

# Zoom Suggestions (Post while folks are joining)

- Set your view settings to “Speaker View” instead of “Gallery View”.
- Keep your microphone (and camera) muted outside of breakout rooms.
- While we wait for everyone to join, feel free to use the chat to let us know where you’re joining from, the organization or educational institution where you work, and something that has helped you manage while social distancing (e.g. Netflix series, craft project)!



**Oregon State University**  
Precollege Programs

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PATENT AND  
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# **Zoom Community Agreements**

**We recognize that the virtual world presents new challenges. In order to do our best to maintain a space of inclusivity, productivity, and respect, we ask that we all agree to the following:**

- Use the chat to communicate to presenters and participants. Don't say or share anything in the chat that can be perceived as disrespectful or disruptive.
- Keep your microphone (and camera) muted outside of breakout rooms.
- Be patient and understanding. We need to make room for everyone and understand that we're not all in the same situation with technology. We all have varying levels of access to and familiarity with technological resources.

**Anyone who violates the agreements or otherwise disrupts our Zoom community will be removed by our moderator.**

# Zoom Community Agreements: Breakouts

- Join your breakout room as soon as you're prompted to maximize our time in our small groups.
- Remain in your breakout room until prompted to return to the main session, unless you are unable to do so. Alert your facilitator if you need to leave early.
- Share without expectations. What works for one organization may not necessarily work for others.
- Stories stay, lessons leave. Don't distribute what you heard from someone unless you have permission to do so.

# Innovation and Household Items

*Precollege Programs*

*&*

*U.S. Patent and Trademark Office*



**Oregon State**  
University



# Innovation and Household Items

- Why Innovation matters? (USPTO)
- Connections to Distance Learning 4 All
- Who are Innovators? – video/reflection
- Innovation Timeline – interview/timeline
- Spot the Invention – online learning portal
- GRS The Robot Cat – household materials



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## INNOVATION MATTERS



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**Success mantra: "The sky is the limit! You have the ability to shape your own destiny."**



## OPPORTUNITIES AND RESOURCES

<https://www.uspto.gov/>

[www.uspto.gov/kids](https://www.uspto.gov/kids) (landing page)

<https://www.uspto.gov/kids/inventors-kids.html> (young inventors)

[www.uspto.gov/teacherinstitute](https://www.uspto.gov/teacherinstitute)

<https://www.uspto.gov/learning-and-resources/outreach-and-education/about-nsti>

If educators want to reach out to us directly

we can be reached at:

[education@uspto.gov](mailto:education@uspto.gov)



**Innovation  
Is for All!**

# Oregon Distance Learning for Middle School Overview



## Teacher-Led

Focus on essential and relevant learning for students

Opportunities for interdisciplinary, well rounded learning

Align with K12 standards



## Learning/Activities

Independent research

Interviewing a family member

Drawing and creating

Critical reading



## Nutrition/Wellness

Mealtime

Physical Wellness



# What do your students have access to at home? (Think-Chat-Share)



**Technology**



**People**



**Materials**

Focus on what they  
have



# REPLY IN CHAT



# What do your students have access to at home? (Asset-based, Place-based, Funds of Knowledge)



## Technology

Telecommunications  
School Platform  
Internet  
Packets



## People

Parents/Caregiver  
Professions  
Knowledge  
Pets  
Teacher-student  
(video/phone/supplies)  
Student-student  
(video/phone/drop-offs)



## Materials

School supplies  
Craft supplies  
Household supplies  
Other (Green Space/Nature)



## **WHO ARE INNOVATORS?**

### REFLECTION

References to particular products, patents, trademarks, service marks, services, companies and/or organizations in the USPTO materials are for illustrative and educational purposes only and do not constitute or imply endorsement by the U.S. Government, the U.S. Department of Commerce, the U.S. Patent and Trademark Office, or any other federal agency



