratchJr program and programming its behaviors. The engineering design process of building and the computational thinking involved in programming foster competence in computer literacy and technological fluency.

CREATIVITY by making and programming personally meaningful projects, problem solving in creative playful ways and integrating different media such as recyclable materials, arts and crafts, and a tangible programming language. Final ScratchJr projects that represent a theme found in the overall early childhood curriculum are a wonderful way to engage children in the creative process of learning.

COLLABORATION by engaging children in a learning environment that promotes working in teams, sharing resources and caring about each other while working with their ScratchJr programs. Collaboration is defined here as getting or giving help with a project, programming together, lending or borrowing materials, or working together on a common task. While working on their final projects, children create a collaboration web: a tool used to foster collaboration and support. Each child receives a printout with their photograph in the center of the page and the names and photographs of all the other children in the class arranged in a circle surrounding the central photo (see Appendix D for an example). Throughout the activity, with the teacher's prompting, each child draws a line from their own
photo to the photos of the other children with whom they have collaborated. Children then write or draw "thank you cards" to the child with whom they have collaborated the most.

COMMUNICATION through mechanisms that promote a sense of connection between peers or with adults. For example, technology circles, when children stop their work, share their ScratchJr creation, and explain their learning process. Technology circles present a good opportunity for problem solving as a community. Some teachers invite all the children to sit together in the rug area for this. Each classroom will have its own routines and expectations around group discussions and circle times, so teachers are encouraged to adapt what already works in their class for the technology circles in this curriculum.

COMMUNITY BUILDING through scaffolded opportunities to form a learning community that promotes contribution of ideas. Final projects done by children are shared with the community via an open house, demo day, or exhibition. These open houses provide authentic opportunities for children to share and celebrate the process and tangible products of their learning with family and friends. Each child is given the opportunity not only to run their program, but to play the role of teacher as they explain to their family how they built, programmed, and worked through problems.

CHOICES OF CONDUCT which provide children with the opportunity to experiment with "what if" questions and potential consequences, and to provoke examination of values and exploration of character traits while working with ScratchJr. As a program developed following the PTD approach, the focus on learning about coding is as important as helping children develop an inner compass to guide their actions in a just and responsible way.

In alignment with the Positive Technological Development (PTD) framework, this curriculum approaches literacy from the perspective of dialogic instruction. **Dialogic instruction** is a theory of learning (and teaching) premised on the belief that students engage with literacy instruction best when there are opportunities for them to engage in authentic, open-ended interpretation of texts. If a student does not have a voice, a position, or an evaluation of the text, then what good are literary skills? Only when she needs these tools for her own purpose, to help her achieve her own interpretation, and to convince others of it, will she have a reason and motivation (beyond getting a good grade) to acquire the tools being taught. This curriculum, in adherence with the theory of dialogic instruction, strives to place the student in the position of interpreter, with opportunities for authentic, open-ended interpretation of texts. This aligns with the curriculum's approach to coding where students are given opportunities for open-ended coding tasks that encourage them to explore their own expressive ideas.

CLASSROOM MANAGEMENT

Teaching programming in an early childhood setting requires careful planning and ongoing adjustments when it comes to classroom management issues. These issues are not new to the early childhood teacher, but they may play out differently during ScratchJr activities because of the novelty of the materials themselves. Issues and solutions other than those described here may arise from classroom to classroom; teachers should find what works in their particular circumstances. In general, provide and teach a clear structure and set of expectations for using materials and for the routines of each part of the lessons (technology circles, clean up time, etc.). Make sure the students understand the goal(s) of each activity. Posters and visual aids can facilitate children's attempts to answer their own questions and recall new information.

GROUP SIZES

The curriculum refers to whole-group versus pair or individual work. In fact, some classrooms may benefit from other groupings. Whether individual work is feasible depends on the availability of supplies, which may be limited for a number of reasons. However, an effort should be made to allow students to work in as small groups as possible, even individually. At the same time, the curriculum includes numerous opportunities to promote conversations which are enriched by multiple voices, viewpoints, and experiences. Some classes may be able to have these discussions as a whole group. Other classes may want to break up into smaller groups to allow more children the opportunity to speak and to maintain focus. Some classes structure ScratchJr time to fit into a "center time" in the schedule, in which students rotate through small stations around the room with different activities at each location. This format gives students more access

to teachers when they have questions and lets teachers tailor instruction and feedback as well as assess each students' progress more easily than during whole-group work. It is important to find a structure and group size for each of the different activities (instruction, discussions, work on the challenges, and the final project) that meet the needs of the students and teachers in the class.

ALIGNMENT OF ACADEMIC FRAMEWORK

This curriculum is designed as an intermediate curriculum for ScratchJr and coding and is designed to be used from second through fourth grade. The curriculum is s aligned with nationally recognized computer science frameworks, including the ISTE Standards for Students (2017), K–12 Computer Science Framework (2016) and the Massachusetts Digital Literacy and Computer Science (DLCS) Curriculum Framework (2016) as well as Common Core English Language Arts (ELA)/Literacy Framework (Council of Chief State School Officers, 2011). In addition, the Jewish materials and approach was designed by a a group of experienced Jewish educators representing orthodox, conservative and reform denominational movements in Judaism. The goal is that the curriculum could be used by any Jewish learning setting across the world.

Theme 1: Preserving Jewish Identity

Lesson 1: What Does It Mean To Be Jewish?

OVERVIEW

In this lesson, students will program ScratchJr to represent what Judaism means to them.

ACTIVITIES

- Being Jewish Discussion (10 minutes)
- Planning Sheet (10 minutes)
- What Judaism Means to Me (30 minutes)
- Wrap-up Discussion (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain what it means to be Jewish and the importance of our Jewish identity

POWERFUL IDEAS FROM COMPUTER SCIENCE

☐ Hardware/Software

☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

☐ Preserve Jewish Identity

SCRATCHJR CONCEPTS

☐ Green Start
☐ Motion Blocks
☐ Say Block
☐ Record Sound
☐ End Block

BEING JEWISH DISCUSSION (10 MIN)

Throughout Jewish history people of the popular culture have not supported Judaism. However, our values and traditions were preserved and are still practiced today. What does being Jewish mean to you? Teachers will lead students in a discussion.

Students watch Youtube video, "Why I Like Being Jewish" at https://www.chabad.org/kids/article_cdo/aid/1347962/jewish/Why-I-Like-Being-Jewish.htm (4:04).

PLANNING SHEET (10 MIN)

In the next activity, students will program Scratch Jr to represent what Judaism means to them. Have students create a planning sheet for their Scratch Jr program by writing, drawing, and/or explaining a representation of what Judaism means to them on a piece of paper.

SCRATCHJR ACTIVITY: WHAT JUDAISM MEANS TO ME (30 MIN)

After students finish planning, have them create their Scratch Jr program that represents what Judaism means to them.

For example, program Scratch Jr characters to dance the hora or draw a Jewish star and program it to dance.

Example Blocks:

WRAP-UP DISCUSSION (10 MIN)

When all students are done with their programs, invite them to share their program in a circle. Students should share:
- Their programs
- Why they chose their characters and backgrounds
- What each block represents
- How they preserve their Judaism
- Anything that was hard, easy, surprise, interesting, etc about the process

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Lesson 2: Eye-Spy the Judaism

OVERVIEW

In this lesson, students will make an eye-spy game to find Jewish objects on a ScratchJr background.

ACTIVITIES

- Practicing Judaism Discussion (10 minutes)
- Jewish Representation Planning (10 minutes)
- Eye-Spy Game (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain the Greek takeover of Jerusalem and what they forbid
- Explain how the Jewish people preserved their Jewish identity in the face of adversity
- Identify the Greeks and the Maccabees

POWERFUL IDEAS FROM COMPUTER SCIENCE

☐ Algorithms

☐ Representations

POWERFUL IDEAS FROM CHANUKKAH

☐ Preserve Jewish Identity

SCRATCHJR CONCEPTS

☐ Start on Tap
☐ Control Speed
☐ Wait Time
☐ Looks Blocks
☐ End Blocks

Lesson 2: Activities

PRACTICING JUDAISM DISCUSSION (10 MIN)

The story of Chanukkah begins with the Greek takeover of Jerusalem. The Greeks wanted to remove the Jewish identity from their region and forbid the Jewish people from observing their faith. The Jews were not allowed to study Torah, eat kosher food, perform circumcisions, or celebrate Rosh Chodesh and the Jewish holidays.

What would you do if you were told you could not be Jewish?

The Jewish people refused to give up Judaism. Instead, they had to observe it in secret.

Greeks	Y'vanim	יְוָנִים

JEWISH REPRESENTATION PLANNING (10 MIN)

In the next activity, students will make an eye-spy game comprised of Jewish objects. Have students work together to determine what objects and symbols represent Judaism. Teachers can have students take turns going up to the board and drawing visualizations of their religion, or if the students know how to read, the teacher can make a list as they state each representations.

SCRATCHJR ACTIVITY: EYE-SPY GAME (30 MIN)

Using previously discussed Jewish objects and symbols, children will make an eye-spy game to find Jewish objects on the Scratch Jr background. They will program the Jewish objects to get bigger if they are tapped and the nonJewish-related objects to disappear when tapped.

Example Blocks:

Example Blocks:
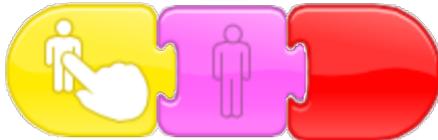
WRAP-UP ACTIVITY (10 MIN)

Students will pair up and play each other's eye-spy game. If time permits, teachers and students will gather in a circle to discuss how they decided what objects and symbols to program on ScratchJr.

Lesson 3: Building a Temple Part 1

OVERVIEW

In this lesson, students will make backgrounds on their ScratchJr activity to be different temples around the world today. They will then have a "treasure hunt" around the synagogue, programing their character to approach the parts that make it a synagogue and not just any other room.

ACTIVITIES

- Synagogue Discussion (10 minutes)
- Temple Decorations (10 minutes)
- Treasure Hunt (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain the importance of a synagogue and how it is used
- Explain what happened to the synagogue during the time of the Greeks

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Representation
- ☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

- ☐ Preserve Jewish Identity

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ Record Sound
- ☐ Return to Start
- ☐ Go to Page
- ☐ Repeat # Times
- ☐ End Block

Lesson 3: Activities

SYNAGOGUE DISCUSSION (10 MIN)

Discuss with the students: What is a synagogue? What do you do in a synagogue?

Show the video "Inside a Synagogue" on YouTube at https://www.youtube.com/watch?v=9ddPrQqqaz8.

Ask the students what they think is necessary to have in all temples. What objects? How are the objects used/what are their significance?

Discuss with the students how all temples need an arc, torah, a menorah, the 10 commandments, a bima, and the Star of David.

TEMPLE DECORATIONS (10 MIN)

In the next activity, students will create a treasure hunt around a temple. Have students work in teams to draw decorations and symbolic representations they would want around their temple.

After they have finished drawing their representations, use the camera tool (#11 in the photo to the right) to take pictures of them. After selecting the camera tool, you can tap any section of a character or shape and then tap the camera button to fill the section with a new photo taken with the camera. This allows the students to have character representations of their representations for their future program.
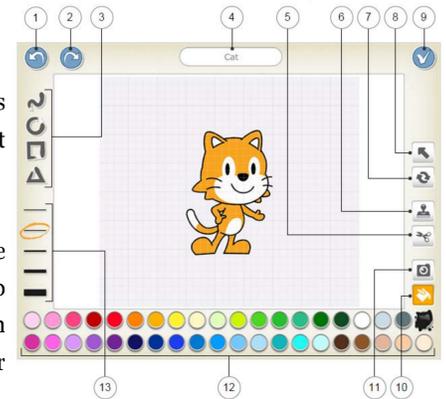
SCRATCHJR ACTIVITY: TREASURE HUNT (30 MIN)

Children will set the backgrounds of their ScratchJr activity to be different temples around the world today. They can program singing different songs or prayers that might be sung in a synagogue. They will then go on a "treasure hunt" around the synagogue, programing their character to approach the parts that make it a synagogue and not just any other room.

Parallel Programming is an important term to learn. It means that two programs are happening at one time. An example of a parallel program would be as follows.
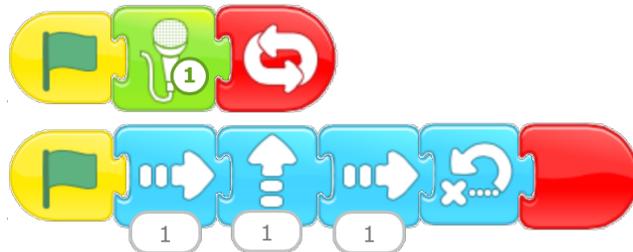
The above parallel programs allows for a voice recording to be played at the same time that the character is moving.

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to share their ScratchJr creations with the class and to discuss what was important in their temple.

Lesson 4: Building a Temple Part 2

OVERVIEW

In this lesson, students will use ScratchJr to design their own temple and add characters to resemble the different objects found in a temple.

ACTIVITIES

- Destruction of the Temple Discussion (10 minutes)
- Build a Temple (10 minutes)
- ScratchJr Temple (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain what happened to the Jewish temple and why the Jewish people went into battle with the Greeks

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Representation
- ☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

- ☐ Battle against Greeks
- ☐ Maccabees

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ End Blocks

DESTRUCTION OF THE TEMPLE DISCUSSION (10 MIN)

Explain to students that during the time of Greek rule, the Jewish people only had one sacred temple. The Greeks' dislike for Jewish people continued and they broke down this temple.

Greeks	Y'vanim	יְוָנִים

BUILD A TEMPLE (10 MIN)

In the next activity, students will create and decorate a temple on ScratchJr. Have students use this time to build physical representations of a temple using blocks or Legos. They may choose to make decorations to incorporate into their design.

SCRATCHJR ACTIVITY: SCRATCHJR TEMPLE (30 MIN)

Children will use ScratchJr to make a virtual temple. They can scan their previously drawn decorations onto ScratchJr or make them on the ScratchJr platform to incorporate them into their program.
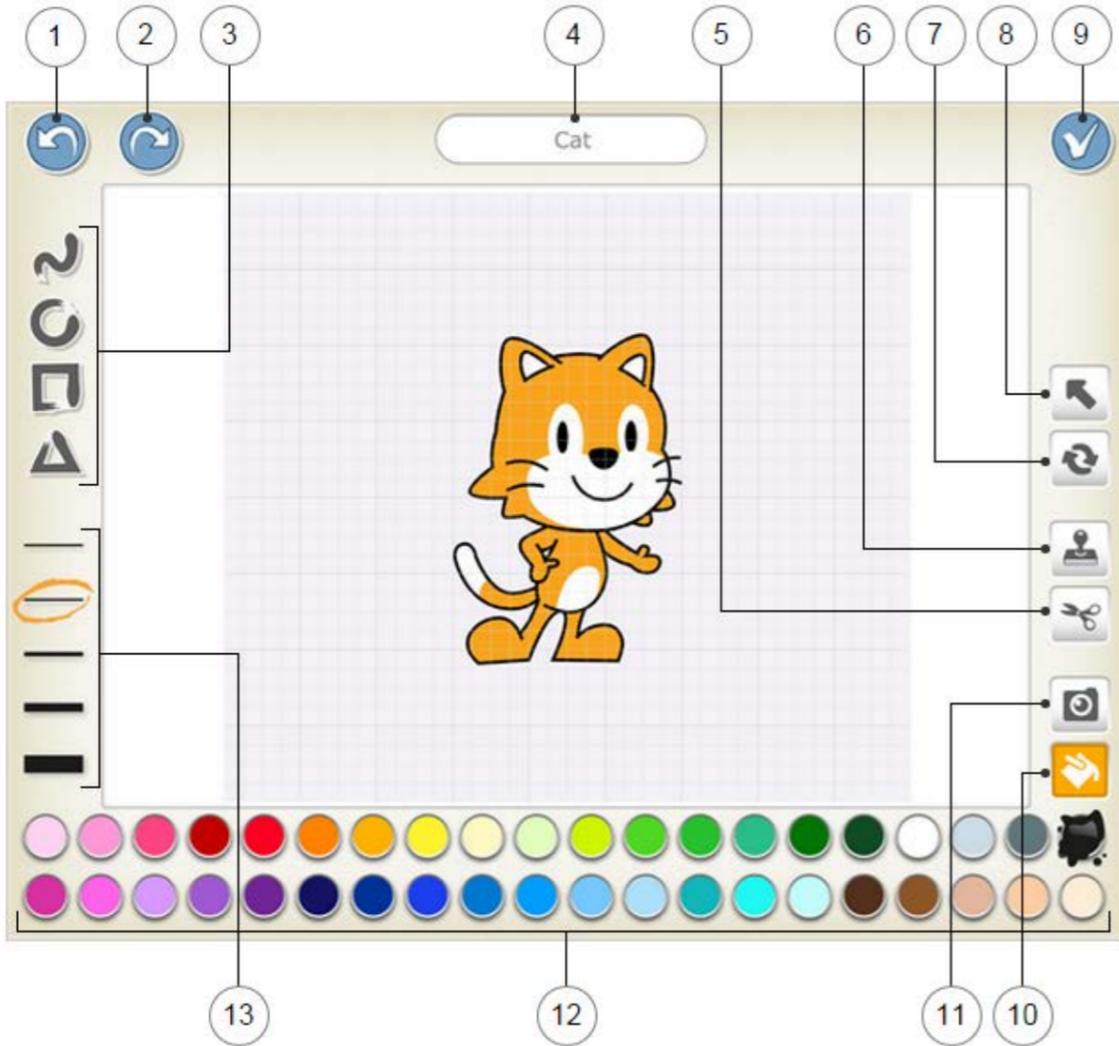
Change Background
Select or create a background image for the stage.