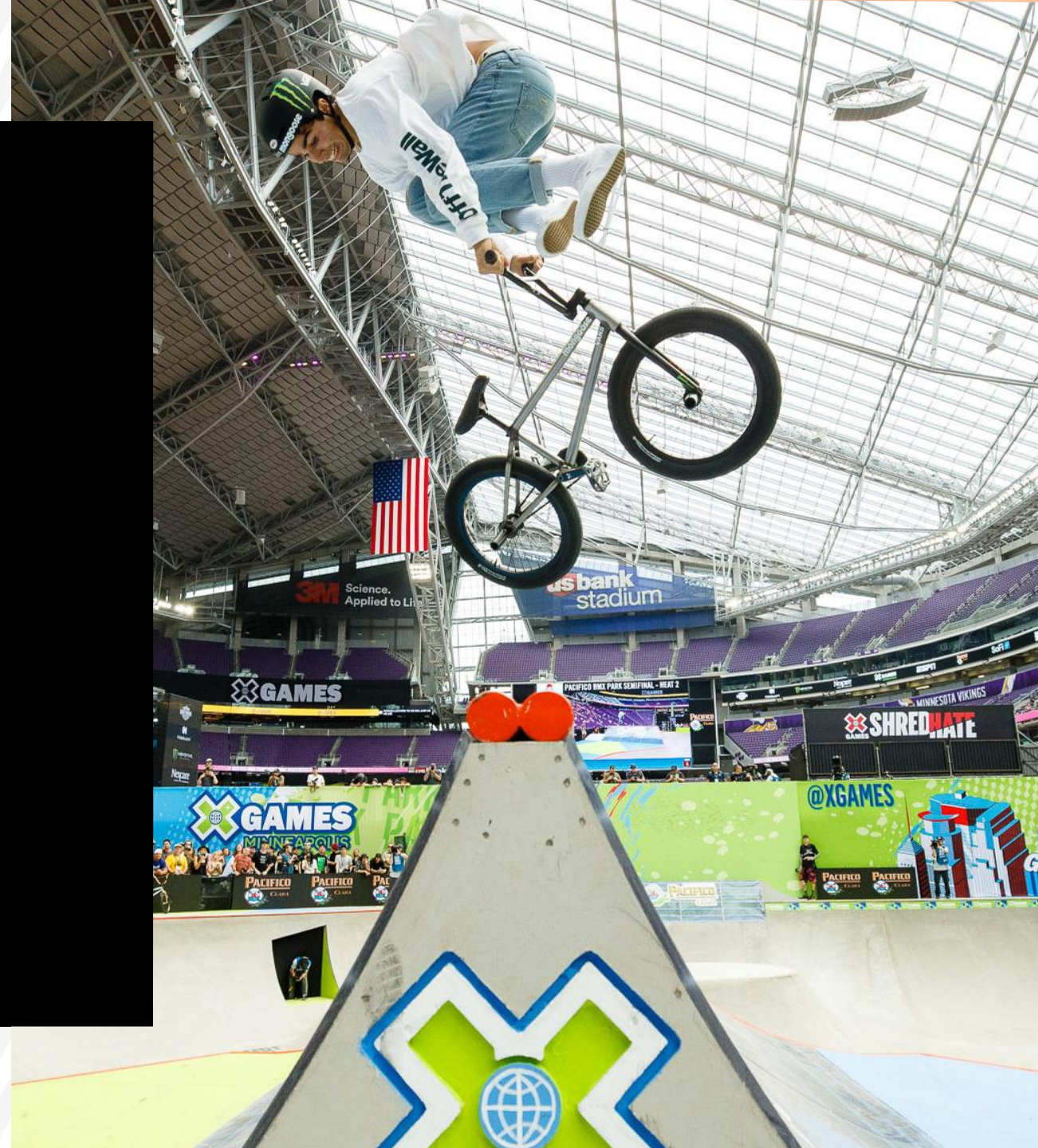
# Who do you think of as innovators?

- Reply in chat!

## Learning Activity

- Extreme Sports
- Guided Reflection/Inquiry
- Offline Version
- <https://www.uspto.gov/kids/MiddleSchool-ExtraordinayInnovations.pdf>