Lesson 4: Activities

1 **Undo**
Reverses the most recent change.

2 **Redo**
Reverses the most recent Undo.

3 **Shape**
Choose a shape to draw: line, circle/ellipse, rectangle, or triangle.

4 **Character Name**
Edit the name of the character.

5 **Cut**
After selecting the Cut tool, you can tap a character or shape to remove it from the canvas.

6 **Duplicate**
After selecting the Duplicate tool, you can tap a character or shape to create a copy of it.

7 **Rotate**
After selecting the Rotate tool, you can rotate a character or shape around its center.

8 **Drag**
After selecting the Drag tool, you can drag a character or shape on the canvas. If you tap on a shape, you can then edit the shape by dragging the dots that appear.

9 **Save**
Save changes and leave the paint editor.

10 **Fill**
After selecting the Fill tool, you can tap any section of a character or shape to fill it with the currently selected color.

11 **Camera**
After selecting the Camera tool, you can tap any section of a character or shape, and then tap the camera button to fill the section with a new photo taken with the camera.

12 **Color**
Select a new color to use for drawing and filling in shapes.

13 **Line Width**
Change the width of the lines in the shapes you are drawing.

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to share their ScratchJr temple with the class and explain their decisions for the design process.

Theme 2: Miracles

Lesson 5: Battle Against Greeks Part 1

OVERVIEW

In this lesson, students will program ScratchJr to create a situation where one character made another one upset, similarly to that of the Greek and Jewish people.

ACTIVITIES

- Battle against the Greeks Discussion (10 minutes)
- Conflict/Resolution Activity (20 minutes)
- Program a Conflict/Resolution (20 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain why the Jewish people went into battle with the Greeks and why it was permitted to fight on Shabbat
- Identify the Maccabees, Greeks, Hasmoneans, who led the Maccabees, and "pikuah nefesh doche shabbat"

POWERFUL IDEAS FROM COMPUTER SCIENCE

☐ Representation

☐ Control Structures

POWERFUL IDEAS FROM CHANUKKAH

☐ Battle against Greeks

☐ Preserve Jewish Identity

SCRATCHJR CONCEPTS

☐ Green Start
☐ Motion Blocks
☐ Record Sound
☐ Repeat Blocks
☐ End Block

Lesson 5: Activities

BATTLE AGAINST GREEKS DISCUSSION (10 MIN)

Teachers explain to students that after the Greeks destroyed the Jewish temple, a man named Judah from the Hasmonean Dynasty led the Jewish fighters, commonly known as the Maccabees, in a battle against the Greeks. However, this battle occurred on Shabbat. Would that usually be allowed? Why do you think it was allowed in this case? Explain the concept of "pikuaḥ nefesh doḥe shabbat."

Maccabees	makabim	מַכַּבִּים
Hasmoneans	ḥashmonayim	חַשְׁמוֹנַאיִים
Greeks	y'vanim	יְוָנִים
Saving a life sets aside Shabbat observance	pikuaḥ nefesh doḥe shabbat	פִּקּוּחַ נֶפֶשׁ דּוֹחֶה שַׁבָּת

CONFLICT/RESOLUTION ACTIVITY (20 MIN)

Students will think about a time that someone made them upset, like the Maccabees felt after their temple was knocked down. They will then draw the situation that occurred and how it was resolved.

SCRATCHJR ACTIVITY: PROGRAM A CONFLICT/RESOLUTION (20 MIN)

Children use ScratchJr to create a situation where one character made another character upset. They will also incorporate what the character did to react.

Example Blocks:

WRAP-UP ACTIVITY (10 MIN)

When all students are done with their programs, invite them to share their program in a circle. Students should share:
- Their programs
- Why they chose their characters and backgrounds
- How they decided what their characters were going to do
- What their characters could have done differently
- If the situation would have to be different if it was during Shabbat

Lesson 6: Battle Against Greeks Part 2

OVERVIEW

In this lesson, students will program ScratchJr to represent having won the battle. They will depict their characters celebrating.

ACTIVITIES

- A Great Miracle Happened Here (10 minutes)
- Your Miracles (20 minutes)
- Winning the Battle (20 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain why the Jewish people went into battle with the Greeks and the power of God's miracles
- Identify the Maccabees, Hasmoneans, Greeks, "nes gadol hayah po," and "nes gadol hayah sham"

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Representation
- ☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

- ☐ Battle against Greeks
- ☐ Preserve Jewish Identity
- ☐ Miracles

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Start on Tap
- ☐ Wait Time
- ☐ Record Sound
- ☐ Motion Blocks
- ☐ End Block

A GREAT MIRACLE HAPPENED HERE (10 MIN)

Teachers explain to students that when the Maccabees fought the Greeks, they were expected to lose the battle, because there were many more Greeks than Maccabees. However, a miracle happened and they ended up winning the battle. Teach the terms "nes gadol hayah po" and "nes gadol hayah sham."

Maccabees	makabim	מַכַּבִּים
Hasmoneans	ḥashmonayim	חַשְׁמוֹנַאיִים
Greeks	y'vanim	יְוָנִים
A great miracle happened here (dreidels in Israel)	nes gadol hayah po	נֵס גָּדוֹל הָיָה פֹּה
A great miracle happened there (dreidels outside of Israel)	nes gadol hayah sham	נֵס גָּדוֹל הָיָה שָׁם

Since this battle was an important defeat for the Jewish people, this holiday is called Chanukkah, meaning Channu = rested from battle on Kah = on the 25th of Kislev.

YOUR MIRACLES (20 MIN)

Students will think about a time that the odds were not in their favor, but they succeeded. For example, maybe they played a game with a parent, thought they were going to lose, but ended up winning. They will then draw or act out their example of a situation where they won.

SCRATCHJR ACTIVITY: WINNING THE BATTLE (20 MIN)

Children program ScratchJr to represent having won the battle. They can program their character to dance or cheer in happiness and/or draw something that represent Judaism to show that the Jewish people persevered.

Example Blocks:

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to discuss what it means to have won the battle. What would change for the Jewish people now that they defeated the Greeks? What will they be able to do now that the Greeks are not trying to eliminate Judaism?

Lesson 7: The Oil Miracle

OVERVIEW

In this lesson, students will program Scratch Jr to tell the story of the miracle of the oil. They will incorporate three pages on the ScratchJr platform to resemble the Jewish people finding the oil, lighting their candles, and the oil lasting for 8 days.

ACTIVITIES

- The Miracle of the Oil (10 minutes)
- Oil Treasure Hunt (10 minutes)
- ScratchJr and the Oil Miracle (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain the two miracles that took place during Chanukkah and the significance of the oil lasting for 8 days
- Identify "nes gadol hayah po," "nes gadol hayah sham," and festival of lights

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Modularity
- ☐ Control Structures

POWERFUL IDEAS FROM CHANUKKAH

- ☐ Miracles
- ☐ Festival of Lights
- ☐ Preserve Jewish Identity

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ Control Speed
- ☐ Record Voice
- ☐ Repeat # Times
- ☐ Go to Page
- ☐ End Block

THE MIRACLE OF THE OIL (10 MIN)

Teachers ask students if anyone knows what the miracle of the oil was. Then explain that the Jewish people returned to their previously attacked temple and needed oil for light inside the building. When they found a little oil, it was only enough for one night. However, a miracle occurred and the oil lasted for 8 days. This is why Chanukkah is also referred to as the "Festival of Lights."

A great miracle happened here (dreidels in Israel)	nes gadol hayah po	נֵס גָּדוֹל הָיָה פֹּה
A great miracle happened there (dreidels outside of Israel)	nes gadol hayah sham	נֵס גָּדוֹל הָיָה שָׁם
Festival of Lights	ḥag ha-urim, ḥag hanerot	חַג הָאוּרִים, חַג הַנֵּרוֹת

OIL TREASURE HUNT (10 MIN)

Students will create a pot of oil either using art supplies, blocks, or legos. The teacher will hide the pot around the classroom and students will go on a "treasure hunt" around the classroom to find it.

SCRATCHJR ACTIVITY: SCRATCHJR AND THE OIL MIRACLE (30 MIN)

Children program ScratchJr to approach the oil. On the next page, program ScratchJr to show a lit candle. On the third and last page, children will make it represent the 8th day where the oil is still working; they can add text that says "8 days later" or record themselves saying it if they choose.

Example Page 1:

Example Page 2 (Candle Flickering):

Example Page 3:
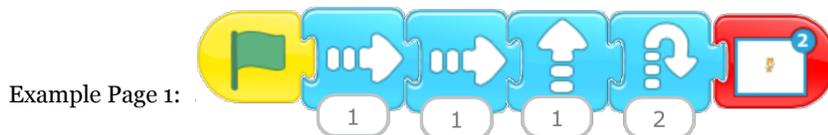
WRAP-UP ACTIVITY (10 MIN)

Students will share their ScratchJr projects and begin a discussion about the importance of light. Why is light important? What do we use lights for? What would happen if we didn't have lights?

Theme 3:
The Festival of Lights

Lesson 8: The Story of Chanukkah Part 1

OVERVIEW

In this lesson, students will use ScratchJr programming to retell the story of Chanukkah.

ACTIVITIES

- Mitzvot of Chanukkah (10 minutes)
- Story of Chanukkah Brainstorm (10 minutes)
- The Story of Chanukkah (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain why Chanukkah is called the festival of lights, what the lights represent, and how we preserve Judaism today
- Identify the Maccabees, Hasmoneans, Greeks, and the festival of lights

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Modularity
- ☐ Control Structures
- ☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

- ☐ Preserve Jewish Identity
- ☐ Festival of Lights
- ☐ Miracles
- ☐ Traditions

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ Say Block
- ☐ Looks Blocks
- ☐ Control Speed
- ☐ Wait Time
- ☐ Record Sound
- ☐ Pop Sound
- ☐ Go to Page
- ☐ Repeat # Times
- ☐ End Block

Lesson 8: Activities

MITZVOT OF CHANUKKAH (10 MIN)

Teachers explain to students that the "lights" of Chanukkah represent our Mitzvot. The mitzvot of Chanukkah include our dedication to Judaism and G-d even when the leaders forbid it.

How do you think we preserve our Judaism today?

An example is through story-telling. We remember the story of Chanukkah as a way to remain dedicated and preserve our Jewish identity.

Teachers will play the "What is Chanukkah?" video on Youtube, https://www.bimbam.com/judaism-101/chanukah/

STORY OF CHANUKKAH BRAINSTORM (10 MIN)

In the next activity, students will retell the story of Chanukkah using ScratchJr. Have students brainstorm the story of Chanukkah. They will draw pictures, potential programming blocks, and write anything they may want to include in their story.

SCRATCHJR ACTIVITY: THE STORY OF CHANUKKAH (30 MIN)

Students will use ScratchJr programming to retell the story of Chanukkah.
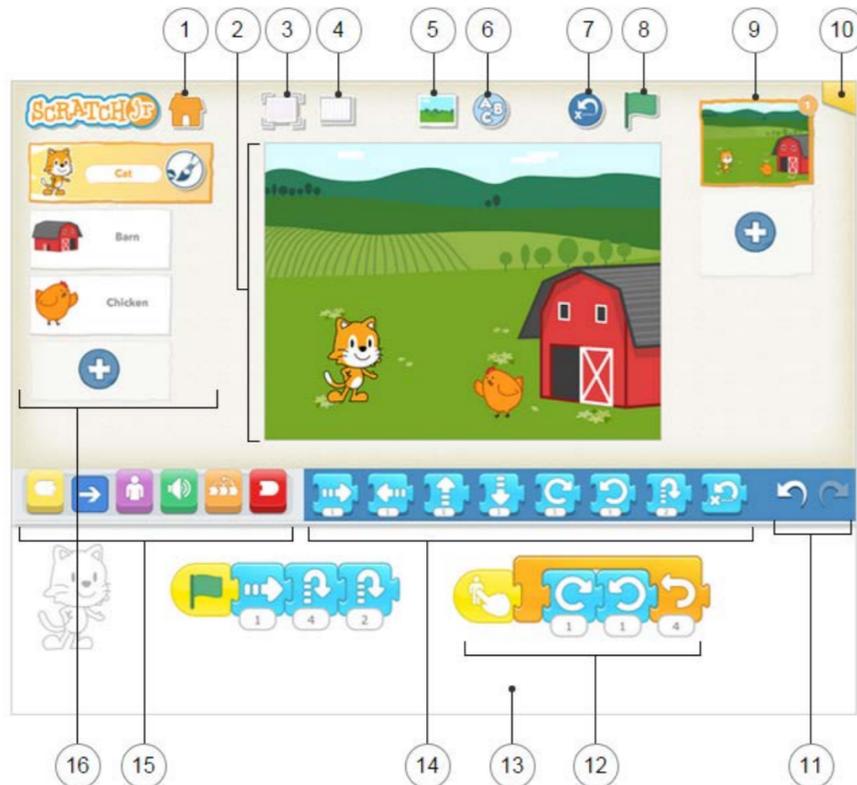
(1) **Save**
Save the current project and exit to the Home page.

(2) **Stage**
This is where the action takes place in the project. To delete a character, press and hold it.

(3) **Presentation Mode**
Expand the stage to the full screen.

(4) **Grid**
Toggle on (and off) the x-y coordinate grid.

(5) **Change Background**
Select or create a background image for the stage.

(6) **Add Text**
Write titles and labels on the stage.

(7) **Reset Characters**
Reset all characters to their starting positions on the stage. (Drag characters to set up new starting positions.)

(8) **Green Flag**
Start all programming scripts that begin with a "Start on Green Flag" block by tapping here.

(9) **Pages**
Select among the pages in your project -- or tap the plus sign to add a new page. Each page has its own set of characters and a background. To delete a page, press and hold it. To reorder pages, drag them to new positions.

(10) **Project Information**
Change the title of the project and see when the project was created.

(11) **Undo and Redo**
If you make a mistake, tap Undo to go back in time, reversing the last action. Tap Redo to reverse the last Undo.

(12) **Programming Script**
Snap blocks together to make a programming script, telling the character what to do. Tap anywhere on a script to make it run. To delete a block or script, drag it outside the programming area. To copy a block or script from one character to another, drag it onto the character's thumbnail.

Example Blocks:

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to share what they thought was important to include in their Chanukkah story and why.

Lesson 9: The Story of Chanukkah Part 2

OVERVIEW

In this lesson, students will collaborate with their classmates to debug their previously made stories on ScratchJr.

ACTIVITIES

- Symbolism of Light (10 minutes)
- Expressing Love (15 minutes)
- The Story of Chanukkah Debugged (25 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain why Chanukkah is called the festival of lights, what the lights represent, and how we preserve Judaism today
- Identify the Maccabees, Hasmoneans, Greeks, and the festival of lights

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Modularity
- ☐ Control Structures
- ☐ Design Process
- ☐ Debugging

POWERFUL IDEAS FROM CHANUKKAH

- ☐ The Festival of Lights

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ Say Block
- ☐ Looks Blocks
- ☐ Control Speed
- ☐ Wait Time
- ☐ Record Sound
- ☐ Pop Sound
- ☐ Go to Page
- ☐ Repeat # Times
- ☐ End Block

Lesson 9: Activities

SYMBOLISM OF LIGHT (10 MIN)

The "lights" of Chanukkah also symbolize hope and love to each other. How do you show your love toward others?

Show the students "What If We Were Chanukah Heroes?" at https://www.chabad.org/kids/whatif/default_cdo/aid/1054706/jewish/What-If-We-Were-Chanukah-Heroes.htm. This shows how important it is to spread love, "light," around the community.

EXPRESSING LOVE (15 MIN)

Students will write/draw about a time they did something to show they loved someone.

SCRATCHJR ACTIVITY: THE STORY OF CHANUKKAH DEBUGGED (25 MIN)

Using the idea of love to each other, students will work together with their classmates to debug their previously made stories on ScratchJr. They will work together to make the stories more accurate in preparation for sharing them with the class.

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to present their ScratchJr version of the story of Chanukkah.

Lesson 10: The First Night of Chanukkah

OVERVIEW

In this lesson, students will program ScratchJr to represent what they do with their family during Chanukkah.