## Media/Reflection





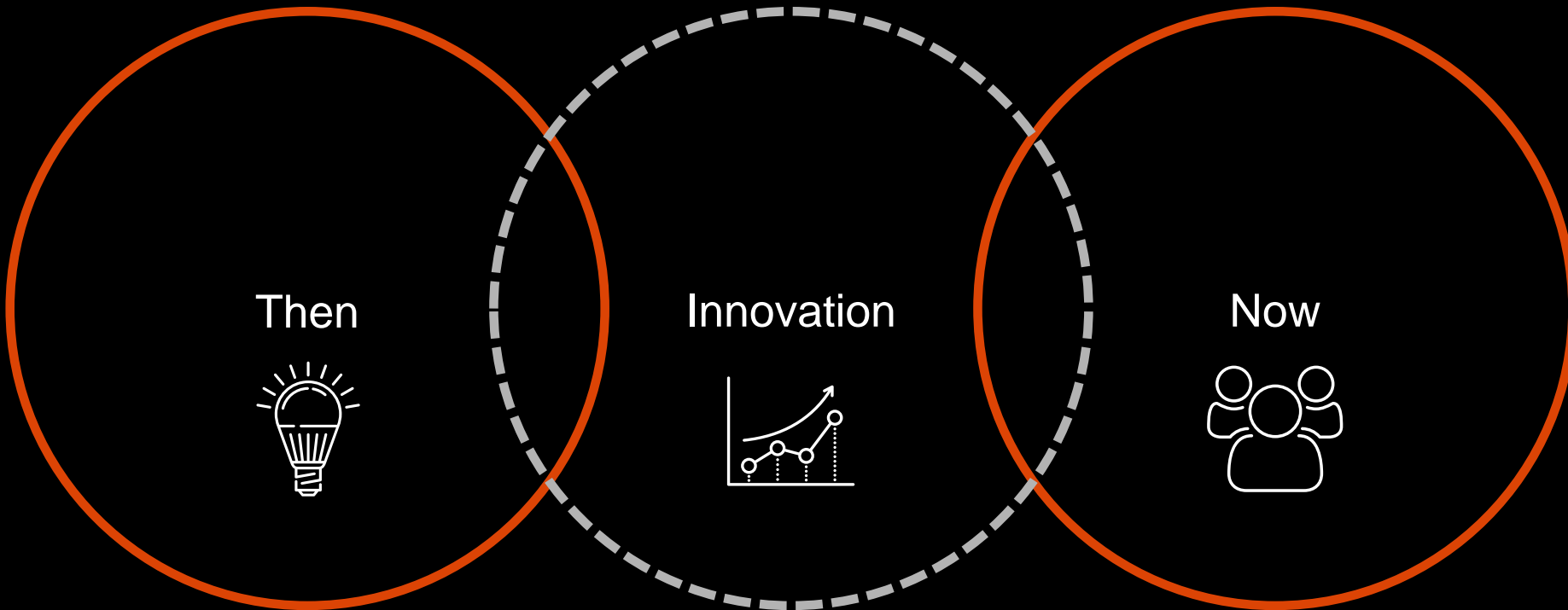


# **INNOVATION TIMELINE**

## INTERVIEWING

# Innovation is a Dynamic Process

Changes in societal needs and wants over time

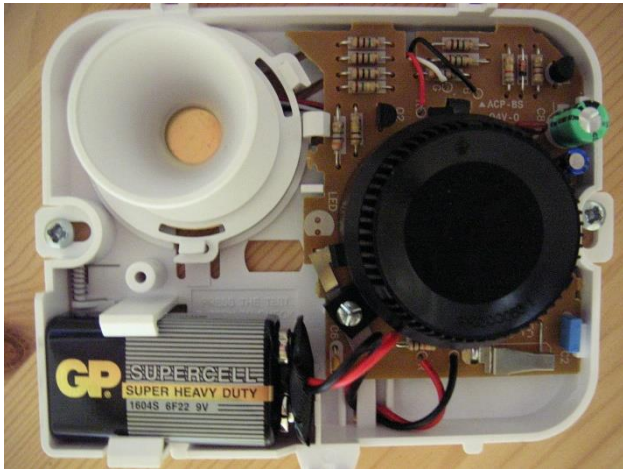


Advances in Science and Engineering that results in new technologies

# Innovation Timeline "Smoke Alarm"

How did these look in  
1970s? Materials?  
Size? Same use?

**1970**



**1995**

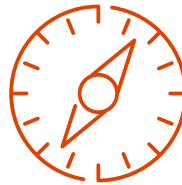
How did we get here?  
Batteries? Carbon  
Monoxide?

How do smoke alarms  
exist today? Cost?  
Extra functions?  
Same purpose?

**2020**





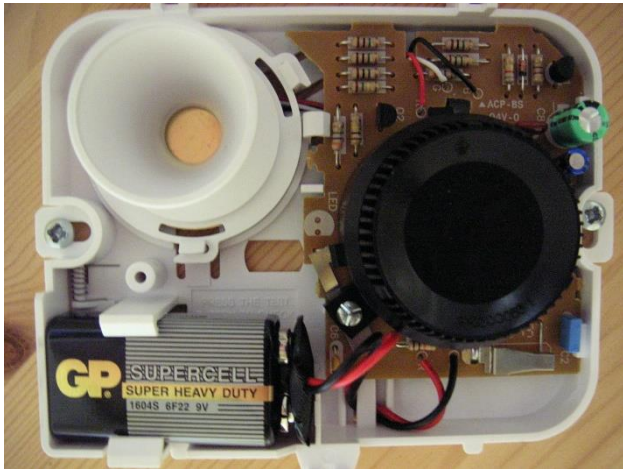


# Breakouts

# Innovation Timeline "Smoke Alarm"

How did these look in  
1970s? Materials?  
Size? Same use?