ACTIVITIES

- Importance of Sunset (10 minutes)
- Chanukkah Traditions (20 minutes)
- Chanukkah at My House (20 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Identify the four species in English and Hebrew
- Explain when Chanukkah begins and ends
- Understand Chanukkah Traditions
- Identify the Maccabees, Hasmoneans, Greeks, and the festival of lights

POWERFUL IDEAS FROM COMPUTER SCIENCE

☐ Algorithms

☐ Control Structures

☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

☐ The Festival of Lights

SCRATCHJR CONCEPTS

☐ Green Start
☐ Motion Blocks
☐ Looks Blocks
☐ Wait Time
☐ Repeat # Times
☐ Record Sound
☐ End Block

Lesson 10: Activities

IMPORTANCE OF SUNSET (10 MIN)

Students will listen to "The Maccabeats-Candlelight" on YouTube at https://www.youtube.com/watch?v=qSJCSR4MuhU.

Teachers will ask students how they know when Chanukkah starts and ends.

Chanukkah starts and ends at sunset. Ask the students: What other holidays can you think of that also have sunset as their marker?
For example, Shabbat, Rosh Hashana, and Yom Kippur all start and end at sunset.

Ask the students: What do you and your family do to celebrate Chanukkah?

CHANUKKAH TRADITIONS (20 MIN)

Students will split into two groups and prepare skits to share with the class that expresses what traditions they have during Chanukkah in their households. They will have 10 minutes to prepare and each group will have 5 minutes to share.

SCRATCHJR ACTIVITY: CHANUKKAH AT MY HOUSE (20 MIN)

Students will program ScratchJr to represent what they do with their family during Chanukkah. They will program their character or characters (family/friends) to do one of their Chanukkah traditions.
For example, students can program lighting the candles with their family.

Example Blocks:
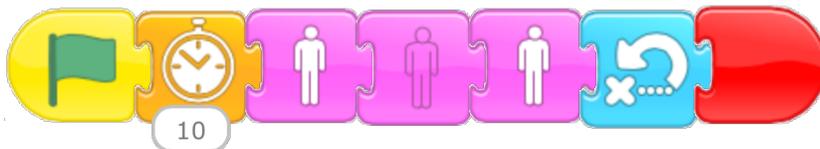
WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to share:
- Their ScratchJr programs
- What their characters are doing to celebrate Chanukkah
- How they chose those characters
- What each block represents
- Anything that was hard, easy, surprising, interesting, etc. about the process

Theme 4:
The Hanukkiyah

Lesson 11: Menorah or Hanukkiyah?

OVERVIEW

In this lesson, students will program ScratchJr to show when to use a menorah and when to use a hanukkiyah.

ACTIVITIES

- Menorah or Hanukkiyah? (10 minutes)
- Make Your Own Hanukkiyah (20 minutes)
- Menorah/Hanukkiyah Program (20 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain the difference between a menorah and a hanukkiyah
- Identify the different in settings of a menorah and hanukkiyah
- Identify a menorah, hanukkiyah, and shamash

POWERFUL IDEAS FROM COMPUTER SCIENCE

☐ Algorithms

☐ Control Structures

☐ Representation

☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

☐ The Festival of Lights

SCRATCHJR CONCEPTS

☐ Green Start

☐ Motion Blocks

☐ Pop Sound

☐ Wait Time

☐ Start on Tap

☐ Looks Blocks

☐ Record Sound

☐ End Block

MENORAH OR HANUKKIYAH? (10 MIN)

Ask the students: What is the difference between a menorah and a hannukiyah? How many candles do they have and when do you use each?

Seven-branched candelabrum	menorah	מְנוֹרָה
Nine-branched candelabrum	ḥanukkiyah	חֲנֻכִּיָּה
"Servant" candle used to light the other candles	shamash	שַׁמָּשׁ

Show the students the Bim Bam video, "Why Do Some Menorahs Only Have 7 Branches?" from https://www.bimbam.com/judaism-101/chanukah/.

MAKE YOUR OWN HANUKKIYAH (20 MIN)

Students will make their own hanukkiyah using classroom materials. They can use paper or toilet paper/paper towel cardboard tubes to make their candles. Tissue paper or regular paper can be used to create the flames as well.

SCRATCHJR ACTIVITY: MENORAH/HANUKKIYAH PROGRAM (20 MIN)

Children will program ScratchJr to show when to use a menorah and when to use a hanukkiyah. They will use the setting tool to make the two different settings and show the two different candle holders (menorah and hanukkiyah). They will program ScratchJr to show which is the correct candle holder for each setting.

For example, they can have both the hanukkiyah and menorah on each page and program the one that doesn't belong to disappear, and/or the proper one to dance, etc. when touched.

Example Blocks:

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to share their ScratchJr program, identify hanukkiyah and menorahs in their program, and explain how they chose where the candle holders were placed.

Lesson 12: The Leader

OVERVIEW

In this lesson, students will program ScratchJr to be a leader and have the "Jewish people" (the other characters the child has made) follow him/her.

ACTIVITIES

- The Shamash (10 minutes)
- Programmer Says (15 minutes)
- Follow the Leader (25 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain the importance of the shamash and significance of having a leader to the story of Chanukkah
- Identify a hanukkiyah and a shamash

POWERFUL IDEAS FROM COMPUTER SCIENCE

☐ Algorithms

☐ Control Structures

☐ Representation

POWERFUL IDEAS FROM CHANUKKAH

☐ Tradition

☐ Hanukkiyah

SCRATCHJR CONCEPTS

☐ Green Start
☐ Motion Blocks
☐ Repeat # Times
☐ Record Sound
☐ Wait Time
☐ End Block

Lesson 12: Activities

THE SHAMASH (10 MIN)

What is the extra candle on the hanukkiyah called? What does it do that is different from the rest of the candles?
This is the shamash or "servant" candle. It is the only candle we light with a lighter; it is used to light the other candles.

Can you think of a character in the story of Chanukkah who was a leader like the Shamash?
Teachers may prompt students to think about Judah Maccabee.

Nine-branched candelabrum	ḥanukkiyah	חֲנֻכִּיָּה
"Servant" candle used to light the other candles	shamash	שַׁמָּשׁ

PROGRAMMER SAYS (15 MIN)

Students will play a game of programmer says to explore the topic of leadership.

SCRATCHJR ACTIVITY: FOLLOW THE LEADER (25 MIN)

Students will program ScratchJr to be a leader and have the "Jewish people" (the other characters the child has made) follow him/her.

Example Blocks:

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to discuss why it is important for there to be a leader. What would happen if everyone in your program was the "leader?"

Lesson 13: Find a Home for the Hanukkiyah

OVERVIEW

In this lesson, students will program ScratchJr to represent the proper placement of a hanukkiyah in a room.

ACTIVITIES

- Publicizing the Miracle (10 minutes)
- Classroom Hanukkiyah (10 minutes)
- Hanukkiyah Placement (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain where a hanukkiyah can be placed and why
- Identify the importance of publicizing the miracle

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Modularity
- ☐ Representation
- ☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

- ☐ Hanukkiyah

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ Looks Blocks
- ☐ Wait Time
- ☐ Control Speed
- ☐ End Block

Lesson 13: Activities

PUBLICIZING THE MIRACLE (10 MIN)

Teachers explain to students why there are rules for the placement of a hanukkiyah in the household. It is important to place the hanukkiyah near a window to publicize the miracle of Chanukkah or place it opposite the mezuzah to be sure it is surrounded by mitzvot.

What does it mean to publicize the miracle?

| Publicizing the miracle	pirsum ha-nes	פִּרְסוּם הַנֵּס

CLASSROOM HANUKKIYAH (10 MIN)

Students will work in pairs to determine the best areas of the classroom for a hanukkiyah to be placed during Chanukkah. Teachers will give each group a different color of paper to distinguish themselves, and students will place that paper in different spots throughout the classroom to identify the spot as a proper placement for their hanukkiyah.

SCRATCHJR ACTIVITY: HANUKKIYAH PLACEMENT (30 MIN)

Students will program ScratchJr so there are hanukkiyah throughout the room. They will then have children switch tablets with their neighbor and program for all the hanukkiyah to go invisible except the ones that follow the placement rules.

Example Blocks:
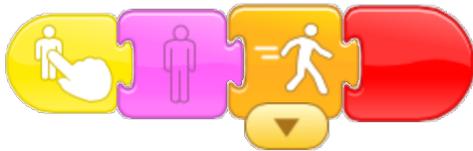
WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to discuss whether it was difficult to find a place for their hanukkiyah in the classroom. Ask the students: What made it easy or difficult to determine these locations?

Lesson 14: Lighting the Hanukkiyah Part 1

OVERVIEW

In this lesson, students will program for a sunset background on ScratchJr and have their character light the hanukkiyah.

ACTIVITIES

- How to Light the Hanukkiyah (10 minutes)
- Candle Lighting Representation (10 minutes)
- Hanukkiyah Lighting (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Identify Beit Hillel and Beit Shammai
- Explain what time of day the hanukkiyah is lit
- Explain the two ideas based on Hillel and Shammai that explain how to light the hanukkiyah

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Control Structures

POWERFUL IDEAS FROM CHANUKKAH

- ☐ The Festival of Lights
- ☐ Hanukkiyah

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ Looks Blocks
- ☐ Control Speed
- ☐ Wait Time
- ☐ Record Sound
- ☐ Repeat # Times
- ☐ End Block

SIGNIFICANCE OF KIDDUSH CUP AND CANDLES (10 MIN)

When you light the hannukiyah with your family, how do you show how many days of Chanukkah have passed? Do you add a candle each night or take away a candle each night?

There are two ideas based on Hillel and Shammai that have to do with the proper way to light the hanukkiyah. (Hillel says,"We raise the level of holiness, not decrease and therefore we add a candle each night. Shamai says, we start with 8 candles and decrease by a candle each night. (Babylonian Talmud, Shabbat 21b).

We set the candles from left to right and light from right to left. The newest candle is always lit first.

House of Hillel	Beit Hillel	בֵּית הֵלֵּל
House of Shammai	Beit Shammai	בֵּית שַׁמַּאי

CANDLE LIGHTING REPRESENTATION (10 MIN)

Students will use their previously made hanukkiyah from lesson 11 to act out the proper way to light the candles. They will remove their representation of flames from the candles and place them back onto the hanukkiyah in the proper way.

SCRATCHJR ACTIVITY: HANUKKIYAH LIGHTING (30 MIN)

Students will program for a sunset background on ScratchJr, representing Chanukkah starting and ending with the sunset. They will then have their character light the hanukkiyah.

Example Blocks:

WRAP-UP ACTIVITY (10 MIN)

Ask the students: How would the ceremonial lighting would be different if they also had to light Shabbat candles? What about Havdallah candles?

Discuss with them how on Friday night, Chanukkah candles are lit first and Shabbat candles are lit second. On Saturday night, Havdallah candles are lit first and Chanukkah candles are lit second

Lesson 15: Lighting the Hanukkiyah Part 2

OVERVIEW

In this lesson, students will work together to record the three blessings and incorporate them into their previously made hanukkiyah lighting program.

ACTIVITIES

- Introduce Blessings (10 minutes)
- Order Matters (10 minutes)
- Record Blessings (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Recite the three blessings before lighting the hanukkiyah
- Explain how we light the candles on the hanukkiyah and which candles are lit first when Shabbat or Havdalah coincide with Chanukkah

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Control Structures
- ☐ Debugging

POWERFUL IDEAS FROM CHANUKKAH

- ☐ The Festival of Lights
- ☐ Hanukkiyah

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ Looks Blocks
- ☐ Control Speed
- ☐ Wait Time
- ☐ Record Sound
- ☐ Repeat # Times
- ☐ End Block

Lesson 15: Activities

INTRODUCE BLESSINGS (10 MIN)

What was missing in the last activity? Your character lit the candles without the blessing!

Introduce the blessings recited during Chanukkah.

בָּרוּךְ אַתָּה, יְיָ אֱלֹהֵֽינוּ, מֶֽלֶךְ הָעוֹלָם, אֲשֶׁר קִדְּשָֽׁנוּ בְּמִצְוֹתָיו וְצִוָּֽנוּ לְהַדְלִיק נֵר שֶׁל חֲנֻכָּה

Blessed are You, the Eternal our God, ruler of the universe who made us holy with your commandments, and commanded us to light ḥanukkah candles.	Barukh ata Adonai Eloheinu melekh ha'olam, asher kid'shanu b'mitzvotav v'tzivanu l'hadlik ner shel ḥanukkah.

בָּרוּךְ אַתָּה, יְיָ אֱלֹהֵֽינוּ, מֶֽלֶךְ הָעוֹלָם, שֶׁעָשָׂה נִסִּים לַאֲבוֹתֵֽינוּ בַּיָּמִים הָהֵם בַּזְּמַן הַזֶּה

Blessed are You, the Eternal our God, ruler of the universe who provided miracles for our ancestors in those days at this time.	Barukh ata Adonai Eloheinu melekh ha'olam, she-asah nisim la'avoteinu bayamim ha-hem ba-z'man ha-zeh.

בָּרוּךְ אַתָּה, יְיָ אֱלֹהֵֽינוּ, מֶֽלֶךְ הָעוֹלָם, שֶׁהֶחֱיָֽנוּ וְקִיְּמָֽנוּ וְהִגִּיעָֽנוּ לַזְּמַן הַזֶּה

| Blessed are You, the Eternal our God, ruler of the universe who returned us to life, sustained us, and caused us to reach this time.	Barukh ata Adonai Eloheinu melekh ha'olam, she-he-ḥe-yanu v'ki-y'manu v'higi-anu la-z'man ha-zeh.

ORDER MATTERS (10 MIN)

Order matters when we light the candles and recite prayers, but it also matters in everyday life. Students will act out what would happen if they did not follow an order during one of their daily routines. For example, what if you did not follow the proper order of brushing your teeth? What if you spit first, then brushed your teeth with a toothbrush, and then added toothpaste?

SCRATCHJR ACTIVITY: RECORD BLESSINGS (30 MIN)

Students will work together to record the three blessings and incorporate them into their previously made hanukkiyah lighting program.

Example Blocks:
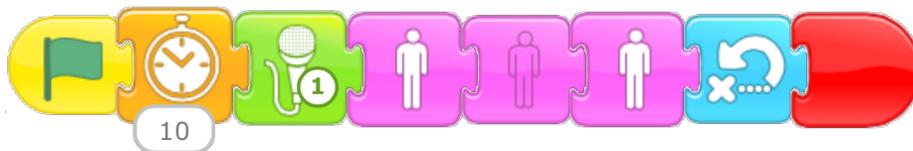
WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to share their programs with the class.

Theme 5: Traditions

Lesson 16: Chanukkah Recipes

OVERVIEW

In this lesson, students will use ScratchJr to make traditional Chanukkah foods.

ACTIVITIES

- Chanukkah Foods (10 minutes)
- Recipe (10 minutes)
- Chanukkah Baking (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain the foods we eat during Chanukkah and their significance
- Identify latkes and sufganiyot

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Modularity
- ☐ Representation
- ☐ Hardware/Software
- ☐ Debugging

POWERFUL IDEAS FROM CHANUKKAH

- ☐ Traditions
- ☐ Miracles

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ Looks Blocks
- ☐ Control Speed
- ☐ Wait Time
- ☐ Pop Sound
- ☐ Record Sound
- ☐ Repeat # Times
- ☐ End Block

CHANUKKAH FOODS (10 MIN)

Teachers ask students why we eat latkes and sufganiyot when we celebrate Chanukkah.
Latkes and sufganiyot are made with oil, so we eat them to honor the miracle of the oil.

Latkes, potato pancakes	l'viva, l'vivot	לְבִיבָה, לְבִיבוֹת
Jelly-filled doughnuts	sufganiyah, sufganiyot	סֻפְגָּנִיָּה, סֻפְגָּנִיּוֹת

RECIPE (10 MIN)

In the next activity, students will bake a Chanukkah treat. Have students decide whether they are going to make latkes or sufganiyot for their Chanukkah recipe. They will then make a list either with words or pictures to describe what they need for their recipe.

SCRATCHJR ACTIVITY: CHANUKKAH BAKING (30 MIN)

Students will use ScratchJr to follow their recipes for either latkes or sufganiyot.

Example (putting food in oven):

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to share:
- Their recipes
- Why they chose that recipe
- Their programs
- Why they chose those characters and backgrounds
- What each block represents
- Anything that was hard, easy, surprising, interesting, etc. about the process

Lesson 17: Dreidel Part 1

OVERVIEW

In this lesson, students will use ScratchJr to make their own dreidel character.

ACTIVITIES

- Significance of Dreidels (10 minutes)
- Dreidel Making (20 minutes)
- ScratchJr Dreidel Making (20 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain why we play with dreidels during Chanukkah and their significance during the time of the Greek rules
- Identify dreidels

POWERFUL IDEAS FROM COMPUTER SCIENCE

☐ Hardware/Software

☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

☐ Traditions

☐ Preserving Jewish Identity

SIGNIFICANCE OF DREIDELS (10 MIN)

Teachers will explain to students why we play with dreidels during Chanukkah. When the Greeks did not let the Jewish people practice Judaism, they needed to come up with creative ways to teach the torah. They did this by creating and playing with dreidels.