**1970**



**1995**

How did we get here?  
Batteries? Carbon  
Monoxide?

How do smoke alarms  
exist today? Cost?  
Extra functions?  
Same purpose?

**2020**



# Innovation Timeline "Smoke Alarm"

Ionized  
Smoke  
Detector  
\$125  
**1970**

Reduction in  
costs and size



First Alert >

Wireless Interconnect Smoke Detector  
with Voice Alarm

★★★★★ (33) [Write a Review](#) [Questions & Answers \(22\)](#)

- Wireless connection so when one alarm sounds, all alarms sound
- Exclusive voice warning with programmable location
- Photoelectric smoke sensing technology

**\$38<sup>26</sup>**

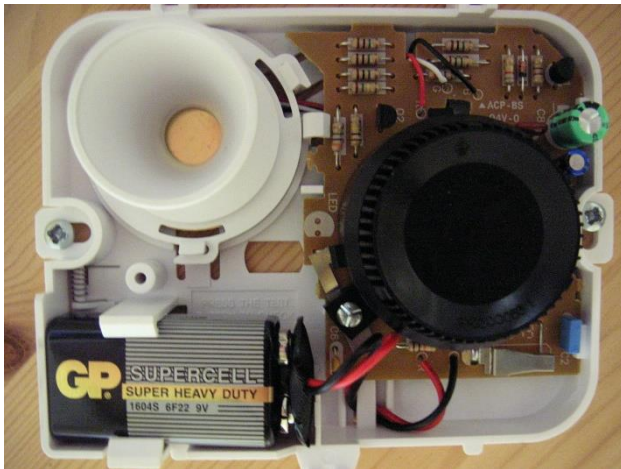
**2020**

WiFi

Carbon  
Monoxide

**1995**

10yr lithium ion  
battery  
operated  
smoke alarm in  
1995



# Who can your students talk to complete the Invention Timeline?



## Technology

Telecommunications  
School Platform  
Internet  
Packets



## People

Parents/Caregiver  
Professions  
Knowledge  
Teacher-student  
(video/phone/supplies)  
Student-student  
(video/phone/drop-offs)



## Materials

School supplies  
Craft supplies  
Household supplies  
Green Space  
Pets  
Other