Teachers will play up to 2 minutes and 24 seconds of the "G-dcast Hanukkah Story for Kids" at https://www.bimbam.com/judaism-101/chanukah/. This is the second video on the website.

| Dreidels, spinning tops	s'vivon, s'vivonim	סְבִיבוֹן, סְבִיבוֹנִים

What Hebrew letters can be found on the dreidel?

The Hebrew letters on the dreidel stand for "nes gadol hayah sham," a great miracle happened here.

| A great miracle happened there (dreidels outside of Israel)	nes gadol hayah sham	נֵס גָּדוֹל הָיָה שָׁם

DREIDEL MAKING (20 MIN)

Students will make their own dreidel using cardboard and a pencil. They will cut out a square of cardboard, make four triangles for each letter, and then draw the letters "shin," "hay," "gimel" and "nun." To complete the dreidel, students will stick a pen or pencil into the center of the cardboard. An example is as follows...
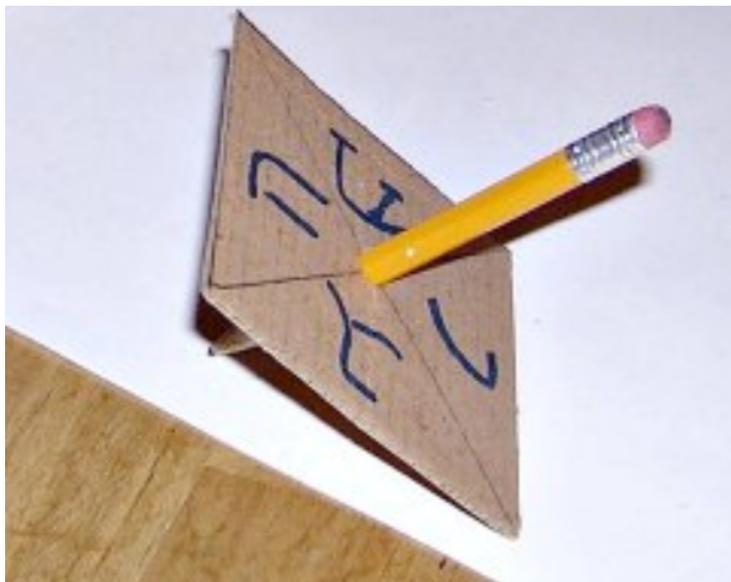
SCRATCHJR ACTIVITY: SCRATCHJR DREIDEL MAKING (20 MIN)

Students will use ScratchJr to make their own dreidel character and gelt, chocolate coins.
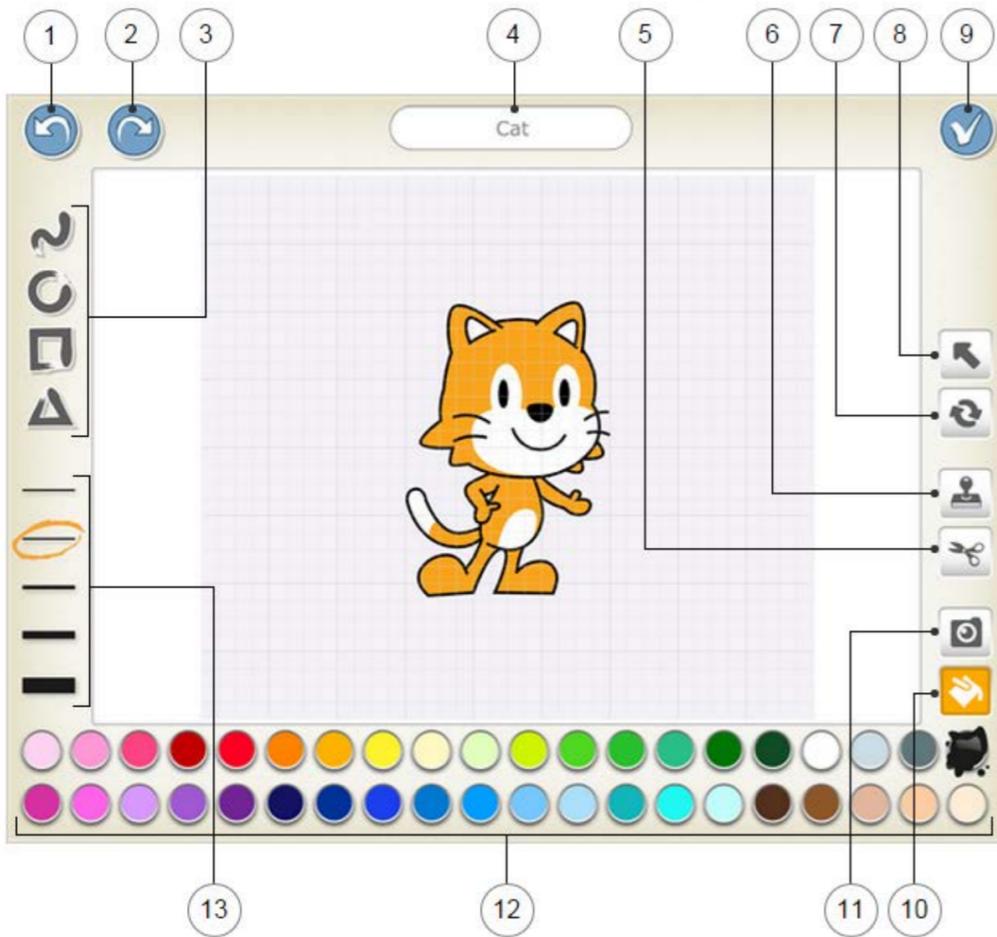
Lesson 17: Activities

1 **Undo**
Reverses the most recent change.

2 **Redo**
Reverses the most recent Undo.

3 **Shape**
Choose a shape to draw: line, circle/ellipse, rectangle, or triangle.

4 **Character Name**
Edit the name of the character.

5 **Cut**
After selecting the Cut tool, you can tap a character or shape to remove it from the canvas.

6 **Duplicate**
After selecting the Duplicate tool, you can tap a character or shape to create a copy of it.

7 **Rotate**
After selecting the Rotate tool, you can rotate a character or shape around its center.

8 **Drag**
After selecting the Drag tool, you can drag a character or shape on the canvas. If you tap on a shape, you can then edit the shape by dragging the dots that appear.

9 **Save**
Save changes and leave the paint editor.

10 **Fill**
After selecting the Fill tool, you can tap any section of a character or shape to fill it with the currently selected color.

11 **Camera**
After selecting the Camera tool, you can tap any section of a character or shape, and then tap the camera button to fill the section with a new photo taken with the camera.

12 **Color**
Select a new color to use for drawing and filling in shapes.

13 **Line Width**
Change the width of the lines in the shapes you are drawing.

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to share their dreidel designs with classmates, and discuss what is the difference between a dreidel and a spinning top.

For example, a dreidel has Hebrew letters on it and a top usually does not have any letters on it.

Lesson 18: Dreidel Part 2

OVERVIEW

In this lesson, students will take previously made dreidel and "play a game" of dreidel.

ACTIVITIES

- The Rules of Dreidel (10 minutes)
- Dreidel Game (15 minutes)
- Make Your Own Dreidel Game (25 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain why we play with dreidels during Chanukkah and their significance during the time of the Greek rules
- Identify dreidels

POWERFUL IDEAS FROM COMPUTER SCIENCE

☐ Algorithms

☐ Control Structures

☐ Design Process

☐ Debugging

POWERFUL IDEAS FROM CHANUKKAH

☐ Traditions

☐ Preserving Jewish Identity

SCRATCHJR CONCEPTS

☐ Green Start

☐ Motion Blocks

☐ Looks Blocks

☐ Control Speed

☐ Wait Time

☐ Record Sound

☐ Repeat # Times

☐ End Block

Lesson 18: Dreidel Part 2

THE RULES OF DREIDEL (10 MIN)

Teachers will explain the rules of the game, dreidel, to students through the video "Dreidel Rules in 15 Seconds" at https://www.bimbam.com/judaism-101/chanukah.

Dreidels, spinning tops	s'vivon, s'vivonim	סְבִיבוֹן, סְבִיבוֹנִים

Teachers will teach the class the dreidel song using the first 1 minute and 33 seconds of the following video: https://www.youtube.com/watch?v=b-_N1qXozkQ

DREIDEL GAME (15 MIN)

In the next activity, students will create a ScratchJr activity for the dreidel game. Have students play a physical game of dreidel to learn how to play prior to programming ScratchJr.

SCRATCHJR ACTIVITY: MAKE YOUR OWN DREIDEL GAME (25 MIN)

Children will take previously made dreidel and "play a game" of dreidel. They will program the dreidel to spin when you touch it to represent playing dreidel. Students will also record themselves singing the dreidel song and incorporate it into their program.

Example Blocks:

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to discuss the difference between playing dreidel in person and programming their characters on Scratch Jr to play dreidel?

Lesson 19: Gift Exchange

OVERVIEW

In this lesson, students will use the collaborative functions of ScratchJr to have a Chanukkah gift exchange.

ACTIVITIES

- Purpose of Gifts during Chanukkah (10 minutes)
- Gift Exchange Planning (10 minutes)
- Create and Share Gifts (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain why we receive gifts on Chanukkah and what we preserve by studying Torah

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Control Structures
- ☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

- ☐ Traditions
- ☐ Preserving Jewish Identity

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ Looks Blocks
- ☐ Control Speed
- ☐ Wait Time
- ☐ Record Sound
- ☐ Repeat # Times
- ☐ Go to Page
- ☐ End Block

PURPOSE OF GIFTS DURING CHANUKKAH (10 MIN)

Why do we receive gifts on Chanukkah? Teachers will explain to students that they receive gifts on Chanukkah since their parents are so proud of their study of Torah and the preservation of our traditional mitzvot.

One explanation for gift giving during Chanukkah is as follows:

"Chinuch (education) shares the same Hebrew root (Chet/nun/chaf) as Chanukah (dedication). For this reason, education and specifically Torah study became a central practice during Hanukkah. Historian Eliezer Segal suggests that families began to use these Torah study sessions during Hanukkah as an opportunity to give small amounts of money to teachers, who were otherwise prohibited from accepting money for teaching Torah. Parents would give children money to give to their teachers, and eventually, Segal suggests, the children began to expect it themselves" (https://reformjudaism.org/blog/2012/12/04/are-hanukkah-gifts-really-jewish).

GIFT EXCHANGE PLANNING (10 MIN)

In the next activity, students will use ScratchJr to create a gift they wish to give a friend. Have students plan out what they will create for this gift exchange.

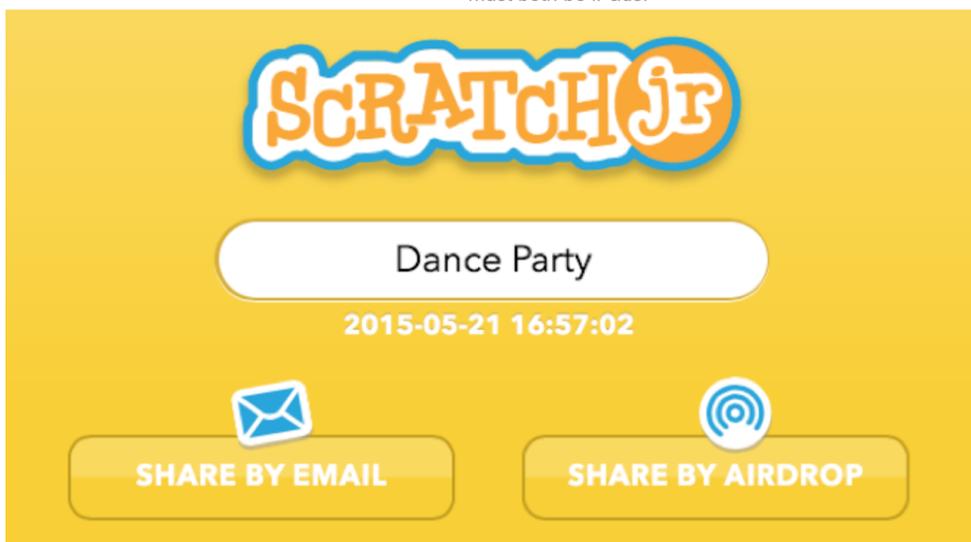## SCRATCHJR ACTIVITY: CREATE AND SHARE GIFTS (30 MIN)

Students will use ScratchJr to make a gift exchange. They will create presents on their ScratchJr using the character creation tools taught in lessons 4 and 17. They will then program their characters to give a classmate or teacher a

You can share your ScratchJr projects in one of two ways: by email or by AirDrop.

When the project you want to share is open, tap the yellow tab in the top-right corner to go to the Project Information screen.
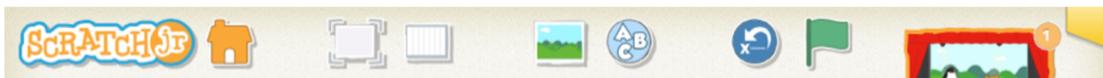
Then select your sharing method: *Share by Email* or *Share by AirDrop*. Regardless of which method you use to send your project, the recipient tablet must have ScratchJr installed. If you choose to share by AirDrop, the sender and the recipient must both be iPads.

"surprise gift". Students will use the share function on ScratchJr to send their projects to their classmates and receive others' projects as well.

For more information regarding project sharing, please visit https://www.scratchjr.org/learn/tips/share-projects

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to discuss:
- How they decided who to surprise with a gift
- How they chose what the gift would be
- What that person has done to bring them love and hope like the miracles during Chanukkah
- What each block represents in their program

Lesson 20: Celebration

OVERVIEW

In this lesson, students will work together to celebrate Chanukkah by programming their ScratchJr character to sing and dance to the song "Oh Chanukkah."

ACTIVITIES

- Why Celebrate? (10 minutes)
- Chanukkah Songs (10 minutes)
- Chanukkah Celebration (30 minutes)
- Wrap-up Activity (10 minutes)

STUDENTS WILL BE ABLE TO...

- Explain how we preserve our Jewish identity today

POWERFUL IDEAS FROM COMPUTER SCIENCE

- ☐ Algorithms
- ☐ Representation
- ☐ Design Process

POWERFUL IDEAS FROM CHANUKKAH

- ☐ Traditions
- ☐ Festival of Lights
- ☐ Preserving Jewish Identity

SCRATCHJR CONCEPTS

- ☐ Green Start
- ☐ Motion Blocks
- ☐ Looks Blocks
- ☐ Control Speed
- ☐ Wait Time
- ☐ Record Sound
- ☐ Repeat # Times
- ☐ End Block

Lesson 20: Activities

WHY CELEBRATE? (10 MIN)

Why do we celebrate during Chanukkah?
We celebrate our dedication to Judaism and its importance in preserving the Jewish identity.

How do you celebrate during Chanukkah? What songs do you sing and people do you invite to your gatherings?

Play "Chanukah, Oh Chanukah" on YouTube, https://www.youtube.com/watch?v=KxH0xF84h_0 (3:33)

CHANUKKAH SONGS (10 MIN)

Students will work in groups to make their own Chanukkah song to the tune of a popular song.

SCRATCHJR ACTIVITY: CHANUKKAH CELEBRATION (30 MIN)

Students will work in their groups to celebrate Chanukkah by programming their ScratchJr character to sing and dance to their song or to "Oh Chanukkah." They will record their voices singing the Chanukkah song. If the students would like, they can incorporate more characters to resemble a family or group of friends celebrating.
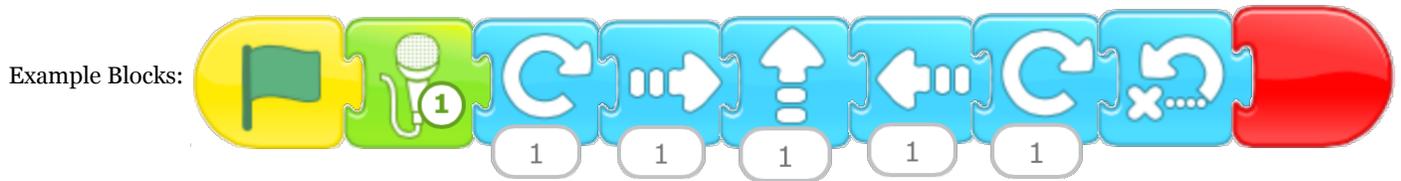
Example Blocks:

WRAP-UP ACTIVITY (10 MIN)

Students will gather in a circle to share:
- Their ScratchJr programs
- Why they chose those characters and backgrounds
- What each block represents
- Anything that was hard, easy, surprising, interesting, etc. about the process

OPTIONAL EXTENSION (10 MIN)

Invite families and community members to a Chanukkah celebration where the class shares their Chanukkah programs.