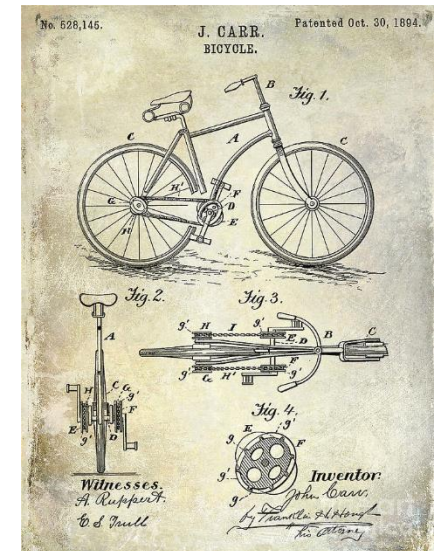
# **SPOT THE INVENTION**

CLAIMS, EVIDENCE, REASONING



# Patents protect intellectual property!

- Legal
- Protection
- USPTO Helps!
- National Interest








# What is in a patent?

- Name(s)
- Details
- Numbers
- Pictures
- Language
- Diagrams
- Dates

			
		US006479833B1	
(12)	<b>United States Patent</b>	(10)	<b>Patent No.: US 6,479,833 B1</b>
	<b>Pfefferseder et al.</b>	(45)	<b>Date of Patent: Nov. 12, 2002</b>
<hr/>			
(54)	<b>FIRE ALARM BOX WITH DIRECT AND SCATTERED LIGHT DETECTION AND GAS-SENSITIVE LAYERS</b>		
(75)	Inventors: <b>Anton Pfefferseder</b> , Sauerlach-Arget; <b>Andreas Hensel</b> , Vaihingen, both of (DE)	3,922,656 A 11/1975 Horvath et al. .... 340/237 S 4,677,078 A * 6/1987 Minten et al. .... 436/136 4,752,447 A * 6/1988 Kimmel et al. .... 422/56 4,857,895 A 8/1989 Kaprelian et al. .... 340/630 5,218,212 A * 6/1993 Sato et al. .... 250/573 5,352,901 A 10/1994 Poorman et al. .... 250/574 5,691,465 A * 11/1997 Carr et al. .... 73/24.02 6,230,545 B1 * 5/2001 Adolph et al. .... 73/31.05	
(73)	Assignee: <b>Robert Bosch GmbH</b> , Stuttgart (DE)	FOREIGN PATENT DOCUMENTS	
(*)	Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.	GB 2 314 618 1/1998	
(21)	Appl. No.: <b>09/623,668</b>	OTHER PUBLICATIONS	
(22)	PCT Filed: <b>Sep. 17, 1998</b>	Brenci et al.; An Optical Fiber Sensor System for Fire Detection in Hazardous Environments; Dec. 1993; pp. 183-190.*	
(86)	PCT No.: <b>PCT/DE98/02750</b>	* cited by examiner	
	§ 371 (c)(1), (2), (4) Date: <b>Apr. 6, 2001</b>	<i>Primary Examiner</i> —Stephone Allen <i>Assistant Examiner</i> —Christopher W. Glass (74) <i>Attorney, Agent, or Firm</i> —Kenyon & Kenyon	
(87)	PCT Pub. No.: <b>WO99/45515</b>	(57) <b>ABSTRACT</b>	
	PCT Pub. Date: <b>Sep. 10, 1999</b>	A fire detector for detecting gaseous and dust-like combustion products, having at least one optical transmitter and at least two optical receivers for in each case outputting an electrical signal to a downstream evaluation unit. At least one of the optical receivers is disposed outside of a direct radiation range of the optical transmitter and acts as a scattered-light receiver, and a gas-sensitive layer is interposed in advance of at least one further optical receiver disposed in a direct radiation range of the optical transmitter this layer preferably absorbing light components of a specific narrow wavelength range in response to a contact with	
(30)	<b>Foreign Application Priority Data</b>		
	Mar. 7, 1998 (DE) ..... 198 09 896		
(51)	<b>Int. Cl.</b> <sup>7</sup> ..... <b>G01N 15/06</b> ; G01N 21/49; G01N 21/85		
(52)	<b>U.S. Cl.</b> ..... <b>250/573</b> ; 356/437		
(58)	<b>Field of Search</b> ..... 356/436, 437, 356/438, 337, 338, 339, 340, 336; 250/573, 574, 575, 214 R; 422/82.06, 82.09, 83, 86		
(56)	<b>References Cited</b>		



# Spot the Invention

- Compare a household item to a patent
- Read a patent
- Make claims citing evidence how it is the same
- Claims







# **A CLAIMED INVENTION: A TOY FOR GEARS (GRS), THE ROBOT CAT**

CREATING

# A toy for GRS The Robot Cat



- Claimed Invention
- Vocabulary
- Claims, Evidence (image), Reasoning



# What can your students use to complete GRS, the Robot Cat invention activity?



## Technology

Telecommunications  
School Platform  
Internet  
Packets



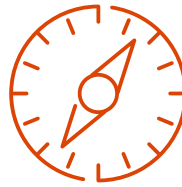
## People

Parents/Caregiver  
Professions  
Knowledge  
Teacher-student  
(video/phone/supplies)  
Student-student  
(video/phone/drop-offs)



## Materials

School supplies  
Craft supplies  
Household supplies  
Green Space  
Pets  
Other



# **Breakouts**

# What can your students use to complete GRS, the Robot Cat invention activity?



## Technology

Telecommunications  
School Platform  
Internet  
Packets



## People

Parents/Caregiver  
Professions  
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Teacher-student  
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## Materials

School supplies  
Craft supplies  
Household supplies  
Green Space  
Pets  
Other



# Innovation and Household Items

**Who are  
innovators?**

Online Video  
Offline Version  
USPTO Extension

**Innovation  
Timeline**

Family Member  
Interview

**Spot the  
Invention**

Internet Access  
Offline Version

**A Claimed  
Invention: A  
toy for GeaRS  
(GRS), the  
Robot Cat**

Craft Supplies  
Digital Camera (optional)

# THANK YOU! & Questions

**Stay Well!**

*Precollege Programs*

*&*

*U.S. Patent and Trademark Office*

**Innovation and Household Items**



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**Oregon State University**  
**Precollege Programs**